Fitrix™
Report Writer
User Reference
Version 4.11

Welcome to the Fitrix Report Writer User Reference. This manual is designed to be a focused step-by-step guide. We hope that you find all of this information clear and useful.

All of the screen images in this document are show with the products using the character user interface. While the Fitrix Rapid Application Development (RAD) Tools operate in character mode only, the software applications created by the RAD tools offer the option of being viewed in a graphic based Windows (or X11) mode as well as the character mode shown. Examples of graphic based product viewing modes are shown below in Example 1 and Example 2.
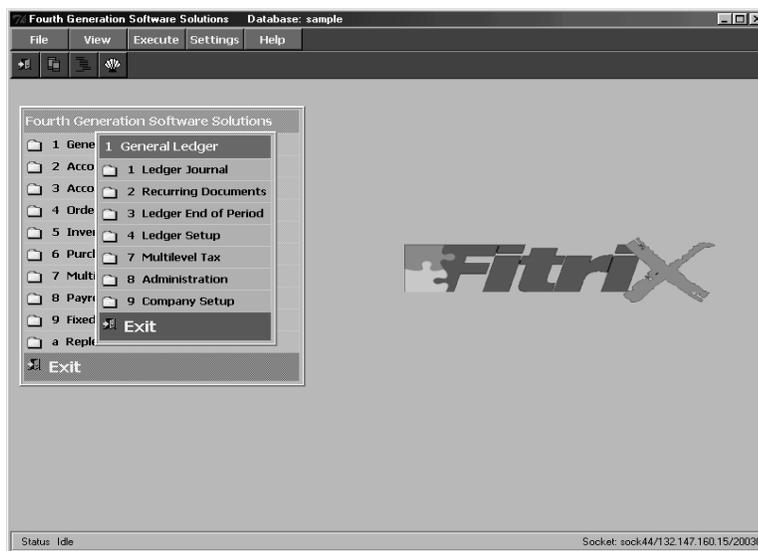
Example 1: Menu Graphical Windows Mode

Here is another example:
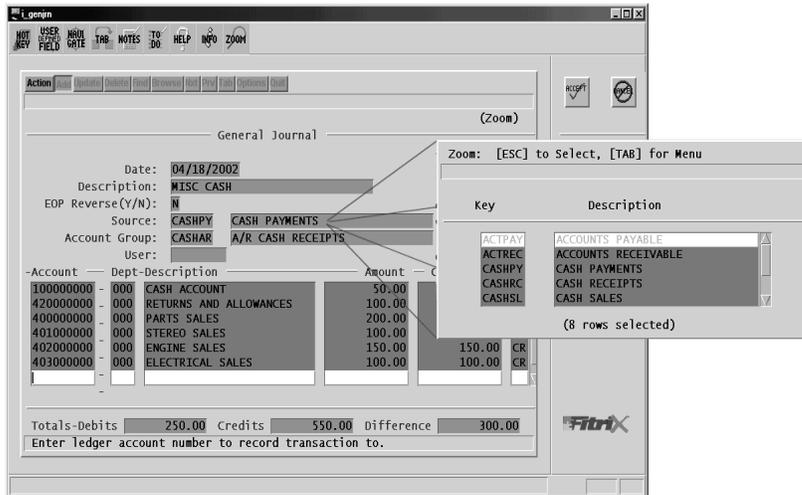
Example 2: Data Entry Graphical Windows Mode

Displaying our products in graphic mode, as shown in Example 1 and Example 2, is customary for many Fitrix product users.

However, your viewing mode is a user preference. Changing from character based to graphical based is a product specific procedure, so if you wish to view some applications in character mode, and some in graphical mode, that can be done as well.

If you have any questions about how to view your products in graphical mode, please consult your Installation Instructions or contact the Fitrix helpdesk at 1(800)374-6157. You can also contact us by email: support@fitrix.com. Please be prepared to offer your name, your company, telephone number, the product you are using, and your exact question.

We hope you enjoy using our products and look forward to serving you in the future.

Thank You,
Fourth Generation

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Documentation Conventions

Some information is difficult to convey in text, such as a series of keystrokes or a value you supply. This Technical Reference uses several conventions to convey information that has special meaning. These conventions use different fonts, formats, and symbols to help you discern commands, program code, file names, and keystrokes from other text.

Text Format	Meaning	Example
`Courier Bold`	Represents command syntax in addition to variable and file definitions.	**`fg.writer`**
`Courier Bold Italic`	Represents text you should replace with the appropriate value.	***`-r report-name`***

`Courier`	Represents commands; code; file, directory, table, and column names; and system responses.	`report.ifg`
		`Makefile`
		`standard`
		`rtmargin`

`Small Courier`	Represents program code or text in a file.	`output`
		`    top margin        3`
		`    bottom margin     3`
		`    left margin        3`
		`    right margin      77`
		`    page length       66`

Symbol	Meaning	Example
`[ ]`	Represents optional command flags or arguments.	**`fg.report [-f]`**
`{ }`	Represents a mandatory choice of options.	**`{one|two|three}`**
`|`	Delimits choices.	**`-y|-n`**
`...`	Represents command arguments that can be repeated.	***`filename...`***

When not part of an explicit instruction, single keyboard characters, field values, and prompt responses are shown in uppercase. For example:

Choose Y or N.
Enter an A for ascending or D for descending.
Press Q to quit.

Named keys are shown in uppercase and enclosed in brackets, for instance:

[TAB]
[F1]
[ESC]
[ENTER]

When a series of keys should be entered at the same time, they are shown with a hyphen connecting them. For example:

To close the menu, press [CTRL]-[d].

Some keys differ from keyboard to keyboard. This manual mentions the [ENTER] and [DEL] keys, but both may be missing from your keyboard. Hardware manufacturers give different names to keys that perform the same function.

Keys	Common Variations
[ENTER]	RETURN, RTRN, ↵
[ESC]	STORE
[DEL]	BREAK, CTRL C, CTRL BREAK

Although many similar versions of UNIX and XENIX can run INFORMIX-4GL and the Fitrix *Report* Code Generator, this manual refers to all of them with the single term of UNIX.

1

Introduction

Fitrix *Report* Writer lets you create reports using information stored in an INFOR-MIX-SQL database. This product lets non-technical users access information in complicated data structures without having to understand the complexities of writing SQL queries. Prompts take you through the report-writing process step by step, indicating all of the information that you must provide for a basic report.

This section covers the following topics:

n   *Report* Writer Overview

n   *Report* Writer Features

n   User Reference Overview

Report Writer Overview

The *Report* Writer's menu system is designed to lead you through the process of creating a new report. Select the New Report option from the File pull-down menu, and you are led through the steps necessary for selecting the information for the report. You do this by first specifying the main table for the report. The main table should supply the detail of the report (when choosing the main table for your report, use the table that will be supplying most of the data for the report). Then name the report, choose the columns you want to appear, and arrange the columns in any order. You can further modify the report using the various Report and Options pull-down menu selections.

The database description facility built into the *Report* Writer allows you or your database administrator to interact with your SQL database via friendly and easy-to-understand menus, lists, and forms. These features allow you to attach familiar (easy-to-remember) names to technical database tables and column names. Instead of having to remember what table `stgcntrc` is, you can refer to it by a more descriptive name such as General Ledger Defaults.

The database description facility also lets you define and modify database table relationships. With this facility, you can quickly view the relationships previously defined between tables, and you can define new relationships.

You can also create data groups that allow you to group related tables and columns together. Specifying a data group limits the tables you use from your database. This lets you create your reports more quickly since you do not have to search through the entire database to locate the desired tables. For example, you may want to define an Accounts Payable group that contains all of the tables that relate to AP. Then, whenever you create an AP report, only the tables related to AP appear.

Report Writer Features

The *Report* Writer is loaded with dozens of great features, which make report building, formatting, editing, and printing quick and easy.

- n   WYSIWYG Report Building

- n   Online Help

- n   Context-Sensitive Help

- n   User Definable Help Text

- n   Familiar and Technical Table and Column Names

- n   Query Failure Detection

- n   Pull-Down Menus

- n   Cut and Paste Capability

- n   Hidden Report Fields

- n   Default Format Styles

- n   256-Column Reports

- n   Automatic Summary Reports

- n   Rebuild Capability for Reformatting Manual Edits

- n   Definable Format Styles

- n   Flexible Selection Criteria

- n   Related Table Data Groups

- n   Standard and Outer Joins Between Table Relationships in Database

- n   Report Groups

- n   Reuseable Data Selection Criteria

- n   Data Posting to New Tables

- n   Masks for Form Alignment

n   Test Sections of Reports

n   Page Breaks Before or After Report Groups

n   Compatible Lotus 1-2-3 Format

n   Printer Lists

n   Screen, Printer, Mail File, Fax, or Archive Report Output

n   Complex Math Formula Capability

n   Date Math

n   Simple and Complex Arithmetic Calculations

n   Subtotals and Grand Totals

n   Calculations on Fields Used to Calculate Other Fields

n   Unlimited Number of Reports

n   Report Security

n   Shared Reports

n   Command Line or Menu Initiation

User Reference Overview

This User Reference is designed to familiarize you with the *Report* Writer. The first two sections acquaint you with some of *Report* Writer's menus and menu options. The next section takes you through the steps necessary to create a report. After that, the menu options and features are discussed in greater detail. The final section takes you through the creation of a more complex report.

1. **Introduction:** Introduces the *Report* Writer's features and the *Report* Writer documentation.

2. **Getting Acquainted:** Explains how to start the *Report* Writer, how to use its pull-down menus, and how to create and use online help. Viewing program information is also discussed.

3. **Creating a Simple Report:** Walks you through the steps to create a basic report.

4. **Using the *Report* Writer:** Details the prompts, menus, and dialog boxes you use when building reports. This section describes many of the elements that make up a report such as data groups, the main table, report formats, report descriptions, column selection, column grouping, column sorting, column sub-totalling, and selection sets.

5. **File Functions:** Explains all the file functions including loading, saving, printing, and exiting the *Report* Writer.

6. **Other *Report* Writer Features:** Explains some other features such as creating report formats, manually editing the report, creating groups of reports, and deleting report characteristics.

7. **Defining the Database:** Explains how to set up your database definitions. *Report* Writer allows you to rename tables and columns, define online help for tables and columns, define data groups for related tables, and define table joins.

8. **Creating a Complex Report:** Takes you through the creation of a more complex report, using additional *Report* Writer features.

9. **Appendix:** Contains a glossary of terms, introduces the security features available for the *Report* Writer, and shows table/column schemes.

2

Getting Acquainted

Because the *Report* Writer is designed to interact with you as you design reports, your first objective is to understand the *Report* Writer's menu system and the report design process. This section introduces you to the *Report* Writer's user interface and other general *Report* Writer features.

This section covers the following topics:

- n General Overview

- n Starting *Report* Writer

- n Using Menus

- n *Report* Writer Menu Options

- n Using Zooms

- n Viewing Program Information

General Overview

You can build reports with *Report* Writer in a few quick steps. First you must build a Report Description. You build Report Descriptions by selecting the data you want your report to contain, giving your report a name, and designing the format for your report. *Report* Writer walks you through the Report Description process with a series of menus, prompts, and lists.

Once a Report Description is built, you can attach a selection set to it. Selection sets determine the scope of your report. Without a selection set your report displays all information.

After you attach a selection set, or choose not to attach one, the *Report* Runner generates the SQL query that extracts and formats data from your database. When the *Report* Runner is finished, you can print your report.

```
┌─────────────────┐          ┌─────────────────┐
│     REPORT      │          │    SELECTION    │
│   DESCRIPTION   │          │      SETS       │
└─────────────────┘          └─────────────────┘
          ╲                          ╱
           ╲                        ╱
            ▼                      ▼
         ┌─────────────────────────┐
         │        REPORT           │
         │        RUNNER           │
         └─────────────────────────┘
                     │
                     ▼
         ┌─────────────────────┐
         │      PRINTED        │
         │      REPORT         │
         └─────────────────────┘
```
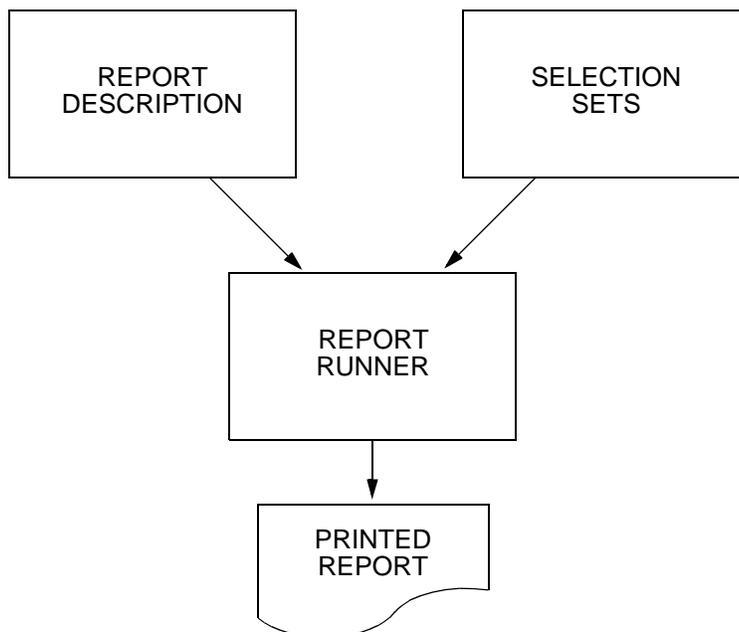
Starting *Report* Writer

In order to run *Report* Writer, the following conditions must be met:

1. Your `$PATH` variable must contain `$fg/bin`. You must set the `$fg` variable to point to the parent directory of the *Report* Writer program.

2. Your termcap must be Informix compatible. For *Report* Writer to run correctly, your termcap must be Informix compatible. If your termcap is set up incorrectly, *Report* Writer does not display boxes and window frames. If you have a termcap problem, see your system administrator or refer to your Informix documentation on termcaps.

The *Report* Writer is run by typing the following at the UNIX prompt:

`fg.writer [-dbname database-name]`

You can specify which database to load. Use the `-dbname` flag followed by the database name when you start *Report* Writer. If you do not specify a database, *Report* Writer defaults to the `standard` database.

