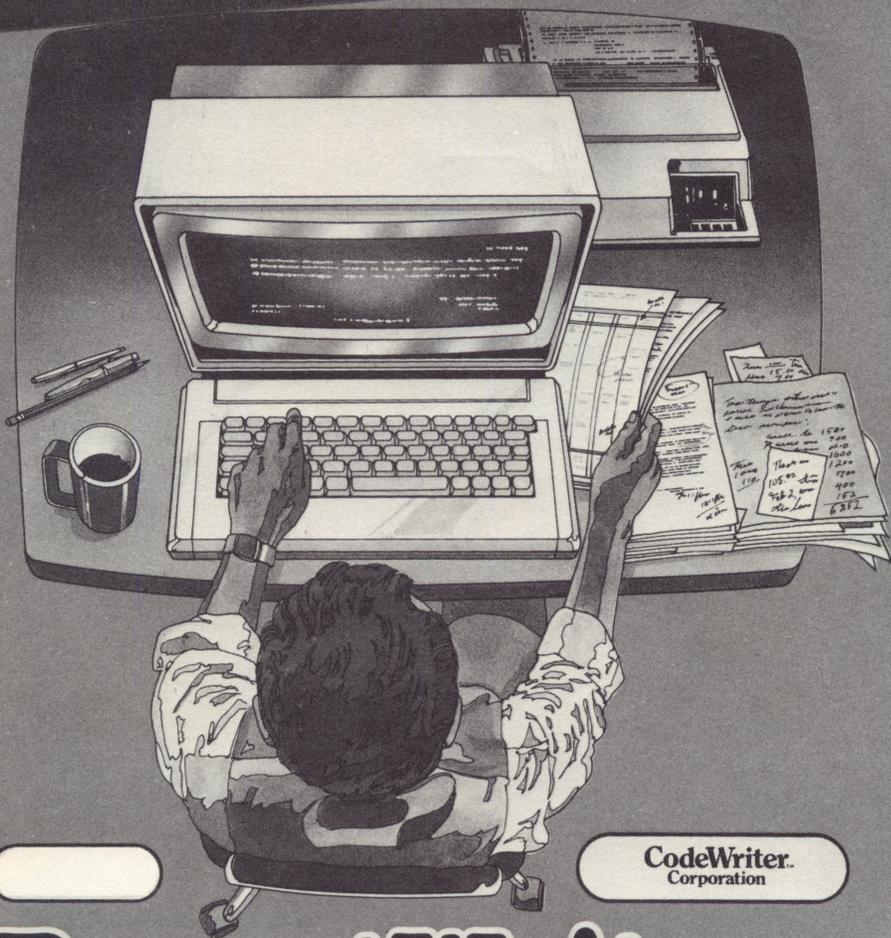


**YOUR OWN  
REPORT PROGRAM**  
the first time you try!



**CodeWriter.**  
Corporation

# ReportWriter™

A CodeWriter™ Program

Requires FileWriter™

ReportWriter lets you turn "data" to information. Our FileWriter programs make storing data a breeze. Now you need to make decisions — You need invoices turned into commission reports, customer names turned into mailing labels, accounts receivable turned into customer letters. NO COMPUTER CODE. Just a SIMPLE, VISUAL way to really USE your data!

# ReportWriter™

for the IBM and Apple Computers



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## tutorial

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## Using this Manual \_\_\_\_\_ Chapter I

This manual is divided into three main sections. The following information on the content and purpose of each section will assist you in using the ReportWriter program and its documentation to best advantage:

**introductory section** gives a brief overview of what ReportWriter is and what it does. Examples of created reports are included to assist you in realizing the use and flexibility of this program. On the following page is an explanation of symbols used within this manual.

**tutorial section** provides you with the information you need to learn how to use ReportWriter. There are two types of tutorials included with this program:

The first is a detailed, written instruction with accompanying screens to teach you how to set up a report. The report example is based upon the sample invoice program created with FileWriter and presented in the FileWriter manual. You will need this program in order to create the report in this manual.

The second tutorial is actually part of the computer program. It also presents examples and procedures for creating reports. This tutorial is obtained by selecting option "t" (View Tutorial) from the Main Menu. (If you are an Apple user and this option does not appear on your Main Menu, you will find the ReportWriter tutorial on the back side of the FileWriter Disk along with other tutorials.)

**reference section** presents a quick guide to ReportWriter's features and capabilities

## KEY TO SYMBOLS

As you read through this manual, you will find different symbols used to signal attention or action on your part. Here are the symbols and their uses:



**Keyboard** indicates that you are to type a word, command, or sentence involving multiple keystrokes rather than a single keystroke.



**Single key** prompts a single entry - one letter, number, or symbol.



**Function key** designates that a certain function key is to be struck - RETURN, SHIFT, CLR, etc.



**Paired symbols** indicate that a single keystroke is to be followed by striking a function key, usually the RETURN key.



**Disk** signals a disk exchange. You will be required to remove the current disk from the drive and insert another one.



**Screen** alerts you to what will appear on your computer screen following a particular action.

### load"menu

**Underlined phrases** present a command or entry exactly as you are to type it. Everything within this box must be typed including quotation marks and commas. Use uppercase (capital letters) and lower case letters as shown and use no spacing between keystrokes unless a space is shown.

Is this correct? **Shaded box** displays a partial screen. Sometimes only one word or line changes on a screen after you have made an entry. Rather than presenting the entire screen again, we will present only the significant part of information that has changed.

## A WORD ABOUT SOFTWARE PROTECTION

We at CodeWriter Corporation have very definite ideas about protecting software. Both the software developer and the software customer have rights which must be protected. The developer must be protected from "unauthorized use" of his work, since if the marketplace does not reward that work, it will not be produced, will not be supported and will not be improved.

However, workable software protection cannot exclude the customer's rights. The paying customer makes all new software possible. Thus, the customer should be able to use the software with confidence. A "back-up" or duplicate copy of your ReportWriter Disk is available at a small cost (see the coupon included with your system). Also, a one year guarantee is part of your system cost. If your ReportWriter Disk fails to perform during this period, we will replace it at no charge. Once your purchase is registered, you may call us for any questions you might have concerning ReportWriter or for information about other CodeWriter products.

### IBM vs APPLE USE

This manual is intended for use by IBM and Apple computers. The operation of ReportWriter is very similar for both systems, but where major differences arise, they will be clearly marked. Otherwise, you can assume the instructions apply to both computers. Minor discrepancies between the screens for IBM and Apple will be ignored. If there is ever any doubt about what to do, follow the instructions on your screen.

The IBM keyboard contains an ENTER key  that is the equivalent of Apple's RETURN key. Since the function is identical for both systems, we have presented all instructions as:

.... and **PRESS RETURN**

IBM users will recognize this command to mean "PRESS ENTER."

# Introducing ReportWriter \_\_\_\_\_ Chapter II

## PURPOSE

**ReportWriter** is a part of the **CodeWriter**™ family of products. It is a companion program to **FileWriter**. **FileWriter** creates data entry programs and **ReportWriter** then interprets and reports that data in meaningful formats.

The creation of **reports** from data is the real payoff in program design. Machine-controlled information is "humanized." Data is now looked over, compared, sorted, and rigorously manipulated until the program designer can answer the questions: What does this mean? Are there patterns to what has happened? Of all the information we have collected, what is significant? **ReportWriter** assists you in designing reports to answer pertinent questions about your data.

## DEFINITION

There are several definitions to the word **report**. The broader your definition, the better reports you will be able to design.

Reports **give** the **status** of a file of information. They tell us how many items are below a certain number, how many above, totals, averages, and so forth.