The examples in this guide use tables specially made for demonstration and examples. In order for you to use these tables, you must merge them into the database that you want to use for your examples.

In this manual the demonstration tables were merged into the `standard` database. You can use whatever database you want. To put the demonstration tables into your database, type the following at the UNIX prompt:

`mkdemo -dbname database-name`

The `mkdemo` script takes a few minutes to complete.

When creating demonstrations on separate databases, you may also need to merge *Report* Writer and library tables. To merge these tables, type:

`mkwriter -dbname database-name`

`mklib -dbname database-name`

Using Menus

The *Report* Writer interface uses pull-down menus. To open a pull-down menu use the arrow keys to highlight it and press [ENTER]. Or type the first letter of the pull-down menu name (such as r for the Report pull-down menu).

```
standard:   File    Report    Delete    Options    Help    Quit
Load, save, and print reports
```

Each pull-down menu contains several options. To select an option, open the pull-down menu, move the highlight with the arrow keys to the option you want, and press [ENTER]. Or type the first letter of the option's name.

Sometimes an exclamation point (!) precedes an option. An exclamation point means the option is not available. For instance, if no report is current, an exclamation point precedes the Save the Report option.

```
 File
New Report >>
Load a Report >>
-----------------
Print Report >>
!Save the Report
Import/Export
-----------------
Exit the Program
```

An ellipse (...) or two greater than symbols (>>) follow some options. An option with an ellipse leads to another menu or entry form, for example, the Arrange Columns option under the Report pull-down menu.

```
 Report
Main Description...
Choose Columns >>
Arrange Columns...
Group and Sort...
Edit the Report...
Rebuild the Report
--------------------
Selection Sets...
```

An option with the greater than symbols leads to a list of selections, for instance, the Load a Report option under the File pull-down menu.

```
 File 
New Report >>
Load a Report >>
-----------------
Print Report >>
!Save the Report
Import/Export
-----------------
Exit the Program
```
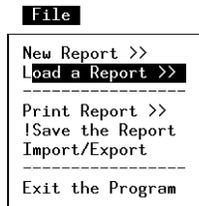
Report Writer Menu Options

The *Report* Writer gives you the ease-of-use and intuitive design of pull-down menus to help you create report programs. This section discusses each *Report* Writer pull-down menu and shows the options in each menu.

File

The File pull-down menu lets you create, load, save, print, import and export reports, and exit.

```
 File
┌──────────────────┐
│New Report >>     │
│Load a Report >>  │
│------------------│
│Print Report >>   │
│!Save the Report  │
│Import/Export     │
│------------------│
│Exit the Program  │
└──────────────────┘
```

Report

The Report pull-down menu lets you describe, edit, and rebuild your report. With the Report pull-down menu you can also choose, arrange, sort, and group the columns in your report, and define selection sets.

```
 Report
┌────────────────────┐
│Main Description... │
│!Choose Columns >>  │
│!Arrange Columns... │
│!Group and Sort...  │
│!Edit the Report... │
│!Rebuild the Report │
│--------------------│
│!Selection Sets...  │
└────────────────────┘
```
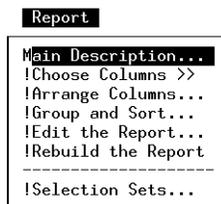
Delete

The Delete pull-down menu lets you remove reports, selection sets, report groups, report formats, printers, data groups, and table relationships.

```
 Delete 
┌───────────────────┐
│ Old Reports >>    │
│ Selection Sets >> │
│ Grouped Reports >>│
│ ───────────────── │
│ Formats >>        │
│ Printers >>       │
│ ───────────────── │
│ Data Groups >>    │
│ Relationships >>  │
└───────────────────┘
```
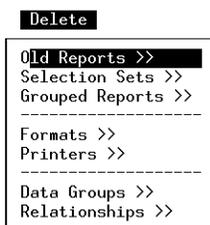
Options

The Options pull-down menu lets you modify your report. With the Options menu, you can update format templates, column descriptions, and printer lists. You can also define data groups, groups of reports, and table relationships.

```
 Options 
┌──────────────────┐
│ Formats >>       │
│ Printers >>      │
│ Group Reports >> │
│ ──────────────── │
│ Table/Columns >> │
│ Data Groups >>   │
│ Relationships >> │
└──────────────────┘
```
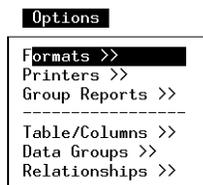
Help

The Help pull-down menu displays a list of specific *Report* Writer topics. Selecting a topic displays a list of subtopics. Each subtopic contains *Report* Writer help information. Context sensitive help is also available at any time by typing [CTRL]-[w]. For more information on using help, refer to "Using Online Help" on page 6-18.

```
 Help

 Context Help...
 -----------------
 General Help
 Database
 Column Selection
 -----------------
 Editing Reports
 Sort/Selection
 Running Reports
 -----------------
 Miscellaneous
 Acknowledgements
```
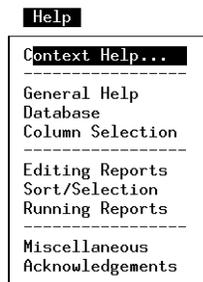
Quit

The Quit pull-down menu lets you quit the *Report* Writer. If you attempt to quit before saving your report, a dialog box appears and prompts you to save your report.

```
 Quit

 Quit
```

Using Zooms

The *Report* Writer features Zooms. Zooms give you more information on a particular field or menu option. A Zoom is available when the word Zoom appears in parenthesis near the upper right portion of the screen. Your cursor must be in a particular field or menu option for a Zoom to appear.

To activate a Zoom:

1. **Position your cursor on a field or menu option.**

2. **Press [CTRL]-[z].**

```
 Update: [ESC] to Store, [DEL] to Cancel
 Enter changes into form
 =========================================(Zoom)==
                 Define Data Groups
 -------------------------------------------------
  Group Name:  Add a Data Group

 - Table Name ------------------- Table ------------
   █████████████████████████████


 -------------------------------------------------
 Enter the name of the data file.
```

— When a Zoom is available, the word Zoom appears.

Viewing Program Information

Select the Acknowledgments option under the Help pull-down menu to view program acknowledgments. These Acknowledgments display copyright and development credits for the program.

```
View:  [ESC] or                          Help:
[DEL] to Quit                            [CTRL]-[w]
===================================================
              Software Acknowledgements
---------------------------------------------------
 ┌----------    ====================================
Business:Report Writer 4.11.UB1
Developed By:  Douglas Stevens, Robert Cumpston
               Sean Boltman
Copyright (C) 1993


----------------------------------------============

                  (8 items)
```

3

Creating a Simple Report

If you are like most users, you want to get started building reports quickly, without knowing all the details about the *Report* Writer right off the top. This section walks you through the steps to create a simple report program. If you want a fast introduction to the *Report* Writer, follow the steps outlined in this section.

This section contains the following topic:

n   Creating a Simple Report

Creating a Simple Report

Report Writer makes it easy to build simple, custom reports. The following section describes how to create a simple report, using one table. The steps to build a more complex report are discussed in "Creating a Complex Report" on page 8-1.

Note

To use the demonstration tables shown in this manual, you must merge the demonstration tables into your database. If the tables are not in your database, you must run the `mkdemo` script on the database you want to use. See "Starting Report Writer" on page 2-3.

To build a simple report:

1. **Open the File pull-down menu.**

```
Action:   File    Report    Delete    Options    Help
          New Report >>
          Load a Report >>
          -----------------
          Print Report >>
          !Save the Report
          Import/Export
          -----------------
          Exit the Program
```
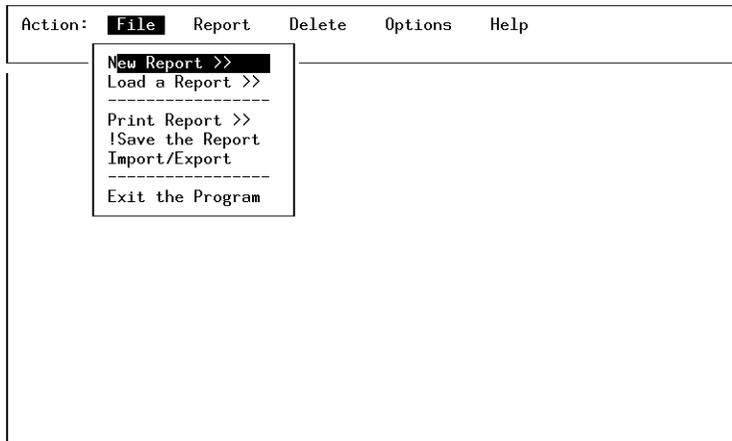
2. **Select the New Report option.**

The Choose a Data Group list appears.

```
[ENTER] Select  [DEL] Exit
============================================================
                    Choose a Data Group
------------------------------------------------------------
Accounts Payable              MR/FR Data Group
Accounts Payables             Multi_Currency Control Table
Accounts Receivable           Order Entry
Auto-Regen                    Parameter Tables
Demo Data Set                 Payroll
Enhancements                  Purchase Order
Fax data group                Test Group
Fixed Assets                  cgdtablr data group
General Ledger                gato group
Inventory Control             hy
                    Page 1 of 2
```

3. **Select Demo Data Set.**

   If the Demo Data Set does not appear, see the NOTE on the previous page. The Choose a Table list appears.

```
[ENTER] Select  [DEL] Exit
=========================
      Choose a Table
-------------------------
Customer Information
Sales Orders
Order Line Items
Inventory Items
Manufacturer Definitions
State Definitions
```

4. **Select Customer Information for your main table.**

If you have any report formats defined, a list appears asking you to select a format. If the Select a Format list appears, press the [DEL] key to skip this option for now. For more on report formats see "Choosing the Report Format" on page 4-5. If no formats are defined, the *Report* Writer goes directly to the Report Description form.

```
Report Description
[ESC] to Store  [DEL] to Cancel                  [CTRL]-[w] Help
================================================================
   Database       : standard
   Report Name    : ███████████████████
   Data Group     : Demo Data Set
   Table Name     : Customer Information
   Table          : customer
   Selection Set  :
   ------------------------------------------------------------
   Report Format  :
   Report Width   :  80        Left Margin    :  0
                               Right Margin   :  0
   Report Length  :     66     Top Margin     :  0
                               Bottom Margin  :  0
   ------------------------------------------------------------
   Author         : brianh     Private Report?  :
   Date Changed   :            Date Created   : 02/18/93
 --------------------------------------------------------------
 Enter the name of this report.
```

The Report Description form contains all the main report definitions. It is here that you can specify the report name, data group, table name, table, selection set, and report format. Many of these options are already defined, but you are free to change them in this form. However, you cannot specify a different database. The database can only be specified when you start *Report* Writer by using the -dbname flag.

5. Name your report Customer Listing.

6. Press [ESC] to store this name.

The Choose the Columns list appears. From this list you choose the columns you want to show on your report.

```
[ENTER] Select  [DEL] Exit  [ESC] Done
==============================(Zoom)=
   Choose the Columns for the Report
 ----------------------------------------
 Customer Number    Address Line #2
 First Name         City
 Last Name          State
 Company Name       Zip Code
 Address Line #1    Phone Number
```

7. Select all the columns.

You can select columns by pressing [ENTER]. Once you select a column, an asterisk appears in front of its name.

```
[ENTER] Select  [DEL] Exit  [ESC] Done
==============================(Zoom)=
   Choose the Columns for the Report
-------------------------------------
*Customer Number  *Address Line #2
*First Name        *City
*Last Name         *State
*Company Name      *Zip Code
*Address Line #1   *Phone Number
```

8. Press [ESC] to store your selections.

The Arrange Columns form appears from which you can specify the order the columns will appear on your report. For this report, leave the columns in their original sequence.

```
Arrange Columns to Display on the Report
[ESC] to Store [DEL] to Cancel
========================================================
- Sequence - Column -------------------------- Total? --
     1          Customer Number
     2          First Name
     3          Last Name
     4          Company Name
     5          Address Line #1
     6          Address Line #2
     7          City
     8          State
--------------------------------------------------------
Enter the order of the column on the report.
```

9. Press [ESC] to store this sequence.

An image of your report appears in the background, and the Choose a Selection Set list appears.

```
Report Name: Customer Listing
========                         ===================================
           ┌─────────────────────────┐  40    50    60    70
    ....:  │ [ENTER] Select  [DEL] Exit│....:....:....:....:....:....:..
  HDPage:  │ ========================  │           ]
  HD=====  │  Choose a Selection Set   │ ===================================
           │ ───────────────────────── │
    Cust   │ New Selection Set         │
  5 First Name      [_____]
    Last Name       [_____]
    Company Name    [_____]
    Address Line #1 [_____]
    Address Line #2 [_____]
 10 City            [_____]
    St              []
    Zip             [___]
    Phone           [_____]
    :
 15 :
    :
    :
```
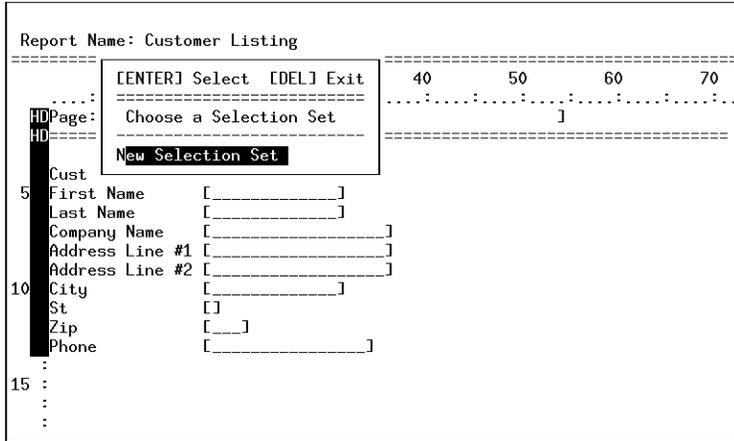
For this report, do not use a selection set.

10. Press [DEL] to exit the Selection Set list.

The File pull-down menu opens, so you can save or print your report.

```
standard:   File    Report    Delete    Options    Help    Quit
          ┌──────────────────┐
          │ New Report >>    │
          │ Load a Report >> │ 30    40    50    60    70
    ....:. │ ──────────────── │.:....:....:....:....:....:....:..
  HD[date │ Print Report >>  │le          ]              Pa
  HD=====  │ Save the Report  │ =========================================
           │ Import/Export    │
    Custom │ ──────────────── │
  5 First  │ Exit the Program │__]
    Last N └──────────────────┘__]
    Company Name    [_____]
    Address Line #1 [_____]
    Address Line #2 [_____]
 10 City            [_____]
    State           []
    Zip Code        [___]
    Phone Number    [_____]
    :
 15 :
    :
    :
```
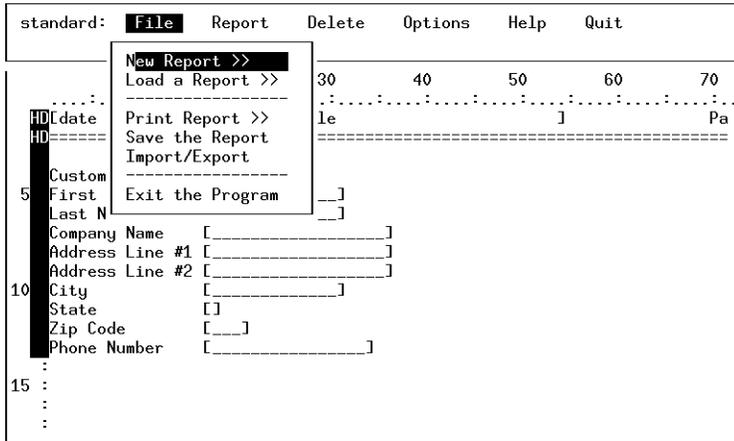
11. Select the Print Report option.

A prompt appears requesting you to save your report.

```
Save this report as...
Name: Customer  Listing
```

12. Press [ENTER] to save your report as Customer Listing.

Once you save your report the Choose a Destination list appears.

```
[ENTER] Select  [DEL] Exit
==========================
   Choose a Destination
--------------------------
Display to Screen
Output to Printer
Write to File
Archive to Database
---------------------
Export Data >>
Reporting Options >>
Quit
```

13. Select the Display to Screen option.

The Screen Pager displays your report.

```
Pager:  Next  Prev  Right  Left  Top  Bottom  Scroll  Up-scroll  Quit
  View the next page.
=============================================================================
02/18/93                    Customer  Listing                    Page:
=============================================================================

Customer Number        101
First Name       Ludwig
Last Name        Pauli-Shore
Company Name     All Stores Supplies
Address Line #1  213 Erstwild Court
Address Line #2
City             Sunnyvale
State            CA
Zip Code         94086
Phone Number     408-789-8075

Customer Number        102
First Name       Carole
Last Name        Sadler
Company Name     Sports Spot
 Customer  Listing:  columns 1 to 76  lines 1 to 18 of 217
```

Use the Screen Pager menu to view your report.

Next, Prev: These options cause your report to scroll one page, either forward (Next) or backward (Prev).

Right, Left: These options cause your report to scroll 15 columns horizontally.

Top, Bottom: These options jump to the top or bottom of your report.

Scroll, Up-scroll: These options move your report one line down (Scroll) or up (Up-scroll).

Quit: This option exits the Screen Pager.

14. **After viewing your report, select Quit.**

    This brings you back to the Choose a Destination list.

15. **From the Choose a Destination list, select the Quit option.**

    This brings you back to the *Report* Writer's main menu. The File pull-down menu is open.

16. **Select the Exit the Program option.**

    A prompt appears and asks if you are ready to quit.

17. **Select YES.**

    Report Writer exits and you are returned to the UNIX prompt.

This concludes the steps for building a simple report. The following sections discuss *Report* Writer's menu options and features in more depth. The final section takes you through the steps for creating a more complex report using relationships and multiple tables.

4

Using the *Report* Writer

This section covers the following topics:

- n Choosing a Data Group

- n Selecting the Main Table

- n Choosing the Report Format

- n Describing the Report

- n Choosing Columns

- n Arranging Columns

- n Totalling Columns

- n Specifying the Column Sort Order

- n Grouping Columns

- n Defining Selection Sets

Choosing a Data Group

A data group is a set of database tables that contain related data. Choosing a data group limits you to a specific group of information, so you need not wade through your entire database to find specific information for a report. Data groups allow you to build reports quickly, utilizing only the information you need.

To choose a data group:

1. **Select the New Report option from the File pull-down menu.**

    The Choose a Data Group list appears.

```
[ENTER] Select  [DEL] Exit
============================================================
                   Choose a Data Group
------------------------------------------------------------
Accounts Payable            MR/FR Data Group
Accounts Payables           Multi_Currency Control Table
Accounts Receivable         Order Entry
Auto-Regen                  Parameter Tables
Demo Data Set               Payroll
Enhancements                Purchase Order
Fax data group              Test Group
Fixed Assets                cgdtablr data group
General Ledger              gato group
Inventory Control           hy
                   Page 1 of 2
```

2. **Choose the data group you want.**

For information on defining new data groups refer to "Defining Data Groups" on page 7-5.

Selecting the Main Table

After you select a data group, the Choose a Table list appears.

```
[ENTER] Select  [DEL] Exit
=========================
       Choose a Table
-------------------------
Customer Information
Sales Orders
Order Line Items
Inventory Items
Manufacturer Definitions
State Definitions
```
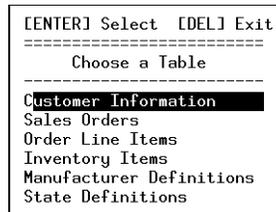
The tables that appear in this list are components of the data group you chose. From this list you select the main table for your report. The main table determines the columns your report references. The main table is the base of an extended data structure. This structure is defined by the relationships between the tables in your database. The main table also determines which selection sets you can use with your report. For more on selection sets, see "Defining Selection Sets" on page 4-18.

The Table Help Form

Every table in your database can contain two names: a familiar name and a technical name. Sometimes the technical name for a table is very cryptic and hard to remember. By assigning a familiar name to your tables, you make your database easier to use. You can see both names for a table from the Choose a Table list.

To see both names for a table:

1. **Highlight the table for which you want to see both names.**

2. **Press [CTRL]-[w].**

The Table Help form appears.

```
Help:█ Info  View   Update   Quit
Request program information
===============================================================

 Table familiar name: Customer Information
 Table technical name: customer
```

3. **Select the Quit option to return to the Choose a Table list.**

Choosing the Report Format

A report format describes the page layout for your report. You can define new report formats with the Formats option under the Options pull-down menu.

If you have any report formats defined, the Choose a Format list appears after you select your main table.

```
[ENTER] Select  [DEL] Exit
=========================
        Choose a Format
-------------------------
256 COLUMNS
80 columns
Wide (256 col.)
```

Note

If you have not defined any report formats, the Report Description form appears.

The Choose a Format list displays all the defined report formats. If you do not choose a format from this list, a default format is used. For more information on report formats, refer to "Updating Report Formats" on page 6-14.

Describing the Report

Once you select a format for your report, the Report Description form appears.

```
Report Description
[ESC] to Store  [DEL] to Cancel                 [CTRL]-[w] Help
==============================================================
  Database        : standard
  Report Name     : Customer Listing
  Data Group      : Demo Data Set
  Table Name      : Customer Information
  Table           : customer
  Selection Set   :
  ------------------------------------------------------------
  Report Format   :
  Report Width    : 80        Left Margin    : 0
                              Right Margin   : 0
  Report Length   :   66      Top Margin     : 0
                              Bottom Margin  : 0
  ------------------------------------------------------------
  Author          : brianh    Private Report?  :
  Date Changed    :           Date Created   : 02/18/93
  ------------------------------------------------------------
  Enter the name of this report.
```

You can also open the Report Description form with the Main Description option
under the Report pull-down menu.

The Report Description form displays the main characteristics of your report, such
as the data group, table name, and report format. Although some of the information
on this form appears by default from your previous selections, you can still change
them. You cannot change the Database, Author, Date Changed, or Data Created
fields.

Report Name: This field holds the name of your report.

Data Group: This field contains the name of the data group your report refer-
ences. From this field you can change or add data groups to your report.

Although you are not required to specify a data group, it is strongly recommended.
Some tables in your database are joined to many other tables, which may contain
information non-relevant to your report. By specifying a data group, you limit the
scope of data your report uses, which in turn saves you time.

Pressing [CTRL]-[z] while the cursor is in the Data Group field displays a Zoom containing a list of data groups. You can select a data group by highlighting it and pressing [ENTER]. For more information, refer to "Defining Data Groups" on page 7-5.

Table Name: This field contains the familiar table name of the table you chose for your report. Press [CTRL]-[z] to see a list of other available tables.

Table: This field contains the technical table name of the table you chose for your report. This field is synonymous with the Table Name field. Its purpose is to provide an alternate means of selecting the main table for the report. You can select a table by its technical name or by its familiar name. A Zoom is available to select a table.

Selection Set: This field contains the name of the default selection set for your report. A selection set contains selection criteria for a set of data. For example, you may wish to list your inventory by expensive items and inexpensive items. You could build a selection set showing items in your inventory that cost over $200. Likewise you could build a selection set listing items equal to or less than $200. For more information see "Defining Selection Sets" on page 4-18.

Report Format: This field lets you specify the format for your report. You can set up report formats with the Formats option on the Options pull-down menu.

The middle portion of the form contains size and margin field measurements. A standard 8 1/2 x 11 sheet of paper is 80 columns (or characters) wide and 66 rows long. *Report* Writer can create reports with any page length and widths between 2 and 256 columns. Report margins are measured in the same units as length and width (columns and rows).

The bottom third of the form contains the login name of the author, modification and creation dates for the report, and a security feature.

Private Report: This field determines who can use the report. If you do not want anyone else to use it, type Y in the Private Report field.
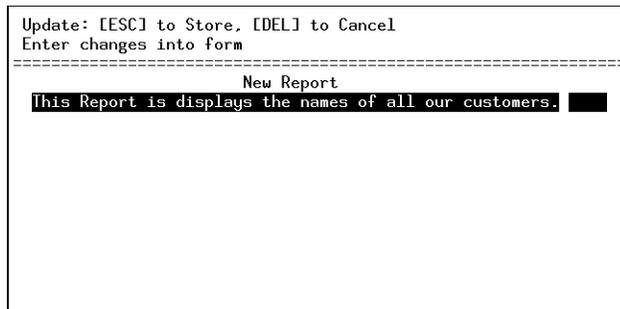
Defining Report Level Help

You can create online descriptions for your reports so you, or anyone else who uses your reports, can quickly identify what the report covers.

To create an online description for a report:

1. **From the Report Description form, press [CTRL]-[n].**

    The Report Help form appears.

```
 Update: [ESC] to Store, [DEL] to Cancel
 Enter changes into form
 =================================================================
                           New Report
 This Report is displays the names of all our customers.
```

2. **Type in a description of your report.**

    If your description is several lines long, you need to press [ENTER] at the end
    of each line to wrap your text.

3. **When you are done entering text, press [ESC] to store your description.**

To view an online description of a report:

1. **Select the Load a Report option from the File pull-down menu.**

    The Choose a Report list appears.

2. **Highlight the Report for which you want to see a description.**

3. **Press [CTRL]-[w].**

    The Report Help form appears and displays your online description.

4. **Select the Quit option to exit the Report Help form.**

When you take the time to create online descriptions for your reports, you store
valuable information about each report, which anyone can view. This level of con-
text-sensitive help prevents your system from becoming cryptic and difficult to use.
As you build more and more reports, take a moment to create brief descriptions for
each one.

Choosing Columns

Once you fill in the Report Description form and press [ESC] to save the information, the Choose the Columns list appears.

```
[ENTER] Select  [DEL] Exit  [ESC] Done
==============================(Zoom)=
   Choose the Columns for the Report
-----------------------------------------
Customer Number    Address Line #2
First Name         City
Last Name          State
Company Name       Zip Code
Address Line #1    Phone Number
```

The Choose the Columns list lets you select which columns you want to appear in your report. The table you chose for your report determines which columns appear on this list.

To select a column for your report:

1. **Use the arrow keys to highlight the column.**

2. **Press [ENTER].**

    An asterisk (*) appears preceding the column name.

3. **Move to any additional columns you want to use and press [ENTER].**

4. **When you are done selecting columns, press [ESC] to store your choices.**

To unselect a column:

1. **Use the arrow keys to highlight the column.**

2. **Press [ENTER].**

    The asterisk preceding the column name disappears.

You can add columns to your report from different tables, which are directly or indirectly related to your report's main table.

To add columns from a different table:

1. **From the Choose the Columns list, press [CTRL]-[z].**

   A Zoom appears listing tables (or Data Files) that are related to your main table.

2. **Select the table from which you want additional columns.**

   A list of the columns in that table appears.

3. **Select the columns you want to use.**

4. **Press [ESC] to return to the Choose the Columns list.**

Note

Two tables can contain columns that share the same name. Be sure to select the columns that contain the data you want. For example, if you want an inventory code for each order line item on a report that prints customer orders, be sure to select the Inventory Item Code from the Order Line Items table. The Inventory Item Code column name may appear in many tables. Although a column can be named the same in several tables, like-named columns can produce very different results, depending on the table to which they belong.

Arranging Columns

Once you select the columns you want to use, the Arrange Columns form appears.

```
Arrange Columns to Display on the Report
[ESC] to Store [DEL] to Cancel
=======================================================
- Sequence - Column ------------------------- Total? --
         1         Customer Number
         2         First Name
         3         Last Name
         4         Company Name
         5         Address Line #1
         6         Address Line #2
         7         City
         8         State
-------------------------------------------------------
Enter the order of the column on the report.
```

Initially, the columns appear in the order you selected them from the Choose the Columns list. The sequence number beside each column name determines the order the columns are displayed on your report. If all your columns can be displayed on a single row, the sequence number orders your columns to appear from left to right. If your columns cannot fit on a single row, the sequence number orders them to appear from top to bottom.

On the Arrange Columns form, you can change the order of your columns in two ways:

1. In the Sequence field, type the number that corresponds to where you want the column to appear on your report.

2. In the Column field, type the name of the column that corresponds to the appropriate sequence number.

You can also move columns around on your report manually with the *Report* Editor. The *Report* Editor is discussed in "Editing the Report Layout" on page 6-4.