Reports **seek out trends or patterns**. If the designer imposes certain conditions, how many of the data entries qualify ?

Reports can gather information to **create new uses** for the data or to **change its purpose**. For example, all the headings from an invoice file can be pulled together to form a mailing list.

## **HOW REPORTWRITER WORKS**

The ReportWriter part of the **CodeWriter** system is an aid to productivity which is designed to assist you in creating a report without your writing any program code. ReportWriter generates the program for you; all you need to do is to run it and enjoy the results. Here's how Reportwriter works:

### **1) Report Design**

ReportWriter leads you through designing a report by asking you to define:

- (a) any new calculations you wish to include
- (b) how a record is to be formatted
- (c) which data is to be included
- (d) how to summarize the information

### **2) Code Generation**

Using this design information, ReportWriter automatically creates a program which tells your computer how to read your data and prepare a report.

### 3) Report Production

Different reports typically require data to be arranged in different orders. For instance, you may wish to print a report showing all of your investments arranged **alphabetically by name**. However, at year's end you may wish to print a report showing your investments in **order of date purchased** - longest held investment first followed by the next longest held and so forth down the page. As you can see, these two reports present the same information in different orders.

The CodeWriter system provides you with a **sort** program which arranges the data in your file in a format that meets your needs, makes sense, and is arranged according to your priorities at the time.

In this final step, your report program (created by ReportWriter according to your specifications) uses this sorted data to provide a report either on-screen or as a print-out.

# APPLICATION EXAMPLES

Here are three **examples** of different types of reports. As we have already mentioned, styles and kinds of reports may be as varied as the people who create them. You will notice that the visual format of each of these reports is different, but they were all created with ReportWriter.

## EXAMPLE OF SCREEN FORMAT FOR MAILING LIST

ke1 .....	
ke2 .....	
ke3 ..... ke4 .....	

ke1 - Client Name      ke2 - Street Address  
ke3 - City and State   ke4 - Zip Code

## FINAL REPORT: MAILING LIST

CLIENT MAILING LIST	
Mr. Bob Ready 456 Diamond Lane Dallas TX 75884	Mrs. H. Hapgood 1233 E. Nervous Lane Wilton CO 06897
Mrs. Harriat Ranier 826 Wiltonian Westport CA 98005	Mr. Jerry Begood 45 Brimmer Pl #45 New York NY 10003
Ms. Beverly James 4578 Woodmount Lane Monroe LA 70645	



**EXAMPLE OF SCREEN FORMAT FOR  
ACCOUNTS RECEIVABLE REPORT**

ke2.....	pc3.....	ke4.....	pc5.....

ke2 - Customer Name  
ke 4 - Number of Items  
pc3 - Accounts Receivable Amount  
pc5 - Amount Past Due

**FINAL REPORT: ACCOUNTS RECEIVABLE**

ACCOUNTS RECEIVABLE STATUS			
<u>CUSTOMER</u>	<u>A/R AMT</u>	<u>NBR ITEMS</u>	<u>PAST DUE</u>
ABC Industrial	27800	45	5000
Western Indust.	67385	32	6754
Agricultural Co.	12800	10	1500
West Widgets	10766	11	1210
Billings Inc.	5926	8	375
Lycoming Manf't	1805	4	100
Reed & Co.	12436	15	987
 <u>Summary Report</u>			
Total:	Accts Recvbl	\$138918	
Maximum:	Accts Recvbl	\$67385	Past Due \$6754
Minimum	Accts Recvbl	\$1805	Past Due \$100

tutorial

# Getting Started \_\_\_\_\_ Chapter III

## EQUIPMENT AND MATERIALS NEEDED

- IBM PC or XT Computer with 64K, 2 disk drives
- Apple IIe, IIc, or II Plus with Videx 80 column card (or compatible), or Franklin Ace 1000 (1 or 2 disk drives)
- Monitor
- Disks:
  - **ReportWriter Disk**
  - Application Disk  
Use either a blank, formatted disk (if data is stored on a separate disk), or use the application disk that contains your FileWrite-created Data Entry Program (invoice)
  - Data Disk containing files of information created by your **FileWriter** generated data entry program (this would be the same as the FileWriter Application Disk if you saved your data on this disk)
- Printer (optional)

# Designing a Report \_\_\_\_\_ Chapter IV

This chapter will take you through the process of designing a sample report. Future reports may vary considerably in form and content, but this report will provide you with a solid starting point. The sample report is based upon the data entry program "invoice," produced with FileWriter and presented in the FileWriter manual. This report will use 80 columns. Follow all instructions in the order presented and you should have no difficulty. What will your final report look like?

## DESIRED RESULT

After you complete the steps for the tutorial, you will have created this report format:



### VIEW:

```

                                ABC COMPANY SALES INVOICE
                                12345 Washington Blvd.
                                Chicago, IL 60606

Invoice Number ke6 . . .
Customer Name ke1 . . . . . Account * ke2 . .

Item ke6 . . . . . Quantity ke7 . . *

Paid on Account ke10 . . $ Price ke9 . . . $
% Paid with Order .c% (pc5) -----
% Balance as Recvbls .c6 Total pc1 . . . $
Tax pc2 . . . $
=====
Invoice Total pc3 . . $

* INVOICE BALANCE pc4 . . $ *
Thank you for your business !
```

## DESIGN PHASES

The creation of a report involves three main phases:

- defining any **new calculation fields** for the report
- designing the **visual format** for the body of the report, or how each record is to be printed or displayed
- specifying how to **select data** (ACCEPT IF: statements) to be included in the report and how to **summarize** this data

Before beginning the design process, you will need to load ReportWriter and answer several questions regarding disk and drive usage.

## LOADING PROCEDURE

**Apple:** Loading is automatic; simply insert your ReportWriter Disk with the computer off, then turn it back on again.

**IBM:**

**INSERT** ReportWriter Disk (label side up) into the drive

**TYPE** load menu and **PRESS** RETURN

**WAIT** for program to load and for an "ok" message to appear

**TYPE** run and **PRESS** RETURN

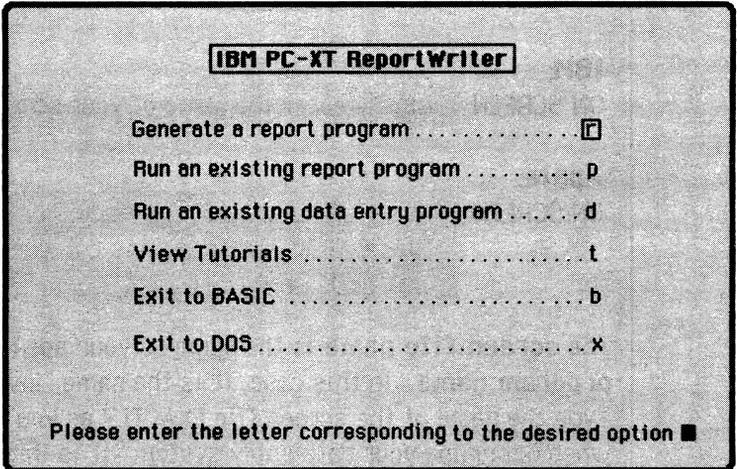
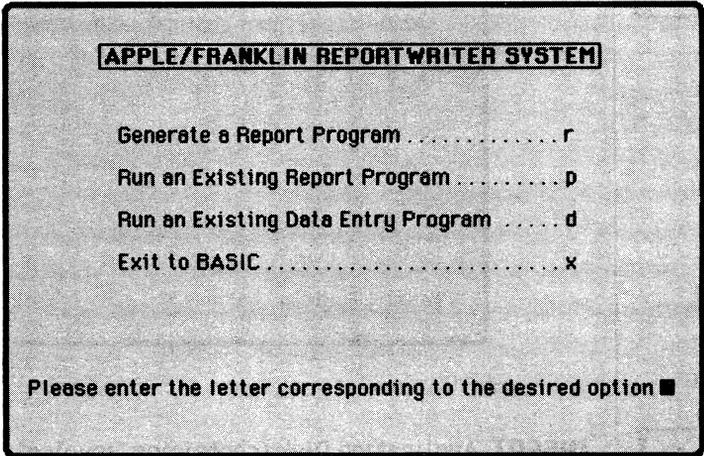
**ANSWER** the questions posed by ReportWriter until the Main Menu appears:



**Both IBM & Apple:**



**VIEW:**



**ENTER** r and **PRESS** RETURN

**ON SCREEN:** Please wait - Program loading

**Apple:**

**ON SCREEN:** Will you be using 1 or 2 disk drives (1/2)? □

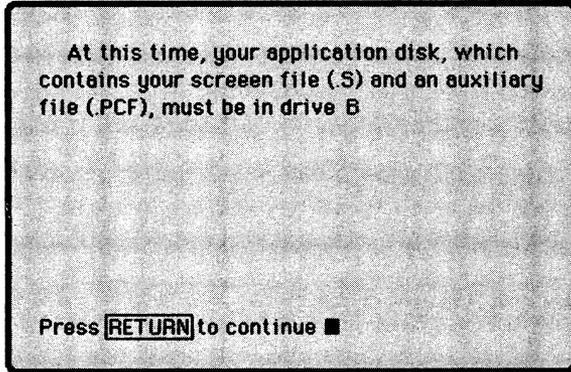
**Note:** This manual is written for a two-drive system. If you have one drive, the procedure are essentially the same, but you will have more disk swaps. Follow the instructions on your screen.



ENTER 1 or 2 as appropriate and PRESS RETURN



VIEW:



**INSERT** Application Disk (containing "invoice" program) into the Drive and PRESS RETURN

**IBM:**

ON SCREEN: Please enter the name of your screen file

**Apple:**

ON SCREEN: What is your screen file name?   
Type CATALOG to see files currently on disk in Drive 1

The **screen file name** is the same as your **application program name**. In this case, it is the name "invoice." Type the name of the screen file EXACTLY as you entered it when designing your data entry system. It is important to shift into UPPER case if you did so when you created the file. If you closely followed the sample program in FileWriter, the name is in lower case letters:



TYPE invoice and PRESS RETURN



ON SCREEN: Reading Screen File . . . .

**IBM:**

ON SCREEN: What drive will your data file be in (a/b)?

**Apple:**

ON SCREEN: **Is your data on a separate disk (y/n)?**



**ENTER** appropriate response and **PRESS RETURN**

ON SCREEN: **What date format do you use: American or European?**

Type either an "a" or "e" depending on what option you selected when creating your data entry program. It must be the same. In our example we used the American date format.



**ENTER** a and **PRESS RETURN**

**VIEW:**

Your report program will display a title screen which will include 'program designed by

Please enter your name below (45 characters or less)

Program designed by: █



**TYPE** your name ( using 45 characters or less)

ON SCREEN: **Enter title:**



**TYPE** ABC Company Sales Invoice and **PRESS RETURN**



**VIEW:**

**ABC Company Sales Invoice**

Program designed by (your name)

Are the title and design lines correct **(y/n)?**



If the title and credits are correct:

**ENTER** y and **PRESS RETURN**

A program loads to define new program calculations.

**PRESS RETURN** and **VIEW**:

Before setting up your report layout, you must define all program calculated variables that you wish to appear in your report. You will also be asked to provide brief descriptions of the fields in order to remind you of their meanings.

Enter the expressions in the form:  $pc2 = (ke1 + ke3 - pc1) / gt2$

No definition of a 'pc' can contain itself or any undeclared 'pc

After you have entered all of your definitions, enter **done**

exactly as shown:  $pc^{**} = done$

Press **RETURN** to continue

Do not respond to this screen yet. Read the following discussion first.

## PHASE I: DEFINING NEW CALCULATION FIELDS

Recall that when you created your data entry program in FileWriter, you could specify that certain fields were calculated from other fields. There were keyboard entered (ke) fields and program calculated (pc) fields. Those calculations were used within the data entry program to calculate such things as totals, invoice balances, etc.

With ReportWriter it is also possible to calculate **new fields** from any of these existing data file fields. That is, if your report needs a calculation value which does not currently exist in your data, you may create that new value when you design the report. Of course, the numbers needed to perform new calculations must be present in the data file before they can be manipulated, but this flexible feature of ReportWriter greatly expands your capabilities.



PRESS RETURN and VIEW:



Type '?' for help, 'list' to list the ke field descriptions, or 'done' to end.

Enter the calculation for this field:

pc5 = □



TYPE list and PRESS RETURN



VIEW:



**Keyboard entered fields**

1 - Customer name	2 - Account *
3 - Date	4 - Street Address
5 - City	6 - INVOICE *
7 - Quan	8 - Item
9 - Price	10 - Paid on Account

**Program calculated fields**

1 - Total	2 - Tax
3 - Invoice Total	4 - INVOICE BALANCE

**Grand total fields**

gt1 - Total Accounts Receivable	gt2 - Total Sales
---------------------------------	-------------------

Press RETURN to continue.

ReportWriter displays all the fields defined in the original data entry program. They are grouped according to their type: ke, pc, or gt. The ke and pc numbers assigned to a particular field (ex: ke6 - Item) may be slightly different on your screen, but the fields themselves (date, price, total, etc.) should all be present.



PRESS RETURN and the screen for defining new pc values reappears

On this screen you are to declare **new program calculation fields** for use in the report. The next available pc number is displayed: **pc5**. You enter the formula for the calculation the same way you did with FileWriter. Remember, you may not use the same pc number on both sides of the equal sign.

To continue with our example:

In the "ABC Sales Invoice" data entry program the calculated fields were used to make the data entry process easier for the operator - calculating price extensions, tax, totals, etc. The calculations were appropriate for the program. In a report program the same information can be looked at in a different way. Now that we have the information in the file, does it have a pattern? Does the data suggest a trend?

In this example we will use the following data entry field examples (already entered) to create new program calculations for a report:

ke10 = paid on account  
pc3 = invoice total  
pc4 = invoice balance  
gt1 = total accounts receivable  
gt2 = total sales

The actual ke and pc numbers that appear for your program may be slightly different. If so, write the correct values for "paid with order," etc. in this manual according to your screen listing (obtained by typing list).

If the program designer would like an analysis of how much each customer pays with his order in relation to the total order, a new pc called pc5 could be created for the report program to calculate percent:



**TYPE** (ke10/pc3)\*100 and **PRESS** RETURN



**ON SCREEN:** Are you sure that this is a valid statement (y/n)?



**ENTER** y and **PRESS RETURN**

ON SCREEN: Enter a brief (25 characters or less) description of this field  
**pc5 description:**

**Note:** Good descriptions are useful in remembering what a field contains when you look at it later.



**TYPE** % paid with order and **PRESS RETURN**



ON SCREEN: Is this field dollar (d) or numeric (n)?

ReportWriter asks this question so that it knows how to print this field.



**TYPE** n and **PRESS RETURN**



ON SCREEN: What is maximum length of this field (3-15)



**ENTER** 4 and **PRESS RETURN**

If the field was designated as a dollar field, a maximum length of 4 would allow 1 space to the left of the decimal and 2 spaces to the right.