Totalling Columns

In the Total? field, you can specify which columns *Report* Writer totals at the end of your report. If you want a column totalled on your report, type a Y in the Total? field. If you don't want a column totalled, leave the Total? field blank or type an N

in the field. Only numeric columns can be totalled. You can also subtotal columns, but for subtotals you must first define a group by which to sort your data. For more on subtotals, see "Group Subtotalling" on page 4-15.

```
 Extension
----------
   $450.00
   $100.00
   $840.00
   $240.00
   $960.00
   $450.00


----------
  3040.00
```

Specifying the Column Sort Order

Report Writer lets you specify how your columns are sorted. For example, you can sort your columns alphabetically by your customer's last name. Or you can organize your data into groups and sort the groups. For example, you can group your data by the City column and sort the City names alphabetically. The possibilities are endless because you can specify as many as eight groups. Groups also let you subtotal columns. This section provides an overview of the Group and Sort option under the Report pull-down menu and the Sort form. For more on grouping, see "Grouping Columns" on page 4-15.

To specify the column sort order:

1. **Select the Group and Sort option under the Report pull-down menu.**

   The Choose the Sorting Columns list appears.

```
[ENTER] Select  [DEL] Exit
[ESC] Done
==================(Zoom)=
Choose the Sorting Columns
--------------------------
Customer Number
First Name
Last Name
Company Name
Address Line #1
Address Line #2
City
State
Zip Code
Phone Number
```

2. **Select the columns by which you want to sort your data.**

3. **Press [ESC].**

The Group and Sort form appears with the columns you selected.

```
Sort the Report by these Columns
[ESC] to Store [DEL] to Cancel
=================================================================
- Seq - Sort? - Group? - Page Bk.- Column -----------------------
   1     A        Y         N         State
   2              Y         N         Zip Code



------------------------------------------------------------------
Group report by this column (for totals)? (Y/N)
```

Use the [ENTER] key to move the highlight between the fields on the Sort form. The following list describes each field:

Seq: This field determines column sort precedence.

Sort?: This field determines ascending or descending sort order.

Column Types	Ascending	Descending
Character	A-z	z-A
Numeric	1-100	100-1
Date	Past-Current	Current-Past

Group?: This field determines if your report groups by this column. For more on grouping, see "Grouping Columns" on page 4-15.

Page Bk.: This field determines where page breaks occur. See "Before Group and After Group Page Breaks" on page 4-17.

Column: This field identifies the column by which to sort and group.

4. **Press [ESC] to store the sorting information.**

Grouping Columns

The Group and Sort option under the Report pull-down menu lets you specify the columns by which you group your data. For example, perhaps you want to group your customers by location. You first group your customers by the State column, then by the City column. In a report created this way, all your California customers are listed together in one group. Inside the California group is a Sacramento customer group, a San Francisco customer group, an LA customer group, and so on. The only limitation is how many customers you have.

Groups make reports easy to read and understand. Groups also let you add subtotals to your reports. A report can contain up to eight groups.

To select a column by which to group your data:

1. **Open the Group and Sort form.**

   To open the Group and Sort form, follow the steps in "Specifying the Column Sort Order" on page 4-13.

2. **Place a Y in the Total? field of the column you want to group.**

3. **Press [ESC] to store the grouping information.**

   In the *Report* Editor, your report now appears with B1 tags (see next page) just below the HD tags. On the row of the new B1 tag is the column you chose. For more on block tags, see "Report Blocks" on page 6-6.

Group Subtotalling

When you create groups for your data, any columns you chose to total in the Arrange Columns form become subtotalled by group. For example, if you grouped your data by the State column, for each State in your report, your data is subtotalled. At the end of your report is a grand total. See "Totalling Columns" on page 4-11 for more information on the Arrange Columns form.

You may define up to eight groupings for a report on which subtotals are kept for up to 20 columns. The *Report* Writer automatically formats your report, breaking out the group columns from the report body columns. However, you can manually format your report with the *Report* Editor (see "Editing the Report Layout" on page

6-4). The group columns are displayed in a Before block and the subtotal columns are displayed in an After block. Grand totals for all subtotalled columns are printed at the bottom of the report in the Last Row block.

Tag	Block
HD	Page Header
FR	Header for First Page
B1...	Before (1-8)
Blank	Report Body
A1...	After (1-8)
LR	Last Row
TR	Page Trailer

Before Group and After Group Page Breaks

The *Report* Writer allows you to place page breaks before or after groups. From the Report pull-down menu, select Group and Sort. You are asked for the columns you wish to sort by. After selecting the columns, press [ESC] to store your choices. Now the Group and Sort form appears. This form allows you to specify the sorting sequence, ascending or descending sort order, grouping, and page break. For more on sort order and grouping, see "Grouping Columns" on page 4-15.

There are three options to specify for Page Break (Page Bk.). They are Before, After, or None. Choosing None prints the report with the default page breaking (every 66 lines or whatever the page length is set for in the Report Description form).

The Before option is specified by placing a B in the Page Bk. column.

```
Sort the Report by these Columns
[ESC] to Store [DEL] to Cancel
==================================================================
- Seq - Sort? - Group? - Page Bk.- Column ------------------------
   1     A       Y         B         State
   2     A       N         N         City
   3             N         N         Zip Code


   ---------------------------------------------------------------
   Page break on this group? (B-before, A-after,N(or null)-none
```

The After option is specified by placing an A in the Page Bk. column.

```
Sort the Report by these Columns
[ESC] to Store [DEL] to Cancel
==================================================================
- Seq - Sort? - Group? - Page Bk.- Column ------------------------
   1     A       Y         A         State
   2     A       N         N         City
   3             N         N         Zip Code


   ---------------------------------------------------------------
   Page break on this group? (B-before, A-after,N(or null)-none
```

Defining Selection Sets

A selection set is a group of columns and their selection criteria. When chosen at run time, selection sets determine the data that is displayed on the report. Selection sets are not tied directly to any given report. Instead they are tied to a data set which is determined by the main table. The data set is expanded by table relationships stored in the database to include all columns from all related tables no matter how indirectly related they are. Thus all reports based on a given main table can use any selection set also based on the same table.

In essence, the report and its selection set are two completely independent elements. All reports that share a common data set (the same main table) can use any selection set defined for that data set. The report and the selection set are merged at run time to build the required SQL query for the data you desire.

This mechanism of building and preparing the SQL query at run time allows for an extremely flexible and powerful environment. For example, you may have three reports which use the customer table as their main table. If you define multiple selection sets for the customer table, you can apply any saved selection set to any of the three reports.

Another example is if you have 10 reports based on the same main table and you have 10 selection sets based on that same table, you actually have 100 different reports that can be printed at any time.

When you print a report, you are prompted to choose a selection set. If a default selection set has been specified on the Report Description form, you are asked whether you want to use the default selection set. If you want to use the default selection set, answer YES to the prompt. If you want to use a different selection set, answer NO to the prompt for the default set. If you choose NO, the Selection Set list appears, allowing you to choose another selection set. You may also choose not to use a selection set at all, by specifying CANCEL.

Printing a report causes the *Report* Runner to build the SQL query. This query correctly joins the tables required both for the report and selection set, along with any special sorting order determined by the report, selection set, and the data selection criteria from the selection set.

Report Writer allows you to define any number of data selection sets. You can save or modify any selection set you create. If you reload and rework a selection set, you may overwrite the old selection set, or save the reworked version independently.

You can build selection sets with the Selection Sets option on the Report pull-down menu. The Selection Sets option displays the Selection Set list. This list contains all of the selection sets available to your current report. After you choose a selection set, the Sorting and Data Selection Columns form appears. This form allows you to define the sort order precedence, type of sort, and the selection criteria for the columns in your selection set.

```
Sorting and Data Selection Columns
[ESC] to Store [DEL] to Cancel
==============================================================================
- Sequence - Sort? - Selection Data ------- Column -----------------------
                                            Customer Number
                                            First Name
                                            Last Name
                                            Company Name
                                            Address Line #1
                                            Address Line #2
                        ------------------------------------------------------
```

Sequence: This field determines column sort precedence.

Sort: This field determines whether the column is sorted in ascending or descending order if you want an order.

Selection Data: This field stores the criteria for creating the SQL query.

Column: This field stores the column name.

Don't confuse this form with the Group and Sort form. The Sorting and Data Columns form specifies a selection set. Selection sets tell *Report* Writer how much data to use. The Group and Sort form specifies column groupings. Column groupings tell *Report* Writer how the data is organized on the report.

Building Selection Criteria

The Selection Data field on the Sorting and Data Selection Columns form allows you to build simple or complex selection clauses to limit the selection of data. If you are not familiar with SQL selection statements, *Report* Writer makes it easy to construct one using Zooms.

Building Selection Criteria Using Zooms

The Selection Data field contains a Zoom to aid in building your selection clause. Pressing [CTRL]-[z] in the Selection Data field displays the name of the column as well as a list of possible comparison operators. The list of operators reflects the type of column you are using. It differs between character, numeric, and date columns.

Character	Numeric	Date

```
        Character                       Numeric              Date

┌─────────────────────────────┐  ┌──────────────────────┐  ┌──────────────────┐
│Begins With    Ends With     │  │Equals                │  │Equals            │
│Matches        ------------- │  │Between               │  │After             │
│Equals         Doesn´t Equal │  │Greater Than          │  │Before            │
│Is in List     Doesn´t Match │  │Less Than             │  │Between           │
│Between        Is Not in List│  │Greater or Equal      │  │Is in List        │
│Contains                     │  │Less or Equal         │  │--------------    │
└─────────────────────────────┘  │Is in List            │  │Doesn´t Equal     │
                                 │----------------      │  │Not Between       │
                                 │Doesn´t Equal         │  │Is Not in List    │
                                 │Is Not in List        │  └──────────────────┘
                                 └──────────────────────┘
```

From this list you can pick a clause to use with your selection criteria to determine the data that appears in your column. When building your selection criteria, think about the following sentence when choosing a clause: "select the data that..."

After you choose an operator, you are prompted for the specific type of criteria that is needed for that operator.

For example, after you select the Begins With clause, a prompt appears allowing you to enter your selection pattern. In this prompt you enter the text for your select statement. If you specify an S, the column displays all data that begins with an S.

--- **Note** ---

The comparison operators are *case sensitive* (i.e. they differentiate between uppercase and lowercase), so be aware that if what you specify begins with s, and there is no data that begins with a lower case s, no data gets selected.

Pressing [ENTER] after specifying criteria displays the Boolean Operators list.

```
And  (more restriction - less data)
Or   (alternative selection - more data)
------------------------------------------
Done (no more criteria)
```

This list allows you to add boolean expressions to your selection clause. These expressions enable you either to make your selection statement more restrictive or to add an alternate matching statement.

If you select And or Or then the Comparison Operators list reappears, enabling you to continue building your clause.

When you finish building your clause, select Done from the Boolean Operators list. Your clause is transformed into the SQL selection statement, which appears in the Selection Data column.

The Selection Data field does not necessarily display the Comparison Operators as you selected them. Rather, the *Report* Writer expands the operators into their actual SQL syntax. For example, if you choose the Begins With operator and specify an s on the next prompt, the SQL statement resembles the following line:

@ matches 's*'

The at (@) sign stands for the *table.column* part of the SQL statement.

The following tables display comparison operators and their SQL query equivalents.

Clause	SQL Equivalent
Matches	@ matches 'text'
Equals	@=column_name
Is in List	@ in ('text1','text2','text3')
Between	@ between 'text' and 'text'
Contains	@ matches '*text*'

Clause	SQL Equivalent
Ends With	@ matches '*text'
Doesn't Equal	@ != column_name
Doesn't Match	@ not matches 'text'
Is Not in List	@ not in ('text1','text2','text3')

Clause	SQL Equivalent
Equals	@ = 'number'
Between	@ between 'number' and 'number'
Greater Than	@ > 'number'
Less Than	@ < 'number'
Greater or Equal	@ >= 'number'
Less or Equal	@ <= 'number'
Is in List	@ in ('number','number','number')
Doesn't Equal	@ != 'number'
Is Not in List	@ not in ('number','number','number')

Clause	SQL Equivalent
Equals	@ = 'date'
After	@ > 'date'
Before	@ < 'date'
Between	@ between 'date' and 'date'
Is in List	@ in ('date','date','date')

Clause	SQL Equivalent
Doesn't Equal	@ != 'date'
Not Between	@ not between 'date' and 'date'
Is Not in List	@ not in ('date','date','date')

Building Selection Criteria Manually

If you are familiar with SQL select statements you can build manually your SQL selection clause by typing it directly into the Selection Data field. The Selection Data field can store an SQL statement up to 100 characters long.

If you need more than 100 characters, you can continue the SQL statement on the following row of the Data Selection form. Continuous Selection Data fields are linked by an And statement.

For example, if you run out of room while building your SQL statement, you can move down to the next row of the Data Selection form and continue building the SQL statement in the Selection Data field. Be sure to enter the name of the field on this next row. When manually building your SQL statements, use @ to abbreviate the current *table.column* name.

Key	Action
[CTRL]-[a]	Insert space
[CTRL]-[x]	Delete character
[CTRL]-[d]	Delete to end of line
[CTRL]-[u]	Undo an edit

Creating Selection Set Online Help

You can create online help for selection sets by displaying the Selection Set Definition form, pressing [CTRL]-[n], and entering text into the notes form. Text entered into the notes form becomes the online help for the selection set. After help is defined for a selection set, you may display it by pressing [CTRL]-[w] when the

selection set name appears. Defining help is an important step in maintaining the usefulness of your growing collection of reports and selection criteria. Creating help lets you and other users keep track of multiple selection sets.

5

File Pull-Down Menu Options

This section covers the following topics:

- n   New Report

- n   Load a Report

- n   Print Report

- n   Save the Report

- n   Import/Export

- n   Exit the Program

New Report

Creating a new report is easy with the *Report* Writer. The New Report option under the File pull-down menu initiates a sequence of prompts that lead you through the report building process. These prompts guide you step-by-step, requiring you to enter basic report information. Help and Zooms are available throughout the report building process.

Load a Report

The Load a Report option under the File pull-down menu lets you view, print, or modify an existing report.

After you select Load a Report, the Choose a Report Group list appears. This list contains all the predefined report groups and an All Reports option. The All Reports option leads to a list of the reports not in a Report Group. For more on Report Groups, see "Grouping Reports" on page 6-16.