ON SCREEN: Is the above correct (y/n)?



**ENTER** y and **PRESS RETURN**

ON SCREEN: Enter the calculation for this field:  
**pc6 =**

As it is wise to be aware of how much customers owe in relation to how much has been sold, a new pc (pc6) for this report could be:  $pc6 = (pc3/gt1)*100$   
(invoice total/total accts receivable)\*100

This calculation formula instructs ReportWriter to divide the invoice total by the total accounts receivable for this customer. The number is multiplied by 100 because we wish to print the resulting percent as a whole number.



TYPE pc3/gt1)\*100 and PRESS RETURN



ON SCREEN: Are you sure that this is a valid statement (y/n)?



ENTER y and PRESS RETURN

ON SCREEN: **pc6** description:



TYPE inv bal as % of recvbls and PRESS RETURN



ON SCREEN: Is this field dollar (d) or numeric (n)?



ENTER n and PRESS RETURN

ON SCREEN: What is the maximum length of this field (4-9)?



ENTER 4 and PRESS RETURN

ON SCREEN: Is the above correct? (y/n)



ENTER y and PRESS RETURN

ON SCREEN: **pc7** =



TYPE done and PRESS RETURN

This ends input of new program calculated fields.





## VIEW:

You will now be given the opportunity to specify the format of one record. When the report program runs, the format will be duplicated both horizontally and vertically as many times as will fit on a page or screen. Now you will be asked how many times the record will be duplicated across the page and how many lines long each record will be.

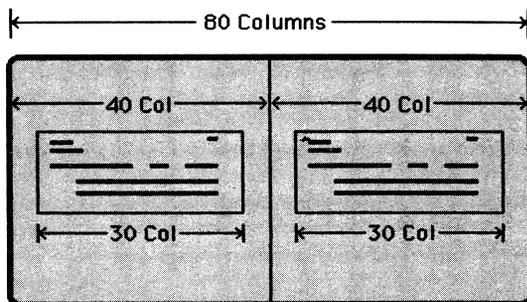
Remember to allow one space at the top or bottom of the format if you want a space between records above other records. (A space between records left to right is automatically provided.)

How many records across the page  ■

A report is principally a listing of **records**. Each record contains a separate set of information: a record for a particular customer, a record for a particular date or item. The specific information may change, but the format is the same for every record.

ReportWriter will ask you how many records you wish to print across the page so that it can calculate the space needed for each record on the page. Space for a record is called a **segment**. So, if you wish to print mailing labels three across the page, ReportWriter will create space for three segments, each containing a different record.

Suppose the significant information from one record can be rearranged to fit a space 30 columns wide; you can get two records across the screen (with space left over).

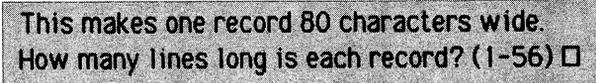


If you wish to use the entire workspace, simply answer 1 and only one record will be printed across an 80-column width.

Remember, you will be allowed to manipulate the contents of your FileWriter data entry screen. You do not have to use the same visual format (ie. Just because the date on your FileWriter screen was located at the upper right hand corner of the screen, it doesn't mean that in your report the date must also appear at the upper right. You may decide to put it at the left, or to not include it at all.) You may rearrange the data in any field to locate it anywhere you like on your report. You also may add text and new pc fields.



**ENTER 1 and PRESS RETURN**

ON SCREEN:  This makes one record 80 characters wide.  
How many lines long is each record? (1-56)

The question "Lines for each record?" offers almost the same choices as the question "How many records do you wish displayed?". A full page report is 80 columns wide and 56 lines top to bottom. Most screens display only 23 lines at a time. Your screen will display as much of an 80 by 56 page as it can. After displaying a screen, your computer will scroll at your command to show the rest of your report. Choose the dimensions which will be best for your report.

Twenty lines is enough space for this invoice report:



**TYPE 20 and PRESS RETURN**

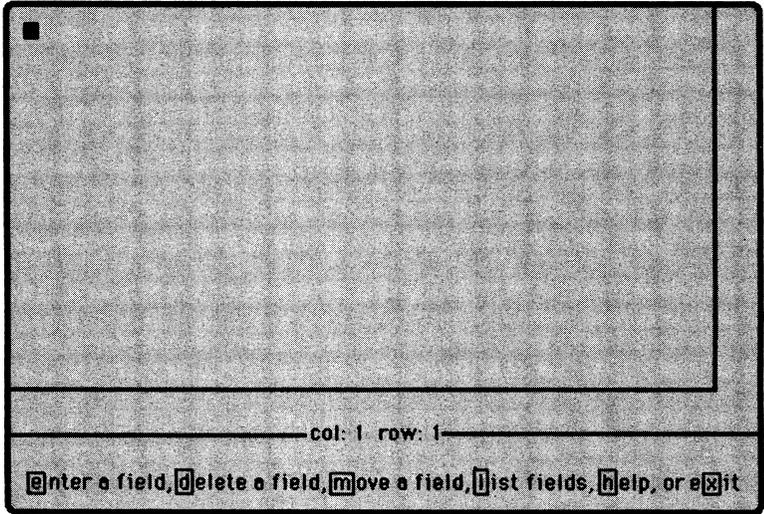


ON SCREEN: Is this correct (y/n)?



ENTER y and PRESS RETURN

VIEW:



Now we are ready for the next phase - designing the format of each record.

## PHASE II: DESIGNING THE RECORD FORMAT

ReportWriter draws lines on the screen to indicate the size of a **segment** (the amount of space necessary for one record). You specified the dimensions when you told ReportWriter how many records across and how many lines for each record. If more than one record across is specified, vertical dashes mark the right hand boundary of your report segment. A solid horizontal line indicates the top-to-bottom boundary which is governed by the number of lines for a record.

At the bottom of the screen is the familiar column and row **position indicator** from the FileWriter program: **Col: 1**  
**Row: 1**. As you move the cursor around, you will see the numbers change to indicate its current position. Your cursor

movements are limited to the boundaries of the screen segment.

The **prompt line** contains the following options:

**(e)nter** - allows a field to be positioned within the screen segment. Enter e (without RETURN) and another line of options appears: you are asked whether your entry is **(k)**eyboard entered, **(p)**rogram calculated, or **(t)**ext.

For both **ke** and **pc** fields, if you enter a numeric field in your segment, you are also asked if you want **numeric formatting**. Numeric formatting simply gives you the opportunity to use a decimal point. You then enter the number of positions you want to appear to the right of the decimal point.

**(t)ext**- allows you to enter any keyboard character. Any additional descriptive information you want printed on the report must be entered as text. Think of these as labels.

**(l)ist** - allows you to see the names and numbers of fields used in your FileWriter program. These same fields will be manipulated and arranged to create a report.

**(d)delete** - this reverses the entry process. Any field - ke, pc, or text - can be removed from the screen by moving the cursor over the first character of a field and entering **d**. You are given an opportunity to verify that this is the field you want to delete, so that if the delete option is selected by mistake, you can recover.

**(m)ove** - allows any field entered to be moved anywhere within the segment. The field is selected and then moved with the cursor keys. In this mode, the **F3** key acts as a tab to the far right.

**(h)elp** - provides a full review of all screen entry procedures

**e(x)it** - select **x** to end screen entry and to go on to specifying other report parameters

Now you will begin to create your report. You must use the cursor (CRSR) keys to move around the screen to enter fields and set up the report format.



**PRESS** ↓ CRSR key once to move down to row 2 (line 2)



**ENTER** e

ON SCREEN: Enter field (**ke1-ke10, pc1-pc6, text, list** or **Esc** to stop) □

The ESCAPE key (CTRL-E for Apple) is selected either to abort this selection or used after you have completed entering text or fields.



**ENTER** t and **PRESS** RETURN

**IBM:**

ON SCREEN: Either press **Esc** to stop, or type at most 79 characters then **ENTER**

**Apple:**

ON SCREEN: Enter 79 characters or less; or **Ctrl-E** to go back to menu



You are now ready to type the title:

**TYPE** ABC COMPANY SALES INVOICE and **PRESS** RETURN

ON SCREEN: Is this correct (y/n)? □



## ENTER y and PRESS RETURN

This is not the final location we want for our title. In order to center the title you must use the **move** command and the cursor keys. Note that the cursor is already positioned over the first character of the text field, which is where it needs to be in order to activate the move command.



## ENTER m

ON SCREEN: Use the cursor keys, **tab** and **Return**.  
Press **Esc** to stop.

The title field is highlighted and is ready to be moved. You will have to calculate where to center the title. The screen is 80 columns wide and the title has 25 characters.

$$80 - 25 = 55$$

$$55 / 2 = 27.5 \text{ rounds down to } 27$$

Column 27 is where you want your title to begin in order to be centered.

**MOVE** the → **CRSR** key to the right until the column indicator at the bottom of the page reads: Col: 27. You will notice that the title advances beyond column 40 and off the right half of the screen. Although half of your title is no longer visible, it is still present and can be viewed by scrolling to the right. First, however, you must end the move command:



**PRESS** ESC (CTRL-E) and your title is in place



**PRESS** RETURN and the cursor returns to the beginning of the next line

If you should forget to move the cursor and try to enter another field on top of your previous entry, ReportWriter warns you that the space is in use. This safeguard prevents you from destroying a field you have already entered. If you

do indeed want to re-enter text or a field, you must first delete it and then re-enter the field.



**ENTER** e

ON SCREEN: **Enter field (ke1-ke10, pc1-pc6, text, list or Esc to stop) □**



**ENTER** t and **PRESS** RETURN



**TYPE** 12345 Washington Blvd. and **PRESS** RETURN



ON SCREEN: **Is this correct (y/n)?**



**ENTER** y and **PRESS** RETURN

This entry must be now be moved under the title.



**ENTER** m and use the CRSR keys to move the address to the right and directly under the title. The column indicator should read 27 and the 1 of "12345" should be under the **A** of "ABC."



**PRESS** ESC (CTRL-E)

Using the same procedures, continue to enter the city, state and zip code as shown and locate this line under the street address:

Chicago, Illinois 60606

<p>ABC COMPANY SALES INVOICE 12345 Washington Blvd. Chicago, IL 60606 ■</p>
<p>col: 27 row: 4</p>
<p>Either press <b>[Esc]</b> to stop, or type at most 53 characters then <b>[Enter]</b></p>

Now you are ready to set up the body of the invoice. Move the cursor down two lines to Row 6 and over to Column 8.



**ENTER** e



**ENTER** t and **PRESS RETURN**

ON SCREEN: **Either press Esc to stop, or type at most 79 characters then ENTER**

ReportWriter automatically calculates the number of spaces remaining on this line



**TYPE** Invoice Number and **PRESS RETURN**



ON SCREEN: **Is this correct (y/n)?**



**ENTER** y and **PRESS RETURN**

Now you must move the cursor to the right of this label to provide a place for data to be filled in.

**MOVE** the cursor over two spaces beyond the **r** in "Number"



**ENTER** e

ON SCREEN: **Enter field (ke 1-ke 10, pc 1-pc 6, text, list or Esc to stop) □**



**TYPE** list and **PRESS RETURN** to check which ke\* corresponds to "Invoice Number"



In our case, it is ke6 Yours may be a different ke number.



**PRESS RETURN** after viewing the listing and you are returned to the report design screen



**ENTER** appropriate number and **PRESS RETURN**

**VIEW:**



```

ABC COMPANY SALES INVOICE
12345 Washington Blvd.
Chicago, IL 60606 □

Invoice Number [k]e6 ...

col: 23 row: 6
enter a field, delete a field, move a field, list fields, help or exit
  
```

Your screen should look like this. Ke6 indicates that the contents of the ke 6 field from each record of your existing FileWriter data will appear on the invoice when the report is run.

Next you will add the Customer Name and Account Number to the report.

**MOVE** the cursor down one line to Row 7 and over to Column 18 so that it is directly under the I in "Invoice."



**ENTER** e



**ENTER** t and **PRESS RETURN**

**ON SCREEN:** Either press **Esc** to stop, or type at most 79 characters then **ENTER**



TYPE Customer Name and PRESS RETURN



ON SCREEN:



ENTER y and PRESS RETURN

MOVE the cursor two spaces beyond the **e** in "Name"



ENTER e



TYPE list to see your ke listing

Keyboard entered fields	
1 - Customer name	2 - Account *
3 - Date	4 - Street Address
5 - City	6 - INVOICE *
7 - Quan	8 - Item
9 - Price	10 - Paid on Account
Program calculated fields	
1 - Total	2 - Tax
3 - Invoice Total	4 - INVOICE BALANCE
5 - % Paid with Order	6 - inv bal as % of recybls
Grand total fields	
gt1 - Total Accounts Receivable	gt2 - Total Sales
Press <u>RETURN</u> to continue.	



PRESS RETURN then ENTER the ke number corresponding to "Customer Name" and PRESS RETURN again

Apple:

ON SCREEN:



ENTER n and PRESS RETURN

MOVE your cursor to the right on this same line (Row 7) until you get to Column 54

**VIEW:**



ABC COMPANY SALES INVOICE  
 12345 Washington Blvd.  
 Chicago, IL 60606 □

Invoice Number [K]e6 ...  
 Customer Name ke1 ..... ■

---

col: 54 row: 7

enter a field, delete a field, move a field, list fields, help or exit



**ENTER** e



**ENTER** t and **PRESS** RETURN



**TYPE** Account # and **PRESS** RETURN



**ENTER** y to indicate entry is correct and **PRESS** RETURN



**MOVE** cursor two spaces beyond Account #



**ENTER** e



**ENTER** the ke number corresponding to Account# and **PRESS** RETURN (Our account number designation is ke2)

**MOVE** the cursor down to Row 9 and over to column 8 under Customer Name

Continue creating the rest of the screen to prepare a report which looks like :

```

                                ABC COMPANY SALES INVOICE
                                12345 Washington Blvd.
                                Chicago, IL 60606

Invoice Number ke6 . . . . .
Customer Name ke1 . . . . . Account # ke2 . . . . .

Item ke8 . . . . . Quantity ke7 . . . *

Paid on Account ke10 . . $ Price ke9 . . . $
% Paid with Order .c% (pc5)
% Balance as Recybls .c6 Total pc1 . . . $
Tax pc2 . . . $
=====
Invoice Total pc3 . . . $

* INVOICE BALANCE pc4 . . . $*
Thank you for your business !

```

When you create the entries for **Total**, **Tax** and **Invoice Total**, you will enter the pc\* instead of a ke\* because they are program calculated fields.

You may create the **lines** under the Price and Tax fields by entering them as text. The "**Thankyou for your business**" note at the bottom of the invoice is also a text entry.

When you have finished creating your screen . . .

**ENTER** x to exit

**VIEW:**

```

                                                SC: R12

You will be given an opportunity to see
your format duplicated across the page.
When you are done looking at the format,
if you are not satisfied with it, you
will be able to return to the format
screen and change it.

Press RETURN to continue.

```



**PRESS RETURN** and your format is shown again

ON SCREEN: Do you wish to see your format again (y/n)?