After you select a Report Group or the All Reports option, the Choose a Report list appears.

The following options appear on the Choose a Report list:

Current Report: This option reloads the current report.

Last Report: This option loads the last report printed (the report appears un-named).

*Report-Name***:** This option loads the report.

The Last Report and Current Report options appear only if applicable.

Print Report

Report Writer lets you print your report with the Print Report option. You must save your report before you print it. If you have not saved your report before selecting the Print Report option, a prompt appears so you can save it. After saving your report, you see either the Use the Selection Set default prompt or the Choose a Selection Set list.

If you select the Print Report option when a report is not loaded, a list of reports appears, allowing you to select the report you want to print.

Choosing a Selection Set

After you choose the Print Report option, if you have specified a default selection set on your Report Description form, you are asked if you want this selection set for the printed report. If you want to use the default selection set, select YES. If you want to use a different selection set select NO. A list of available selection sets (selection sets based on the same main table) appears, allowing you to specify the selection set you want to use.

If you did not specify a default selection set on the Report Description form, the Choose a Selection Set list appears, displaying the available selection sets.

If you select CANCEL or press [DEL], when first offered a selection set, the *Report* Runner goes right to the Choose a Destination list, without prompting you for a selection set. For information on selection sets, refer to "Defining Selection Sets" on page 4-19.

Choosing the Destination

After you choose a selection set, the Choose a Destination list appears.

You can choose a number of destinations for your reports, including screen, file, printer, mail, archive, or fax. Choose the Display to Screen option to display your report to the screen. See "Displaying Reports to the Screen" on page 5-6 for more information.

Output to Printer: This option displays a list of printers. Printers are defined with the Update Printers option under the Options pull-down menu. To print the report, select the printer you want.

Write to File: This option lets you save the output of your report to a file. If the file name you specify exists then you are prompted to append the file. Yes appends, No overwrites, Cancel brings you back to the Choose a Destination list.

Archive to Database: You can store the output of your report in a table in the database by selecting this option. The text of the report is stored in two tables, `cgrarchr` and `cgrarchd`. The first stores basic information such as the report name, user, date, time, selection set, and primary query. The second, stores the actual data the report gathers.

Export Data: This option prints the report detail in an ASCII delimited format so programs like Lotus 123 can use it. After selecting Export Data, select the Delimited File option from the Choose a File Format list. The report detail is then saved in ASCII format with data in quotes and comma delimiters.

Reporting Options: This option displays the Select an Option list. This list lets you control the level of detail to which your report is printed. The Select an Option list includes the following options:

Summary Only: This option causes only the before and after field columns to print on your report. This means that only group by and subtotal columns will print on the report. All body (detail) columns will be suppressed.

Test Length: This option prompts for the number of rows to print. This option allows you to print a limited number of rows so you can see whether the report is printing as it should. This feature allows you to check long reports without actually printing out the entire report.

Form Alignment: This option lets you align forms in the printer without actually printing out the report. Positioning marks are sent to the printer (with no data, just empty field marks), then you are asked whether the form is aligned or not. Answering no to this prompt loops you back to check the test print out. The *Report* Runner continues to send the test print until you answer Yes to the prompt.

Data Selection: This option displays the Choose a Selection Set list so you can select which selection sets to use with your report. After specifying the selection sets, you return to the Choose a Destination list.

Create Data Table: Prompts you for the name of a table, which will be created to store the report data. Subsequent reports can then be run on that table against the data you selected in a previous report. By limiting the data that subsequent reports can run against, the report runs faster.

The Mail and Fax options only appear on the Choose a Destination list when their environment variables are set up.

Mail: This option sends your report as a mail message. The `$rpt_mailcmd` variable must be set to a mail program that accepts the text of the mail message as input. The following must be the last argument on the command line:

```
'-s "subject" user.'
```

Fax: This option sends your report over a fax modem. You must have fax software set up on your system. If you have not set up your fax machine, when you select this option, a brief message appears suggesting that you call our organization for more information or obtain a compatible fax modem.

You must set the `$faxnum` variable to specify the program to run when you are sending a fax to a specific phone number. The standard input to the program is the text of the fax, and argument #1 to the program is the phone number to dial. For example:

```
faxnum="fx -n"
```

This variable is required to run fax as a destination.

Displaying Reports to the Screen

Report Writer lets you display reports, even larger than 80 columns, to the screen with the *Report* Pager, which starts when you select Display to Screen from the Choose a Destination list. The *Report* Pager uses several options that let you view the entire report.

```
Pager:[]  Next  Prev  Right  Left  Top  Bottom  Scroll  Up-scroll  Quit
View the next page.
```

Next, Prev: These options scroll your report one page, either forward (Next) or backward (Prev).

Right, Left: These options scroll your report horizontally 15 columns.

Top, Bottom: These options jump to the top or bottom of your report.

Scroll, Up-scroll: These options move your report one line down (Scroll) or up (Up-scroll).

Quit: This option exits the *Report* Pager and returns you to the Choose a Destination list.

Printing Reports from the Command Line

You can print reports from the command line without running *Report* Writer. The *Report* Runner is a utility that runs reports without loading the *Report* Writer. The following is the syntax for the *Report* Runner:

```
fg.runner -dbname database -r "report-name"
[-s "selection-set"]
```

In order to print reports outside of *Report* Writer you must know the name of the report, database, and selection set to use if any. If a name contains spaces, you must place it in quotes. For example:

```
fg.runner -dbname sales -r "Weekly Sales" -s
"US Division"
```

Save the Report

When you work on a report, a temporary work space is opened in your report database. This temporary work space is overwritten each time you load a report. In order to retain your work you must save your reports with the Save the Report option under the Report pull-down menu. Running this option saves a copy of your report to the database, where you can retrieve it later. When saving, you are prompted with the name of the report and allowed to overwrite it with a new name.

Import/Export

Using the Import/Export feature of the *Report* Writer lets you move reports defined in one database to another database. The option prompts you to Import or Export.

In order to move a report to another database (which may be on another system), you must convert the database definition of the report into an ASCII file format using the Import/Export option on the File pull-down menu. If you select Export, you are prompted for the name of a file in which to save the ASCII definition of the report. Give this file a .ifg extension.

The .ifg extension indicates a report specification file and contains the information necessary to move a report from one system to another.

After exporting a report, the next step involved with moving a report to a different database involves Importing the exported report's .ifg file. If you are moving reports between systems, you must move the exported .ifg file to the target machine, run *Report* Writer and then Import the report.

Note

It is necessary to have table/column definitions that are the same as the definitions that existed in the database from which you exported the report. The *Report* Writer notifies you if the report requests data from tables/columns that don't exist in the new database.

Exit the Program

You can quit *Report* Writer by choosing the Exit the Program option under the File pull-down menu. This option prompts you to save any unsaved report, then exits.

6

Other *Report* Writer Features

This section covers the following topics:

- n Building the Report Layout
- n Editing the Report Layout
- n Using the Column Detail Zoom
- n Updating Report Formats
- n Adding Printers
- n Grouping Reports
- n Using the Delete Options
- n Using Online Help

Building the Report Layout

When you save any changes made to the Arrange Columns form, the *Report* Writer automatically formats the selected columns on the report. You can manually edit the placement of columns with the Edit the Report option under the Report pull-down menu.

───────────────────── **Note** ─────────────────────

If you have run the Edit the Report option and have made any manual changes to the report, a prompt appears informing you that any manual changes you may have made will be lost if you save your changes on the Arrange Columns form. In other words, if you manually edit a report, you should not run the Arrange Columns option, or remake the report unless you want the report to be reformatted.

The automatic column formatter displays columns across the top of the report from left to right when the column names and column fields can fit within the width defined for the report. Report data appears beneath the column name.

```
Order Date Manufacturer Name Unit Description Unit Price Quantity
---------- ----------------- ---------------- ---------- --------
 [_____]  [_____] [_____]    [_____]   [____]
```

If you try to insert more columns than can fit on a single row, the automatic column formatter left-justifies all of the column names placing the column fields to the right of their name.

```
Order Date        [_____]
Manufacturer Name [_____]
Unit Description  [_____]
Unit Price        [_____]
Quantity          [____]
Line Extension    [_____]
```

Note

If you find that the automatic column formatter left justifies your columns and you want them to appear across the top of the page, either increase the column width of your report, or, if a particular column is unusually large, give it a shorter name. See "Naming Columns and Tables" on page 7-2.

You can modify the width of the report at any time by selecting the Main Description option under the Report pull-down menu.

The automatic column formatter also formats column groups and subtotals. If you specify a column to group by, the automatic formatter places that column before the body columns.

Editing the Report Layout

The *Report* Writer enables you to manually edit the column layout created by the automatic column formatter. Selecting the Edit the Report option under the Report pull-down menu puts you in the *Report* Editor, which contains an image of your report. The *Report* Editor is a WYSIWYG (What You See Is What You Get) editor in which you can add, delete, or rearrange columns, groups, and text. You can then see the result of your changes on the screen. To view the entire report, you can scroll up, down, left, and right with the arrow keys.

```
 [ESC] Save  [DEL] Cancel   "[" New Column   "{" New Group
 Report Name: The Customer
 ===============================================(1,1)==============
          10        20        30        40        50        60        70
     ...:....:....:....:....:....:....:....:....:....:....:....:....:....:..
    :     █
    :
    HD   Page: [pg ]           [title                           ]           [
    HD   ================================================================
  5█
    █    Customer Number [_____]
    █    First Name      [_____]
    █    Last Name       [_____]
    █    Company Name    [_____]
 10█    Address Line #1 [_____]
    █    Address Line #2 [_____]
    █    City            [_____]
    █    State           []
    █    Zip Code        [___]
 15█    Phone Number     [_____]
    :
    :
```

Rulers make up the top and left edges of the *Report* Editor, indicating the column and line numbers. A header row containing the page number, report title, and date is automatically created by the *Report* Writer.

When the cursor is in the *Report* Editor, you can use a number of Informix-defined editing keys. The *Report* Writer uses additional keys that let you edit rapidly, easily, and efficiently.

Key Stroke	Action
[CTRL]-[a]	Insert space
[CTRL]-[x]	Delete space

Key Stroke	Action
[CTRL]-[d]	Delete to end of line
[CTRL]-[p]	Paste a line
[CTRL]-[u]	Undo an edit
[F1]	Insert a blank line
[F2]	Delete a line
[	Define a new column
{	Define a new block
[ESC]	Save
[DEL]	Cancel

In the *Report* Editor, you can undo (with [CTRL]-[u]) a series of editing actions, but you cannot undo an undo. For example, if you delete two lines without doing anything else in between (like moving), undo restores both lines. If you type a string of characters, undo erases the whole string. If you delete a series of characters, undo restores all of them. Undo restores the last editing action in the last series of editing events. Creating new columns and groups can also be undone, but creating consecutive new columns or new groups is not considered a series of events, so only the last one is undone.

Note

You must use Informix termcap definitions. If you find that the keys shown in the previous table do not operate as expected, the problem is likely in the termcap definition used for your particular terminal. For information regarding the specification of termcap definitions, please see your Informix documentation, or talk to your system administrator.

Cut and Paste a Line

The *Report* Editor lets you cut and paste entire lines.

To cut and paste a line:

1. **Place the cursor on the line you wish to cut.**

2. **Press [F2].**

    The line disappears.

3. **Move the cursor to where you wish to paste.**

4. **Press [CTRL]-[p] .**

Report Blocks

The *Report* Editor places identifier tags on the left edge of the report image, indicating what report blocks the columns belong to.

```
[ESC] Save  [DEL] Cancel  "[" New Column  "{" New Group
Report Name: Customer Listing w/ Orders
============================================(16,1)=============
          10        20        30        40        50        60        70
    ....:....:....:....:....:....:....:....:....:....:....:....:....:....:..
    :
    HD   Page: [pg ]
    HD   =============================================================
  5 B1
    B1   Cust No: [_____]
    B1      Extension Cust No    First Name      Last Name       Company Name
    B1      ----------  ----------  ---------------  ---------------  --------------
    B1      [_____] [_____] [_____] [_____] [_____
 10 A1   Subtotals for [_____][_____]
    A1      ----------
    A1      [_____]
    LR
    LR   Grand Totals
 15 LR      ----------
    LR      [_____]
    :
    :
```

Block Tags

The HD tag indicates the Header blocks of the report. The Header blocks contain information that appears on every page of the report. Usually information such as page numbers and report titles are contained in the Header blocks.

The FR tag indicates the Header for First Page block. It replaces the HD Header blocks on the first page of your report, so you can customize the way your first page appears. For example, you may not want a page number on the first page of your report.

The B1 tag indicates the first Before block. There can be as many as eight Before blocks. Subsequent Before blocks are numbered B2, B3, B4, and so on. The B1 tag is called a Before block because it is before the Blank tag, which supplies the body portion of the report. Before blocks contain information such as column titles.

The Blank tag represents the report body. It is where information from the database appears on your report.

In the figure on the previous page, the Blank tag holds various customer information, such as customer number, first name, and last name.

The A1 tag appears after the Blank tag and is therefore called the After block. After blocks contain subtotal information. After blocks correspond with Before blocks. For example, A1 After blocks hold subtotal information for B1 Before blocks, A2 for B2, and so on.

The LR tag indicates Last Row blocks. Last Row blocks are a logical place for grand totals, which appear only once in the report.

Tag	Block
HD	Page Header
FR	Header for First Page
B1...	Before (1-8)
Blank	Report Body
A1...	After (1-8)
LR	Last Row
TR	Page Trailer

The TR tag indicates Page Trailer blocks. Page Trailer blocks are a good place to include information such as footers, or you can put page numbers here instead of in the Header blocks if you want.

Adding Report Blocks

You can add a new block to your report from the *Report* Editor by pressing the left brace key ({). If you want to add a Before block (B1), you must first define the grouping column in the Sort the Report form (see "Grouping Columns" on page 4-16).

To add a new block:

1. **Position the cursor a line above where you want the block to appear.**

    You can only start certain blocks in certain places. For example, you cannot start a page trailer block in the middle of a before block. You would need to position the cursor on the last row of the last after block in order to add a page trailer block.