ON SCREEN: Do you wish to change your format? (y/n)



**ENTER n** and **PRESS RETURN**

ON SCREEN: Change your format (y/n)?

You have one more opportunity to change your format in any way: enter new fields or text, move fields, delete fields.



**ENTER n** and **PRESS RETURN**

ON SCREEN: Please wait - Loading Program



**VIEW:**

SC:R14

Page headers and paging are optional. Headers and paging may be suppressed for making mailing labels or for saving paper.

Do you wish to include paging and page headers (y/n) ?

Depending on how you want to set up your report, you would indicate **y** or **n**. In our example, each invoice has its own heading so we do not want a page header.

## PAGING AND PAGE HEADERS

If you answer **y**, you will see a sample of your report form. There are two lines for headings. The top line is normally used for a report heading, leaving a line for column headings if you wish. ReportWriter asks if the headings are correct so that you may make any necessary corrections.

If you answer **y**, you will see a sample of the left half of your report form. There are two lines for headings. The top line is normally used for a report heading, leaving a line for column headings if you wish. Since you can only work on half of the report screen at one time, the screen will scroll automatically when necessary. If your title lines use only the left half of the screen, the right half is still presented for possible titles when you press RETURN. ReportWriter asks if the headings are correct so that you may make any necessary corrections.



**ENTER n and PRESS RETURN**



**VIEW:**

Your report may have several different sections. A section is a group of records that meet some standards that you set. You may, for example, have a section for accounts with negative balances or a section for accounts positive balances. At the end of each section a summary of that section may be printed. A summary contains totals, averages, minima, and/or maxima of all or selected records. At the end of the entire report, an overall summary may be printed. An overall summary is a summary of all records accepted in all sections.

Variable numerics, alphanumerics and dates can be used in the summary specifications. Users can set their values each time a report is run. Variable date 1 (vd1) is predefined as 'What is today's date?'

**How many sections do you want in your report (1-25)? ■**

Now you are ready for the third phase of designing a report - specifying how ReportWriter will select data to be included in the report.

## PHASE III: SELECTING DATA

Up to this point, we have told ReportWriter how we want our report formatted. Now we are ready to start defining additional refinements such as creating separate **sections** within a report. All sections of a report are printed in the same visual format, but each section prints different data, depending on your specifications.

These specifications distinguish one section from another and are used to **select data**. For example, suppose we wish to print all the invoices for Illinois customers in one section and all the invoices for Texas customers in another section. Both report sections will have the same appearance or format, but the data is grouped into **sections** to be more meaningful. This grouping is particularly helpful if we need a total of all the invoices for each state.

In order to group information into meaningful sections, we must first specify that one of the sections will contain invoices only from Illinois customers. The other section must report customers only from Texas.

### Section 1: Illinois Invoices

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

### Section 2: Texas Invoices

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

Another example of the use of sections is found in the ReportWriter Tutorial located on the disk. In that example, a teacher wanted to print a list of her students separated into sections according to which period they attended her class.

REFER again to your screen and the question at the bottom:  
How many sections do you want in your report?

For this sample report, you will set up three sections.



ENTER 3 and PRESS RETURN.



VIEW:

```
**** section 1 ****
```

```
possible names:
```

```
ke3 - key-entered field      @12/23/61@ - date constant  
pc1 - program calculated    vn1 - variable numeric  
gt3 - grand total          va3 - variable alpha-numeric  
"text" - string constant    vd1 - variable date
```

```
examples:
```

```
accept if: NOT((pc1<vn2 AND ke1<@B/24/58@) OR ke1>"m")
```

```
accept if: list *** to list field descriptions ***
```

```
accept if: all *** to accept all records ***
```

```
specify the conditions under which a record will be accepted  
for section 1.
```

```
accept if: 
```

## ACCEPT IF:

This screen gives you the opportunity to use the **Accept If:** capability. This is a very powerful feature which in effect, tells ReportWriter to **accept** data for reporting **IF** it meets certain conditions. What conditions must it meet? That is up to you, the program designer.

Suppose you wanted a report of invoices for the first quarter of the year, but not the whole year. Assume that ke1 = date. After the prompt, you would type (but don't type now):

**Example:**

Accept if:  $ke1 \geq \text{01/1/84}$  and  $ke1 \leq \text{03/30/84}$

**Meaning:**

Accept (data for reporting) if:  $ke1$  (the date entered) is greater than or equal to January 1, 1984 **and** if  $ke1$  is less than or equal to March 30, 1984

Such an equation would evaluate all data in your files, but would select for reporting only those records whose dates met these specifications (or criteria).

Entering "all" causes ALL the records in the file to be part of your report section. The system does not evaluate the records; it simply presents them to the ReportWriter to format according to your instructions.

The Reference Section provides more examples for using the Accept If: feature.

The sample report you are creating will contain 3 sections. Consequently, you must specify what information will be accepted for each section.

Suppose you own a sporting goods store, and want Section 1 to report all invoices for a particular item sold. First, you must determine the field type and number for "Item."



TYPE list and PRESS RETURN

## VIEW:

### Keyboard entered fields

- |                   |                      |
|-------------------|----------------------|
| 1 - Customer name | 2 - Account #        |
| 3 - Date          | 4 - Street Address   |
| 5 - City          | 6 - INVOICE #        |
| 7 - Quan          | 8 - Item             |
| 9 - Price         | 10 - Paid on Account |

### Program calculated fields

- |                       |                             |
|-----------------------|-----------------------------|
| 1 - Total             | 2 - Tax                     |
| 3 - Invoice Total     | 4 - INVOICE BALANCE         |
| 5 - % Paid with Order | 6 - inv bal as % of recvbls |

### Grand total fields

- |                                 |                   |
|---------------------------------|-------------------|
| gt1 - Total Accounts Receivable | gt2 - Total Sales |
|---------------------------------|-------------------|

Press **RETURN** to continue.

In our listing, "Item" corresponds to **ke6**.

**PRESS RETURN** and **TYPE ke8="bicycle" or ke8="bike"**

This equation tells ReportWriter to search all records to select invoices for bicycle sales. Since the item may have been recorded as either "bicycle" or "bike," both words are given as choices. You can see that the conjunction "or" is very important in this instance. Notice also that **text** (words) is enclosed in **double quotes**.

**PRESS RETURN**

**ON SCREEN: Are you sure that this is a valid expression(y/n)?**

Check your equation for proper spelling and syntax. A "n" answer would erase what you just typed and permit you to retype the equation again.

**ENTER y** and **PRESS RETURN**

ON SCREEN: Do you want records printed, a summary printed, or both?

Selecting "records" will simply give you a report of individual invoices for bicycle sales, but won't give you statistical data such as the most expensive bike sold, the total of all bikes sold, or the average price of a bike.

A "summary" report will present that statistical information. This type of report summarizes information contained in all invoices for Section 1 (bike sales), but will not present the individual invoices.

Selecting "both" will naturally give you a report of both the individual records and a summary of those records. This is the selection you will make:



ENTER: b and PRESS RETURN.

On Screen: Is the above correct (y/n) ?



ENTER: y and PRESS RETURN.

The same screen for defining ACCEPT IF: statements appears, but now it is labeled at the top for "Section 2."

ON SCREEN: Accept if:

This time, we want a section that will enable us to select invoices whose balance falls within a certain dollar range. Read the following discussion before typing anything.

"**Invoice Balance**" corresponds to **pc4**. If the dollar range is between \$100 and \$500, we can set up a simple equation:

Accept if:  $pc4 \geq 100$  and  $pc4 \leq 500$

But suppose you then want Section 2 to report on invoices whose balances range between \$500 and \$1000, or between \$25 and \$600. Will you have to set up a separate equation for each instance? Fortunately, no.

With ReportWriter you can establish an equation to accept **variable** or changing information so that the end user or program operator can decide what the dollar range shall be (and not you, the program designer). How is this possible?

As discussed briefly before, three types of variables can be used within an equation to provide much reporting flexibility:

**variable dates**  
**variable numerics**  
**variable alphanumerics (text)**

For our sample report, we will be needing variable numerics to solve our dollar range problem:

Accept if:  $pc4 \geq vn1$  and  $pc4 \leq vn2$

Now in place of \$100 and \$500, we have **vn1** (variable number 1) and **vn2** (variable number 2). Such an equation allows the program operator to "plug in" whatever figures he or she needs at a particular time. The equation for Section 1 (Ke='bicycle' or Ke6='bike' could have also been set up as a variable alphanumeric. **Ke6=va1** allows the program user to insert any word into the place for va1, so that at different times you could look up different items. How will these varying numbers be specified? ReportWriter lets you, as designer, type a prompt into the program so that the user will know when and how to specify numeric values. That step will follow your defining Section 2's equation:



**TYPE** following the ACCEPT IF: prompt:



pc4 >= vn1 and pc4 <= vn2 and **PRESS RETURN**

ON SCREEN: Sure this is a valid expression (y/n)?



**ENTER** *y* and **PRESS** RETURN

ON SCREEN: Enter the question you want to be asked  
to set vn1  
Question:

This is the prompt the program user will see to define the beginning dollar range. Two lines are available for you to type your question.



**TYPE** What beginning dollar amount do you want?



**PRESS** RETURN and you are asked if this is correct



**ENTER** *y* and **PRESS** RETURN

ON SCREEN: Enter the question you want to be asked  
to set vn2  
Question:



**TYPE** What ending dollar amount do you want?



**PRESS** RETURN

ON SCREEN: Are you sure (y/n)?



**ENTER** *y* and **PRESS** RETURN

ON SCREEN: Do you want records, summary, or both?



**ENTER** *b*, then **ENTER** *y* to indicate your selection is correct. You will have an opportunity to specify what fields will be summarized a little later.



**PRESS** RETURN

ON SCREEN: \*\*\*\*\* Section 3 \*\*\*\*\*  
Accept if:

For this third section, you can have all records printed out rather than a selected group of invoices:



TYPE all, PRESS RETURN, ENTER y and PRESS RETURN



ON SCREEN: Do you want records, summary, or both?



ENTER n and PRESS RETURN



ENTER y that this reponse is correct and PRESS RETURN



VIEW:

An overall summary is a summary of all records accepted for output in all sections of this report.

Do you want an overall summary (y/n) ? ■

As you can see, reporting can become very extensive. Although you will not request an overall summary for this report, this feature can be very helpful in presenting sales trends or tax information at year's end.



ENTER n and PRESS RETURN



VIEW:

SC:R18

Your summary may contain totals, averages, minima and/or maxima of any or all dollar and numeric fields.

Total for which field ? (ke1-ke10, pc1-pc5, ' list or Esc to end)? ■

Before you respond to this screen, the following section will help to clarify the summarization categories.

## SUMMARY REPORTING

Data may be summarized at the end of each report section and at the end of the entire report as an **overall summary**. **Section summaries** will summarize the data included in a particular section. An overall summary will summarize all data included in all sections of the report.

You may specify different types of summary data such as **total**, **average**, **minima**, and **maxima** of all dollar and numeric fields.

**Total** means that the contents of each field designated will be summed and presented as a total(s) for the section or report. (Total sales for stereoes, total sales in 1983)

**Average** means that the contents of each field designated will be totaled and divided by the number of items, to give you the average sale, for example, or the average discount.

**Minima** means that the mininum value of each field designated will be presented. (Minimum purchase, minimum tax paid)

**Maxima** means that the maximum value of each field designated will be presented. (Maximum bowling score, maximum savings)

Recall the subject of each report section:

Section	Description	Type of Report
1:	Report on Items (bicycles)	records/summary
2:	Report on Balances within \$ range	records/summary
3:	Report ALL invoice records	records only

**REFER** to your screen. The first summarization category to be defined is **total**.

Typing **pc3** (Invoice Total) to be summed, will affect both sections. Since Section 1 reports invoices for bicycles sold, if you type pc3, ReportWriter will report the cumulative total for all bicycle invoices. Similarly, summarizing pc3 will give cumulative totals for all invoices having a balance within a designated dollar range (for Section 2).



**TYPE** pc3 and **PRESS** RETURN

ON SCREEN: **Total pc3**



**TYPE** list and **PRESS** RETURN to check the screen listing for any other fields you might want to include for totalling

"Quantity" (ke7) would provide useful information if totalled, so you will include it as well:



**PRESS** RETURN, then **ENTER** ke7 and **PRESS** RETURN again

ON SCREEN: **Total pc3 ke7**

You could continue adding fields to be totalled until you included every numeric field in your report if you wanted to, but two entries are sufficient for now, so:

 **PRESS ESC** to end entering fields to be totalled

ON SCREEN: **Average** for which field? (ke1-ke10, pc1 - pc6, 'list', or Esc to end)

You are now asked to enter fields to be **averaged**. It is not necessary to specify a field for each of the summarization types. For this section, you will not average any numeric field:

 **PRESS Esc**

ON SCREEN: **Minimum** for which field? (ke1-ke10, pc1 - pc6, 'list', or Esc to end)

If you accidentally try to specify any of these summary calculations on an alphanumeric field, the system informs you that the field is not numeric. Calculations may be performed on numeric fields only.

  **ENTER ke9** and **PRESS RETURN** to get the lowest priced bike sold (as well as the lowest price item for Section 2)

ON SCREEN: **Minimum ke9**

 **PRESS ESC**

ON SCREEN: **Maximum** for which field? (ke1-ke10, pc1 - pc6, 'list', or ESC to end)

  **ENTER ke9** and **PRESS RETURN** to get the cost of the highest priced bike (and the highest priced item for Section 2)

 **PRESS ESC**

ON SCREEN: **Do you wish to do the summary specification again (y/n) ?**

Here's your chance to change your mind ! If you answer "y" to this question, the summary you just specified is erased. You are returned to the screen where summary specification is entered so that you can try again.



**ENTER** n and **PRESS** RETURN

**IBM:**

**ON SCREEN:** Should the application support a color monitor

**ENTER** appropriate response and **PRESS** RETURN

**VIEW:**



A report number is a whole number larger than 0 which may be up to two digits long. It is used to identify your report.

These are your current report programs:

B:

What 'invoice' report number is this? □

**IBM:** If you have any existing reports on your disk they will be displayed here.

ReportWriter assigns a number of your choice from 1 to 999 to each report you design. Be sure to use a different number for each one !



**ENTER** 1 and **PRESS** RETURN

**ON SCREEN:** Please Wait - Loading Program

**ON SCREEN:** Generating Report B: invoice.R1

## CODE GENERATION

This section is easy because you don't have to do a thing ! Just sit back, relax, and let ReportWriter do the work.

You have described exactly how you want your report **formatted**, what **data** is to be included, and how the data is to be **summarized**. ReportWriter must now take all these instructions and turn them into a BASIC language report program which your computer can understand. You'll see the program lines scroll past as ReportWriter generates the code. Be sure not to turn off or interrupt the computer during this process. ReportWriter must be allowed to complete this stage of the operation in order for you to get reports. Otherwise, you must specify your reporting instructions all over again.