2. **Press the { key.**

    The *Report* Editor determines where the cursor is in regard to other blocks, and responds with a prompt indicating which blocks, if any, you can add at the current cursor location. If no blocks can be added at the current cursor location, a prompt says that you must move to another location. The ability to manually add report blocks via the *Report* Editor lets you modify default formats or replace blocks that may have been accidentally deleted when you were customizing the report.

Adding Columns

The *Report* Editor lets you add new columns or other special report values, such as a page number and the report's title.

To add a column or special value:

1. **Move to where you want the new column or value to appear.**

2. **Press the [key.**

Note

You must be in a group in order to call up the new column menu. If you are not in a group, you must start a new group with the left brace ({) key.

The Choose a Column Type list appears.

```
[ENTER] Select  [DEL] Exit
==========================
   Choose a column type
--------------------------
Database Column
Subtotaled Value
Grand Total Value
--------------------
Math Formula
Constant Value
--------------------
Runtime Report Value
--------------------
Hidden Columns
```
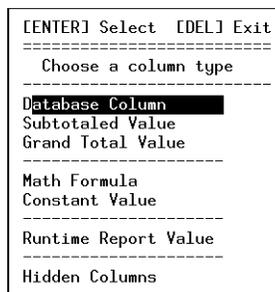
3. Select the column type or special value you want to insert.

Database Column: This option displays a list of columns related to the main table. You may select which column you want to place on the report by pressing [ENTER]. If the column you want to add is not related to the main table, you can press [CTRL]-[z] to display a list of related tables. You can then select the table that contains the column you want by pressing [ENTER]. A list of the related table's columns appears. Choose the column you want by pressing [ENTER]. After you select the column, the column list closes, and the column is automatically placed in the report.

Note

A column label is not automatically displayed when you select columns from within the *Report* Editor. You must type the label for the column you want to appear on the report.

Subtotaled Value: This option displays a list of columns which you may subtotal. The columns displayed on this list are the numeric columns already defined for this report. Choose the column you want to subtotal. The subtotal column appears

where you pressed the left square bracket ([). It is also possible to hide this field if you want to perform calculations that you don't want to appear on the report. See "Using the Column Detail Zoom" on page 6-12 for more on hiding columns.

Grand Total Value: This option displays a list of columns which may be subtotaled. You determine which subtotaled columns to total and the location for the grand total column. The columns displayed on this list are the numeric columns already defined for this report. After you choose the column to be totaled, the grand total column automatically appears where the left square bracket ([) was pressed. It is also possible to hide this field if you want to perform calculations that you don't want to appear on the report. See "Using the Column Detail Zoom" on page 6-12 for more on hiding columns.

Math Formula: This option allows you to create math columns. You can build a math formula using any numeric column defined for the report or a constant value. Selecting this option displays a prompt. At this prompt you can enter either a constant value, or the name of a numeric column selected for this report. Zoom is available to help you select a valid column. After filling in this prompt, a menu is displayed containing math operators. Select the operators you want. Another prompt will appear allowing you to enter a constant or another numeric column. The size and format of this column is determined by the first column if the two columns are used in the math operation. If a constant is used with a column, the computed column uses the format and size of the column. It is also possible to hide this field if you want to perform calculations that you don't want to appear on the report. See "Using the Column Detail Zoom" on page 6-12 for more on hiding columns.

Constant Value: Use this option to create a column with a constant numerical value. It is also possible to hide this field if you want to perform calculations that you don't want to appear on the report. See "Using the Column Detail Zoom" on page 6-12 for more on hiding columns.

Runtime Report Value: This option displays a menu of special report values that allow you to place special report characteristics on your reports. These special values are:

Page Number: This value allows you to print the page numbers on your reports.

Time of Printing: This allows you to place a time stamp on your reports. For example, the time stamp may look like "09:11."

Date of Printing: This allows you to place a date stamp on your reports. The date appears in the format mm/dd/yyyy. For example, 09/05/1991.

Report Title: This allows you to print a title on the report.

Selection Set Name: This allows you to print the name of the selection set used to print the report.

Report User Name: This allows you to print the name of the person who ran the report.

Row Count: This option will display the total amount of rows in the report.

Row Number: This option will display the number of the current row.

The *Report* Writer automatically provides the correct number of spaces for the column or special value.

Hidden Columns: This option searches for any hidden fields that may be in the report. Hidden fields are fields that are used for holding data that you do not want to have appear on the report. One use for hidden fields is to perform calculations that will be used in other calculations.

Using the Column Detail Zoom

You can access the Column Detail Zoom when you are using the *Report* Editor.
Place the cursor on a field and press [CTRL]-[z]. The Column Detail Zoom gives
you information about the field you are on, including column name, format, and
hidden status. You can also open the Column Detail Zoom with the Arrange Col-
umns option under the Report pull-down menu.

```
[ESC] Save       [Del] Cancel      [CTRL]-[w] Help
Column Detail Zoom
=================================================================
  Column Name   : customer.customer_num
                  Customer Number
  Format        : right
  Hidden?       : N
  Table Name    : Customer Information
                  customer
  Report Block  : Report Body
  Column Type   : column
  Position Row :  8  Column :  21  Length :  10
-----------------------------------------------------------------



  Enter a unique name for this column.
```

Column Name: This field contains the technical table and column names, as well
as the familiar column name. In the example above, the familiar name is Customer
Number.

Format: This field specifies how the data in this column appears on the printed
report.

Option	Result
right	Right justifies the data in the field.
left	Left justifies the data in the field.
center	Centers the data in the field.
pushleft	Moves the field to the left of the report, plus one space. This is handy for formatting first and last names.
flushleft	Moves the field flush left without a space.
pushright	Moves the field to the right of the report, plus one space.

You can also use Informix formatting strings such as & and #. However, the *Report Writer* does not accept the date formatting strings. The date formatting is handled through the use of the environment variable DBDATE.

Hidden?: This field determines whether the column prints or not. Type Y to hide the column on your report. Hidden columns are useful in math calculations, when you just want to show the result, not the entire calculation.

You cannot change the other fields on this form from within the Column Detail Zoom.

Updating Report Formats

You can create any number of report formats with the *Report* Writer. These formats determine the size of the report output.

When creating a report, you can choose an existing report format. You can customize a format for any particular report by adjusting report margin and size values on the Report Description form.

The Report Format form is displayed by selecting the Formats option under the Options pull-down menu. When you choose Add a Format, the Add a Format form appears.

```
Update: [ESC] to Store, [DEL] to Cancel        Help:
Enter changes into form                        [CTRL]-[w]
==========================================================
   Report Format    :  ████████████████████
   Default Format?  :
   Report Width     :              Left Margin     :
                                   Right Margin    :
   Report Length    :              Top Margin      :
                                   Bottom Margin   :
   Multiple report pages per output page? (Y/N)
   ------------------------------------------------------
   Output Width     :              Left Margin     :
                                   Right Margin    :
   Output Length    :              Top Margin      :
                                   Bottom Margin   :
--------------------------------------------------------
 Enter the page format type for the report.
```

You can specify the format of the report output on this form. You can set up formats for reports that print any width between 2 and 256 columns.

In the Report Format field, name the format you are defining. For instance, if you want to define a wide report format, one of 256 columns, call it Wide (256 col.) and type 256 in the Report Width field. You can also specify this format as the default format and the size of the report's margins.

Use this feature to specify formats with names such as Wide, Default, Laser, Corporate, or Local. This lets users choose formats that conform to existing layouts, without needing to know specific widths or margins.

Multiple report pages per output page is not available with this release.

Adding Printers

The Printers option under the Options pull-down menu lets you define printer names and specify the operating commands necessary for initiating each printer. Most printers use the UNIX `lp` command, followed by a printer destination. For example:

lp -d dev

```
 Update: [ESC] to Store, [DEL] to Cancel    Help:
 Enter changes into form                    [CTRL]-[w]
 ======================================================
  Printer Name    :  ████████████████████████
  Default Printer? :
  OS Command      :
 ------------------------------------------------------
 Enter a name to identify this printer.
```

Grouping Reports

The Group Reports option under the Options pull-down menu lets you group reports into logical sets.

To group reports:

1. **Select the Group Reports option under the Options pull-down menu.**

   The Choose a Report Group list appears.

2. **Select the Add a Report Group option.**

   The Define Report Groups form appears.

```
Update:  [ESC] to Store,
[DEL] to Cancel
====================================
         Define Report Groups
------------------------------------
Report group name:
█████████████████████████████

- Report Name ---------------------




------------------------------------
Enter the name of this Report grou
```

3. **Name your report group and fill in the names of the reports you want to include in this group.**

   For instance, you might want to create a group named Invoicing, then include all the reports you've made that pertain to invoicing. This way, you don't have to go through many other reports to get to the report you want.

4. **Press [ESC] to store your report group.**

Using the Delete Options

The Delete pull-down menu has several options that let you easily delete certain items in your report writer database. The following list describes each delete option:

Old Reports: This option lets you delete a report from your database. When you select Old Reports a list of all your reports appears. Select the report you want to delete. *Report* Writer then prompts you to verify the deletion.

Selection Sets: This option lets you delete a selection set. When you choose Selection Sets, a list of all your selection sets appears. Choose the selection set you want to delete. *Report* Writer then prompts you to verify the deletion.

Grouped Reports: This option lets you delete a report group. After you select Grouped Reports, a list of all your report groups appears. Select the report group you want to delete. *Report* Writer then prompts you to verify prior to deletion.

Formats: This option lets you delete a report format. After you select Formats, a list of all your report formats appears. Select the format you want to delete. *Report* Writer then prompts you to verify prior to deletion.

Printers: This option lets you delete a printer definition. When you select this option, a list of all your printer definitions appears. Select the definition you want to delete. *Report* Writer then prompts you to verify prior to deletion.

Data Groups: This option lets you delete a data group. A data group is a group of database tables. After you select Data Groups, a list of all your data groups appears. Select the data group you want to delete. *Report* Writer then prompts you to verify prior to deletion. Be aware that deleting a data group impacts all reports created with that group.

Relationships: This option lets you delete a table relationship. After you select Relationships, a list of all the table relationships appears. Choose the relationship you want to delete. *Report* Writer then prompts you to verify prior to deletion.

Using Online Help

Online help provides information about each aspect of the *Report* Writer, and can be accessed either from the Help pull-down menu or by pressing [CTRL]-[w] from any location. Context sensitive help is also available. To use context sensitive help, place the cursor on the area in question, and press the [CTRL]-[w] key sequence. If you need help about a menu option, select that menu option and press [CTRL]-[w].

The Help pull-down menu lists several help topics. Choosing a topic displays a list of subtopics. Selecting a subtopic displays a Help form with information about that topic. You can view help text on the Help form by selecting the View option. Use the arrow keys to move through the help text.

```
Help:█ Info  View  Update  Quit
Request program information
```
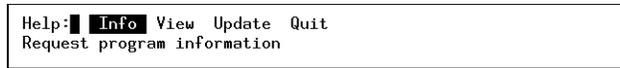
The following list contains the Help form options:

Info: This option leads to the Program Information menu. The Program Information menu contains options that provide additional functionality and program-level information.

View: This option lets you move through the help text so you can view the text, if it cannot all fit in the Help form at once. Use the arrow, [F3], and [F4] keys to move through the text.

Update: This option lets you modify the help text. After you modify help text, press [ESC] to store your changes.

Quit: This option lets you exit the Help form and return to the previous list.

7

Defining Your Report Database

The *Report* Writer's Options pull-down menu lets you or your database administrator set up the Report database descriptions. You can attach more descriptive names to columns (so you don't have to remember the technical names), define data groups (enabling you to group related tables), and define table relationships. Although *Report* Writer does not require you to set up database descriptions, it is strongly recommended. As you build more reports and add to your database descriptions, building reports becomes increasingly easy and fast.

This section covers the following topics:

- n   Naming Columns and Tables

- n   Defining Data Groups

- n   Defining Groups of Reports

- n   Defining Table Relationships

- n   Defining Column Joins

Naming Columns and Tables

Selecting the Table/Columns option from the Options pull-down menu displays a selection criteria prompt, which is used by several options in *Report* Writer. This prompt lets you enter selection criteria to find only those items that match the pattern. All items can be selected by pressing [ENTER] at this prompt without typing anything else.

The *Report* Writer displays a list of all the tables in the database. You can choose a table by highlighting it and pressing [ENTER]. Pressing [CTRL]-[w] on a table name displays a Help form. The Help form contains the descriptive and technical table name as well as any information attached to the table.

After you choose a table, the Table Name form appears and lets you give the table a more descriptive name.

```
 Table Name
 [TAB] to Column Window  [ESC] to Save  [DEL] to Cancel    [CTRL]-[w] Help
 =======================================================================
     Table:  customer           Name:  Customer Information

 Columns in the Table
 [TAB] to Table Window  [ESC] to Save  [DEL] to Cancel     [CTRL]-[w] Help
 =======================================================================
 - Column ---------- Column Name ------------------ Column Label -------
 customer_num        Customer Number                Cust No
 fname               First Name                     ████████████████████
 lname               Last Name
 company             Company Name
 address1            Address Line #1
 address2            Address Line #2
 city                City
 state               State
 -----------------------------------------------------------------------
 Enter the label to appear on reports for this column.
```

For example, you could name the customer table "Customer Information."

After giving a descriptive name to the table, you can switch down to the Column
Name form by pressing [TAB]. Attach a familiar name to each column in the table.
After you enter a familiar name for a column, press [ENTER] to move the cursor to
the Column Label field. The Column Label field lets you enter a label for the col-
umn when it appears on a report.

```
Table Name
[TAB] to Column Window  [ESC] to Save  [DEL] to Cancel   [CTRL]-[w] Help
=====================================================================
    Table:  customer           Name:  Customer Information

Columns in the Table
[TAB] to Table Window  [ESC] to Save  [DEL] to Cancel   [CTRL]-[w] Help
=====================================================================
- Column ---------- Column Name ----------------- Column Label -------
customer_num        Customer Number              Cust No
fname               First Name                   First Name
lname               Last Name                    Last Name
company             Company Name                 Comp Name
address1            Address Line #1              Add #1
address2            Address Line #2              Add #2
city                City                         City
state               State                        St
---------------------------------------------------------------------
Enter the label to appear on reports for this column.
```

The following is a list of the Table Name form's fields:

Column: This field contains the database column name and cannot be edited.

Column Name: This field contains the user-defined familiar name.

Column Label: This field contains the user-defined label for this column when it
appears on a report.

Defining Help for Tables

You can define help text for any table. Press [CTRL]-[n] when the cursor is in the
header section (the Name field) on the Table Name form. When you press [CTRL]-
[n] a Notes form for the selected table appears. You can enter any notes or help text
about the selected table into this form. The text you enter on the Notes form
becomes the on-line help for the table. Then, whenever the table name appears on a
list of tables, you or any user can retrieve this help text by pressing [CTRL]-[w]. In
short, [CTRL]-[n] on the Table Name form lets you define help text, and [CTRL]-
[w] on the Table Selection form displays the help text.

Defining Help for Columns

As with table help, you can define and display help for columns. In the detail section of the Table Name form, press [CTRL]-[n] while the cursor is on a column name to display a Note form for that column. In the Note form, you can enter notes or help text for the column. Text entered on this form becomes help text and is displayed when you or anyone else presses [CTRL]-[w] while the cursor is on the Column Selection form.

Note

It is recommend that you enter notes for all of your commonly used tables and columns. These notes serve as valuable on-line help and assist users in making the correct choices when selecting columns for reports.

Defining Data Groups

Report Writer lets you group related tables into data groups. A data group is a number of database tables that are related and grouped together under a common name. Usually a data group consists of all tables related by some body of data. Data groups restrict the data set to a manageable size. By choosing a data group, all related tables are automatically retrieved.

Choose the Data Groups option under the Options pull-down menu to display a list of the defined data groups. To define a new data group simply select Add a Data Group. After you select Add a Data Group, the Define Data Groups form appears. This form prompts you for the name of the new data group. The bottom half of the Define Data Groups form contains two columns: Table Description and Table Name. In these columns you can enter the names of the tables that you want grouped in this data group. A Zoom is available in either column, so you can call up a list of tables. Press [TAB] to move between the sections on this form.

Defining data groups speeds the report building process. Without data groups, all tables and columns in your database related to the main table for the report are displayed on every selection list. Some tables may be related to many tables, which can have nothing to do with the report you are creating. Data groups help to limit the related tables and columns to only those that you need.

Defining Groups of Reports

The Group Reports option under the Options pull-down menu lets you group reports into logical sets.

To group reports:

1. **Select the Group Reports option under the Options pull-down menu.**

    The Choose a Report Group list appears.

2. **Select the Add a Report Group option.**

    The Define Report Groups form appears.

```
Update:  [ESC] to Store,
[DEL] to Cancel
===================================
        Define Report Groups
-----------------------------------
Report group name:
█████████████████████████

- Report Name ---------------------




 



-----------------------------------
Enter the name of this Report grou
```

3. **Name your report group and fill in the names of the reports you want to include in this group.**

    For instance, you might want to create a group named Invoicing, then include all the reports you've made that pertain to invoicing. This way, you don't have to go through many other reports to get to the report you want.

4. **Press [ESC] to store your report group.**

Defining Table Relationships

You can create or modify any database table relationship with *Report* Writer. This is generally a job for your system administrator or database manager. The Relationship option displays a list of tables that are related to each other.

To add your own table relationship, select Add a New Relationship from the Table Relationship Form. The Table Relationship form appears, prompting for the "from" table and the "to" table. In either of these fields, you can use the Zoom function to select tables. After you enter the table names, enter the type of relationship. [1] for '1 to 1', [2] for '1 to many', [3] for '1-0 to 1' and '1-0 to many'. Selections [3] and [4] allow "outer joins," which relate tables regardless of whether they have columns in common. Once you enter this information you can move down to the Column Joins Definition form by pressing [TAB].

If you are defining a new join, a prompt warns you prior to removing the old join (if there was one) and saving the new one. It is necessary to join at least one column from each table.

Note

Defining table relationships should be done only by your database administrator. Accuracy is very important! Incorrect relationships can lead to incorrect reports or reports that do not run. Do not define or alter table relationships unless you are sure of what you are doing.

Defining Column Joins

You can move to the Column Joins Definition form by pressing [TAB] from the Table Relationship form.

This form lets you enter the columns that join the tables. As on the Table Relationship Definition form, a Zoom is available for each column field. Once you select a "from" column and a "to" column, press [ESC] to save your changes.

Note

Defining column joins should be done only by your database administrator. Accuracy is very important! Incorrect joins may lead to incorrect reports or reports that do not run. Do not define or alter table joins unless you are sure of what you are doing.

8

Creating a Complex Report

This section shows you how to build a complex report using some of the advanced features of the *Report* Writer. This example builds on the simple example report outlined in "Creating a Simple Report" on page 3-1.

This section covers the following topics:

- n Grouping and Sorting Report Entries

- n Using Multiple Tables and Joining Tables

- n Editing the Report

- n Calculating Subtotals

Creating a Complex Report

The following steps outline the process for creating a more sophisticated report. Use this steps as a guide for creating your own reports.

Starting the *Report* Writer and Loading a Report

You can load a report that you created earlier, such as the Customer Listing report created in "Creating a Simple Report" on page 3-1, and add columns, subtotals, and different formats to it. The next few steps show you how to load a saved report.

To load a saved report:

1. **Type `fg.writer` at the UNIX prompt.**

   This command starts the *Report* Writer using the `standard` database. For these examples demo tables have been added to the `standard` database. To use these tables, it is necessary to merge them into whatever database you want to use for running demos. You can use whatever database you like. The demo tables are not merged during installation, and must be added manually. To do this, run the `mkdemo` script on the database you wish to use. The syntax for this script is:

   ```
   mkdemo -dbname database
   ```

2. **Choose the Load a Report option under the File pull-down menu.**

   The Choose a Report list appears.

3. **Select Customer Listing.**

Creating a Report Format

You may wish to apply a new format to your report. Before you can, you must define that format. The next set of steps shows you how to build a new report format (called Wide 256) and how to apply the new format to your report.

To create a new report Format:

1. **Select Formats under the Options pull-down menu.**

    The Choose a Format list appears.

2. **Select Add a Format.**

    The Report Format form appears.

```
Update: [ESC] to Store, [DEL] to Cancel      Help:
Enter changes into form                      [CTRL]-[w]
========================================================
Report Format    :  ███████████████████
Default Format?  :
Report Width     :              Left Margin    :
                                Right Margin   :
Report Length    :              Top Margin     :
                                Bottom Margin  :
Multiple report pages per output page? (Y/N)
--------------------------------------------------------
Output Width     :              Left Margin    :
                                Right Margin   :
Output Length    :              Top Margin     :
                                Bottom Margin  :
--------------------------------------------------------
Enter the page format type for the report.
```

3. **Type `Wide 256` in the Report Format field.**

4. **Press [ENTER] until you are in the Report Width field.**

5. **Type `256` for Report Width.**

6. **Press [ESC] to store your format and [DEL] to close the Choose a Format list.**

To apply the Wide 256 Format to your report:

1. **Select Main Description under the Report pull-down menu to resize your report.**

   The Report Description form appears.

   ```
   Report Description
   [ESC] to Store  [DEL] to Cancel                [CTRL]-[w] Help
   ================================================================
     Database        : standard
     Report Name     : Customer  Listing
     Data Group      : Demo Data Set
     Table Name      : Customer Information
     Table           : customer
     Selection Set   :
     ------------------------------------------------------------
     Report Format   :
     Report Width    :  80        Left Margin    :  0
                                  Right Margin   :  0
     Report Length   :   66       Top Margin     :  0
                                  Bottom Margin  :  0
     ------------------------------------------------------------
     Author          : brianh     Private Report?  :
     Date Changed    : 02/18/93   Date Created     : 02/18/93
     ------------------------------------------------------------
   Enter the name of this report.
   ```

2. **Move to the Report Format field and press [CTRL]-[z] to Zoom.**

   The Choose a Format list appears.

3. **Select `Wide 256`, the format you just created.**

   ```
   [ENTER] Select  [DEL] Exit
   =========================
        Choose a Format
   -------------------------
   132 column format
   Wide 256
   ```

4. **Press [ESC] to accept the new report format.**

```
standard:   File    ▐Report▌   Delete    Options    Help    Quit
Build and modify a report
```
```
             10        20        30        40        50        60        70
     ....:....:....:....:....:....:....:....:....:....:....:....:....:....:....:..
     :
 HD [date  ]
 HD ==================================================================
 HD Cust No    First Name      Last Name       Comp Name            Addres
5▐HD ---------- --------------- --------------- -------------------- ------
 ▐  [_____] [_____] [_____] [_____] [_____
     :
     :
     :
10 :
     :
     :
     :
15 :
     :
     :
```

This format widens your report so the columns fit on one row.

Adding Columns from Joined Tables

Besides the columns defined in your main table, you can add columns defined in tables joined to your main table. For more information about joining columns and defining table relationships see "Defining Column Joins" on page 7-8 and "Defining Table Relationships" on page 7-7.

To add columns to your report from another table:

1. **Select the Choose Columns option under the Report pull-down menu.**

   The Choose the Columns list appears.

```
[ENTER] Select  [DEL] Exit  [ESC] Done
==============================(Zoom)=
   Choose the Columns for the Report
----------------------------------------
*▐Customer Number▌  *Address Line #2
*First Name         *City
*Last Name          *State
*Company Name       *Zip Code
*Address Line #1    *Phone Number
```

The columns you see in this list are from the Customer table, which was speci-
fied as the main table. Zoom on any of the column names in the Choose the
Columns list to choose columns from other tables joined to the Customer table.
If there were no other tables joined to the Customer table, you would not see
any more column names by Zooming. However, we have created joins between
the Customer table, Orders table, and Items table. For more on joins, see
"Defining Column Joins" on page 7-8.

When you Zoom on a column name, the Choose a Data File (table) list appears.

```
[ENTER] Select  [DEL] Exit
=========================
    Choose a Data File
-------------------------
Sales Orders
State Definitions
-------------------------

Order Line Items
Inventory Items
Manufacturer Definitions
```

2. **Select Order Line Items.**

   The Choose Columns list appears.

```
[ENTER] Select  [DEL] Exit
[ESC] Done
=========================
      Choose Columns
-------------------------
Order Line Number
Order Number
Stock Number
Manufacturers Code
Quantity
*Line Extension
```

3. **Select Line Extension.**

   An asterisk appears next to Line Extension.

4. **Press [ESC] to indicate that you are done choosing.**

   The Choose the Columns list reappears.

5. **Press [ESC].**

The Arrange Columns form appears.

```
Arrange Columns to Display on the Report
[ESC] to Store [DEL] to Cancel
=======================================================
- Sequence - Column ------------------------- Total? --
       1         Customer Number
       2         First Name
       3         Last Name
       4         Company Name
       5         Address Line #1
       6         Address Line #2
       7         City
       8         State
-------------------------------------------------------
Enter the order of the column on the report.
```

Arranging Report Columns

You can change the sequence in which columns appear on your report. Rearranging the sequence lets you look at information in different ways, and it can help you organize and highlight the most important data on your report.

To arrange the columns on your report:

1. Move the cursor down to Line Extension.

```
Arrange Columns to Display on the Report
[ESC] to Store [DEL] to Cancel
=======================================================
- Sequence - Column ------------------------- Total? --
       4         Company Name
       5         Address Line #1
       6         Address Line #2
       7         City
       8         State
       9         Zip Code
      10         Phone Number
      11         Line Extension
-------------------------------------------------------
Enter the order of the column on the report.
```

The Line Extension column, taken from the Orders table, contains the order amount for each customer. The sequence number (11 in this case) should be highlighted.

2. Type the number 1 in the highlighted field, then press [ENTER].

This places Line Extension first in the sequence of columns.

3. **Press [ESC] to store the change.**

Choosing the Columns to Group by

You can make the information on your reports more clear, if you group it by columns. As the next steps show, this report is grouped by the Customer Number and Zip Code columns.

To select columns to group by:

1. **Select Group and Sort under the Report pull-down menu.**

2. **Select Customer Number and Zip Code.**

An asterisk appears in front of the column names.

```
[ENTER] Select  [DEL] Exit
[ESC] Done
==================(Zoom)=
Choose the Sorting Columns
--------------------------
*Customer Number
First Name
Last Name
Company Name
Address Line #1
Address Line #2
City
State
*Zip Code
Phone Number
```

3. **Press [ESC] to indicate you are done selecting.**

The Group and Sort form appears.

```
Sort the Report by these Columns
[ESC] to Store [DEL] to Cancel
==================================================================
- Seq - Sort? - Group? - Page Bk.- Column ------------------------
    1              Y        N         Customer Number
    2              Y        N         Zip Code




------------------------------------------------------------------
Enter order of the column for sorting.
```

4. **Press [ENTER] to accept the sequence.**

5. **Type an A in the Sort? field.**

    An A indicates ascending order. You can specify ascending or descending order.

6. **Press [ENTER]**

7. **Type a Y in the Group? field.**

    A Y indicates you want to group by Customer Number.

8. **Press [ENTER] to accept.**

9. **Press [ENTER] to accept the N default in the Page Bk. field.**

10. **Press [ENTER].**

    This indicates that you accept the sequence of Zip Code.

11. **Indicate an ascending sort, and no grouping in the Zip Code row.**

    The form should look like the following figure when you are done.

```
Sort the Report by these Columns
[ESC] to Store [DEL] to Cancel
===============================================================
- Seq - Sort? - Group? - Page Bk.- Column ----------------------
   1      A       Y        N         Customer Number
   2      A       N        N         Zip Code



---------------------------------------------------------------
Ascending or descending sort? Enter [A] or [D].
```

12. **Press [ESC] to store your changes.**

Calculating Subtotals on a Column

Many times data contains numeric values you want to calculate subtotals for. You can pick any numeric columns to subtotal. Subtotals appear at the end of a group of data.

To specify a column to calculate a subtotal for:

1. **Choose Arrange Columns under the Report pull-down menu.**

2. **Move the cursor over to the Total? column for Line Extension by pressing the [ENTER] key.**

3. **Type a Y in the Total? field for Line Extension.**

    This indicates you want to total this column.

```
Arrange Columns to Display on the Report
[ESC] to Store [DEL] to Cancel
=========================================================
- Sequence - Column ------------------------ Total? --
      1         Line Extension                      Y
      2         Customer Number
      3         First Name
      4         Last Name
      5         Company Name
      6         Address Line #1
      7         Address Line #2
      8         City
---------------------------------------------------------
Enter ´Y´ to subtotal this column.
```

4. **Press [ESC] to store your changes.**

```
standard:    File    ▐Report▌   Delete    Options    Help    Quit
Build and modify a report

             10       20       30       40       50       60       70
    ....:....:....:....:....:....:....:....:....:....:....:....:....:....:..
       :
    HD [date  ]
    HD =============================================================
    B1
  5 B1 Cust No: [_____]
    B1    Line Extension Cust No    First Name      Last Name       Comp Name
    B1    -------------- -------- --------------- --------------- ----------
          [_____] [_____] [_____] [_____] [_____
    A1 Subtotals for [_____]
 10 A1         ----------
    A1         [_____]
    LR
    LR Grand Totals
    LR         ----------
 15 LR         [_____]
       :
       :
```

Using the *Report* Editor

After the *Report* Writer constructs your report, you can use the *Report* Editor to alter a value or a column description. As the following steps show, you can use editing keys to make manual changes to your report.

To use the *Report* Editor to rename the Line Extension column:

1. **Select Edit the Report under the Report pull-down menu.**

    The report page is displayed, with the cursor in the upper left corner.

2. **Using the arrow keys, move the cursor to the beginning of the word Extension.**

3. **Type Order Amount over Line Extension.**

```
standard:   File    Report    Delete    Options    Help    Quit
Build and modify a report

              10        20        30        40        50        60        70
    ....:....:....:....:....:....:....:....:....:....:....:....:....:....:....:..
     :
  HD [date  ]
  HD ================================================================
  B1
 5B1 Cust No: [_____]
  B1    Order Amount   Cust No    First Name      Last Name       Comp Name
  B1    --------------  ----------  ---------------  ---------------  ----------
          [_____] [_____] [_____] [_____] [_____
  A1 Subtotals for [_____]
10A1          ----------
  A1          [_____]
  LR
  LR Grand Totals
  LR          ----------
15LR          [_____]
     :
     :
```

4. **Press [ESC] to save your changes.**

Printing Your Report

When you finish making manual changes to your report, you can print it. Use the Print option under the File pull-down menu to print your report. The following page contains output for the report created in this example.

```
Page:1                              Customer Listing w/ Orders                                      02/13/92
Cust No: 101
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
      $0.00       101 Ludwig        Pauli       All Sports Supplies 213 Erstwild Court                     Sunnyvale      CA 94086 408-789-8075
Subtotals for 101
-----------
      0.00

Cust No: 104
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $99.00       104 Anthony       Higgins     Play Ball!          East Shopping Cntr. 422 Bay Road      Redwood City   CA 94026 415-368-1100
     $19.80       104 Anthony       Higgins     Play Ball!          East Shopping Cntr. 422 Bay Road      Redwood City   CA 94026 415-368-1100
     $36.00       104 Anthony       Higgins     Play Ball!          East Shopping Cntr. 422 Bay Road      Redwood City   CA 94026 415-368-1100
     $48.00       104 Anthony       Higgins     Play Ball!          East Shopping Cntr. 422 Bay Road      Redwood City   CA 94026 415-368-1100
     $40.00       104 Anthony       Higgins     Play Ball!          East Shopping Cntr. 422 Bay Road      Redwood City   CA 94026 415-368-1100
Subtotals for 104
-----------
     242.80

Cust No: 106
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $250.00      106 George        Watson      Watson & Son        1143 Carver Place                      Mountain View  CA 94063 415-389-8789
     $126.00      106 George        Watson      Watson & Son        1143 Carver Place                      Mountain View  CA 94063 415-389-8789
     $240.00      106 George        Watson      Watson & Son        1143 Carver Place                      Mountain View  CA 94063 415-389-8789
     $800.00      106 George        Watson      Watson & Son        1143 Carver Place                      Mountain View  CA 94063 415-389-8789
     $960.00      106 George        Watson      Watson & Son        1143 Carver Place                      Mountain View  CA 94063 415-389-8789
     $480.00      106 George        Watson      Watson & Son        1143 Carver Place                      Mountain View  CA 94063 415-389-8789
Subtotals for 106
-----------
    2856.00

Cust No: 107
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $500.00      107 Charles       Ream        Athletic Supplies   41 Jordan Avenue                       Palo Alto      CA 94304 415-356-9876
     $240.00      107 Charles       Ream        Athletic Supplies   41 Jordan Avenue                       Palo Alto      CA 94304 415-356-9876
Subtotals for 107
-----------
     740.00

Cust No: 110
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $840.00      110 Roy           Jaeger      AA Athletics        520 Topaz Way                          Redwood City   CA 94062 415-743-3611
     $100.00      110 Roy           Jaeger      AA Athletics        520 Topaz Way                          Redwood City   CA 94062 415-743-3611
     $450.00      110 Roy           Jaeger      AA Athletics        520 Topaz Way                          Redwood City   CA 94062 415-743-3611
Subtotals for 110
-----------
    1390.00

Cust No: 112
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $125.00      112 Margaret      Lawson      Runners & Others    234 Wyandotte Way                      Los Altos      CA 94022 415-887-7235
     $190.00      112 Margaret      Lawson      Runners & Others    234 Wyandotte Way                      Los Altos      CA 94022 415-887-7235
     $99.00       112 Margaret      Lawson      Runners & Others    234 Wyandotte Way                      Los Altos      CA 94022 415-887-7235
     $36.00       112 Margaret      Lawson      Runners & Others    234 Wyandotte Way                      Los Altos      CA 94022 415-887-7235
Page:2                              Customer Listing w/ Orders                                      02/13/92
     $48.00       112 Margaret      Lawson      Runners & Others    234 Wyandotte Way                      Los Altos      CA 94022 415-887-7235
Subtotals for 112
-----------
     498.00

Cust No: 115
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $36.00       115 Alfred        Grant       Gold Medal Sports   776 Gary Avenue                        Menlo Park     CA 94025 415-356-1123
     $48.00       115 Alfred        Grant       Gold Medal Sports   776 Gary Avenue                        Menlo Park     CA 94025 415-356-1123
     $2400.00     115 Alfred        Grant       Gold Medal Sports   776 Gary Avenue                        Menlo Park     CA 94025 415-356-1123
Subtotals for 115
-----------
    2484.00

Cust No: 116
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $280.00      116 Jean          Parmelee    Olympic City        1104 Spinosa Drive                     Mountain View  CA 94040 415-534-8822
     $198.00      116 Jean          Parmelee    Olympic City        1104 Spinosa Drive                     Mountain View  CA 94040 415-534-8822
     $36.00       116 Jean          Parmelee    Olympic City        1104 Spinosa Drive                     Mountain View  CA 94040 415-534-8822
     $48.00       116 Jean          Parmelee    Olympic City        1104 Spinosa Drive                     Mountain View  CA 94040 415-534-8822
Subtotals for 116
-----------
     562.00

Cust No: 117
     Extension Cust No   First Name    Last Name   Company Name        Address Line #1    Address Line #2   City           St Zip    Phone
     ------------------------------------------------------------------------------------------------------------------------------------
     $250.00      117 Arnold        Sipes       Kids Korner         850 Lytton Court                       Redwood City   CA 94063 415-245-4578
     $126.00      117 Arnold        Sipes       Kids Korner         850 Lytton Court                       Redwood City   CA 94063 415-245-4578
     $240.00      117 Arnold        Sipes       Kids Korner         850 Lytton Court                       Redwood City   CA 94063 415-245-4578
     $480.00      117 Arnold        Sipes       Kids Korner         850 Lytton Court                       Redwood City   CA 94063 415-245-4578
     $800.00      117 Arnold        Sipes       Kids Korner         850 Lytton Court                       Redwood City   CA 94063 415-245-4578
     $840.00      117 Arnold        Sipes       Kids Korner         850 Lytton Court                       Redwood City   CA 94063 415-245-4578
     $200.00      117 Arnold        Sipes       Kids Korner         850 Lytton Court                       Redwood City   CA 94063 415-245-4578
Subtotals for 117
-----------
    2736.00

Grand Totals
-----------
   11508.80
```

A

Report Writer Tables

This appendix contains the names of the tables and columns found in the *Report* Writer. This information is provided for the developer or support person, and is not significant to the average user of the system.

cgddgrpd	**data group list**
data_desc char(30)	# data group name
tabname char(18)	# table in data group
grp_order smallint	# relative order of table
language char(3)	# language key

index i1ddgrpd on cgddgrpd (data_desc)

cgxjoinr   **table join reference**

join_id serial   # join key
not null

from_tab char(18)   # join from this table

to_tab char(18)   # join to this table

join_type smallint   # 1 to 1 or 1 to many

tab_order smallint   # relative order for this from table

jn_filter char(100)   # additional SQL join criteria

index i1xjoinr on cgxjoinr (from_tab)

cgxsselr   **selection set reference**

selname char(30)   # selection set name

tabname char(18)   # main selection set table

usrname char(20)   # selection set creator

grpname char(30)   # data group for the selection set

date_created date   # date created

date_modified date   # date modified

time_lastused integer # time last used

sel_status char(1)   # status (unused)

index i1xsselr on cgxsselr (tabname)

index i2xsselr on cgxsselr (usrname)

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cgxsseld   **selection set elements (detail)**

selname char(30)   # selection set name

tabname char(18)   # member element, table name

colname char(18)   # member element, column name

seldata char(200)   # selection criteria

asc_desc char(1)   # ascending/descending sort flag

seqno smallint   # sequence for sort and select

index i1xsseld on cgxsseld (selname, colname)

cgrreptr	**report description reference**
rptname char(30)	# report name
tabname char(18)	# main table
rpt_width smallint	# report page width
rpt_length smallint	# report page length
rpt_top smallint	# number of lines in top margin
rpt_bottom smallint	# number of lines in bottom margin
rpt_right smallint	# number of columns in right margin
rpt_left smallint	# number of columns in left margin
grpname char(30)	# data group for the report
usrname char(20)	# report author
date_created date	# date created
date_modified date	# date modified
time_lastrun integer	# time stamp when last
run dflt_select char(30)	# default selection set for report
last_select char(30)	# last selection set run with report
rpt_printer char(20)	# default report printer
rpt_status char(1)	# status (private/public)
rpt_type char(30)	# format style (mailing label,etc)
rpt_manual smallint	# manual report vs. automatic
index i1rreptr on cgrreptr (rptname)	
index i2rreptr on cgrreptr (usrname)	

cgrfldsd	**report cell detail**
rptname char(30)	# report name
tabname char(18)	# member cell table (if any)
colname char(18)	# member cell column (if any)
col_order smallint	# relative cell order in block
col_len smallint	# cell display length
col_ypos smallint	# cell row position in block
col_xpos smallint	# cell column position in block
col_attr char(30)	# cell attribute (unused)
col_subt char(1)	# subtotal flag
col_area smallint	# report block for this cell
col_format char(30)	# data format in cell
col_type char(20)	# cell type

index i1rfldsd on cgrfldsd (rptname, colname)

cgrsubgd	**report primary order and break data**
rptname char(30)	# report name
colname char(18)	# order/break column
tabname char(18)	# order/break table
dflt_ord char(1)	# default ascending/descending
seqno smallint	# relative order precedence
subg_flag char(1)	# break for subtotals?

cgrsubgd   **report primary order and break data**

subg_stat char(1)   # status (unused)

index i1rsubgd on cgrsubgd (rptname, colname)

cgrimged   **report block image table**

rptname char(30)   # report name

rpt_area smallint   # report block ID

line_no smallint   # image text line number

imge_line char(132) # image text

index i1rimged on cgrimged (rptname, rpt_area)

cgxntabr   **system table exclusion list**

tabname char(18)   # table to exclude from table menus

index i1xntabr on cgxntabr (tabname)

cgxquryr   **SQL query table**

rptname char(30)   # report name

scrname char(30)   # screen name

selname char(30)   # selection set

usrname char(20)   # creator

runtime integer   # time stamp when last used

qry char(4000)   # SQL query text

qry_type smallint   # query type (e.g., count vs. select)

index i1xquryr on cgxquryr (rptname)

index i2xquryr on cgxquryr (scrname)

index i3xquryr on cgxquryr (selname)

cgrarchr   **report archive header**

rpt_id serial not null   # archive unique id for report

rptname char(30)   # report name

tabname char(18)   # main table name

selname char(30)   # selection set name

grpname char(30)   # data group name

usrname char(20)   # name of user who ran report

daterun date   # date report was run

timerun char(5)   # time report was run

systime integer   # systime stamp of report runtime

cgrarchr   **report archive header**

qry_row integer   # rowid of report query in cgxquryr

index i1rarchr on cgrarchr (rptname)

index i2rarchr on cgrarchr (usrname)

cgrarchd   **report archive text detail**

rpt_id integer   # archive id for report

line_no smallint   # line number of text

text_ln char(256)   # report text

index i1rarchd on cgrarchd (rpt_id, line_no)

cgrmathr   **complex math table**

math_id serial not null   # unique id for joining math formula to field

math_fmla char(200)   # complex math expression for computed field

index i1rmathr on cgrmathr(math_id)

B

Glossary

Boolean Operators: The "and" and "or" operators that are used with comparison operators in building a selection clause in the selection criteria option.

Column: In a relational database (the Informix database is a relational database) each file is a table organized into rows and columns. A column stores one type of information, such as a customer's name or street address.

Comparison Operators: Operators used with selection criteria to build a selection clause. Together, they determine the data that appears in your column.

Data Group: A group of database tables that are related and grouped together under a common name. Usually a data group contains all tables that contain part of some related body of data. Data groups restrict the data set to a manageable size.

Data Set: The extended group of tables and columns that is accessible for the current report environment. A data set, which is defined by a primary table, is expanded by table relationships stored in the database to include all columns from all related tables no matter how indirectly related they are.

Selection Set: Contains selection criteria for a data set and are applied to a report at run time to restrict the set of data selected for a report. You may define any number of selection sets for a data set.

Main Table: Table that defines the data a report is based on and determines the data set, which subsequently determines the selection sets that may be used with the report.

Order by Column: Order by column refers to the order in which information is sorted on a report.

Table Joins: Statements that determine how tables are related to each other.

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