The generation of code will take several minutes, so you may wish to leave your computer and return when it has finished. After your program has been successfully generated and saved to your application disk, follow the instructions on your screen before powering down your system.

You have successfully completed designing a report with ReportWriter ! If you wish to run your report, continue to Chapter V. VI.

## Running Your Report \_\_\_\_\_ Chapter V

Running a report assumes that you already have a FileWriter-created **data entry program** and have already entered a number of **records** in the file to be used by the report. Once you and ReportWriter have successfully created a program to produce your report, the program can be run and you no longer need the ReportWriter Disk.

### To run a report:

Follow normal DOS boot up procedure for your system to get to BASIC, then:



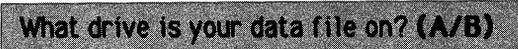
**IBM:** TYPE run\*sort and PRESS RETURN



**Apple:** TYPE RUN SORT.BAS and PRESS RETURN



**IBM:**

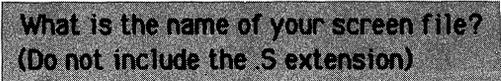
ON SCREEN:  What drive is your data file on? (A/B)



**Apple:**

ON SCREEN:  What drive will your data disk be in (1/2)?

**ENTER** appropriate response and PRESS RETURN

ON SCREEN:  What is the name of your screen file?  
(Do not include the .S extension)



**TYPE** invoice and PRESS RETURN

ON SCREEN: What invoice report number do you want?



ENTER 1 and PRESS RETURN

ON SCREEN: Do you wish to sort: (y/n)?

## WHEN TO RUN SORT

- Required:**
- The very first time you run a report you must run the **sort program** because you have **new records** and a special file must be created to access data.
  - Any time you add, update, or delete existing records, the data is considered "**new**."
- Optional:**
- Reporting data in a different order or sequence requires you to **sort**. You may want to sort the same records by date instead of account\* or by alphabetical order instead of geographic region.

Since this is the first time you will run the report "invoice.r1," you will naturally have you run the sort program:



ENTER y and PRESS RETURN

**IBM:**

ON SCREEN: Sort by which field (1-0) or 'list'?

**Apple** automatically presents the field listings when it asks this question.

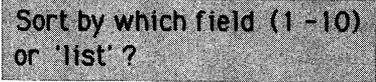
The sort program mainly sets up a file needed for the report to run; individual records are arranged as you entered them, but they may not be in any particular order. To rearrange records according to your needs (such as by date or alphabetically) you must then **sort** those records.

The actual sorting process is optional. When you choose to sort, you can determine the order in which the records will be printed. If you do not sort, you will use the old order in your report. The old order is the last order used.

In the case of our sample report "invoice," selecting not to sort would give a report of records in order of entry, as set up by the sort program. However, you will choose to sort:



**ENTER** y and **PRESS RETURN**

ON SCREEN:  Sort by which field (1 - 10)  
or 'list' ?

**Note:** (1 - 10 represents the number range of your keyboard entered field

**TYPE** list and **VIEW:**



**Keyboard entered fields**

1 - Customer name	2 - Account #
3 - Date	4 - Street Address
5 - City	6 - INVOICE #
7 - Quan	8 - Item
9 - Price	10 - Paid on Account

You will sort your invoices according to "Customer Name," which corresponds to **ke 1**



**PRESS RETURN** to return to the selection screen



**ENTER 1** and **PRESS RETURN**

ON SCREEN: Do you wish to ignore differences between upper and lower case when sorting (y/n)?

Because "A" has a different value than "a", you must decide whether they should be treated differently or as the same letter.

If you choose to retain the differences between upper and lowercase, ReportWriter will separate words starting with "a" from words starting with "A."

For this report you will choose to ignore differences between upper and lowercase letters:



**ENTER y** and **PRESS RETURN**.

ON SCREEN: Sort ascending or descending ? (a/d)

Choosing **ascending** will cause ReportWriter to sort your data from least value to greatest value, or from a to z. Likewise, choosing **descending** will sort your records by the chosen field from greatest value to least value (z to a).

**Note:** lower case letters have a greater value than all Upper case letters if you choose to retain the differences between upper and lower case. Refer to your computer user's manual for more information on character values (ascii codes).



**ENTER a** and **PRESS RETURN**

At this point the screen displays the field that the records are being sorted by, the number of records input, which block is being sorted, and the number of sort exchanges.

When ReportWriter is finished sorting your data file, your report program will be loaded and run.

ON SCREEN: **What beginning dollar amount do you want? □**

This question should look familiar - it is the one you typed for Section 2.



**ENTER 100 and PRESS RETURN**

ON SCREEN: **What is today's date? .. / .. / ..**



**ENTER today's date and PRESS RETURN**

ON SCREEN: **What ending dollar amount do you want? □**



**ENTER 500 and PRESS RETURN**

ON SCREEN: **Do you wish to see all report sections? (y/n) □**

Answering "y" will naturally give you a report having all three sections. A "n" answer will allow you to select one or two sections for reporting.



**ENTER n and PRESS RETURN**

ON SCREEN: **Enter the section number(s) you wish to include in this report (1-3) or RETURN to exit. □**



**ENTER 1 and PRESS RETURN**

ON SCREEN: **Section: 1**



**PRESS RETURN again since you will not request any more sections**

ON SCREEN: **Would like your report sent to the screen or the printer (s/p) ?**

Selecting **p** for printer would prompt questions about the type of computer you are using, and the printer device number. The **printer device number** is usually **4**, but check your printer manual to be sure.



**ENTER s and PRESS RETURN**

ON SCREEN: **To begin the report listing, press RETURN**



**PRESS RETURN** and any records contained in Section 1 are displayed. Since it isn't likely that your report contains data on bicycle sales, your screen will display a message: **END OF REPORT**. Normally, however, you would see one record at a time and could scroll from left to right screen to see the complete record.



**PRESS RETURN**

ON SCREEN: **Do you want to run this report again (y/n)?**

**ENTER n and PRESS RETURN**

**VIEW:**



You can either run another Report, if you have one, or you can return to the Main Menu, or you can leave the program environment and exit either to DOS or BASIC.

If you choose to run another Report, you will be sent to the Sort program since it must be run first.

Do you want to run a **[R]**eport, e**[X]**it to DOS, exit to **[B]**asic or exit to **[M]**ain Menu?

At this point, you could request another report and you would be led through the same series of questions just presented. For now, you will exit:



**ENTER** x and **PRESS** RETURN



And that completes the running of your report ! You may now remove your application disk and power down, or you may continue to create other reports with ReportWriter.



**NEW PROGRAM CALCULATED FIELDS** \_\_\_\_\_

Calculations are entered as mathematical expressions which reference fields. **New fields** (which have not been computed in the data entry program) may be calculated by the report program. New field calculations follow the same parameters as calculations used in data entry programs.

Calculations may be performed on numeric fields only.

All three types of fields, pc, ke and gt, may be used in expressions. **Equation operators** which may be used are:

<u>Symbol</u>	<u>Meaning</u>
+	add
-	subtract
*	multiply
/	divide
( )	perform operation inside parentheses first

**CAPACITY**

An expression or a calculation must not exceed **34 characters** in overall length. There is no limit to the number of operations that may be performed as long as they will fit within the 34 characters of length.

To stop entering calculations, type "**done**" at the next prompted entry.

## EXAMPLES of VALID EXPRESSIONS

$$pc3 = ke1+ke2+ke3-ke4$$

**Meaning:** To find the value of Program Calculation 3, add the values of Keyboard Entered Fields 1, 2, and 3; then subtract the value of ke4 from the total of 1, 2, and 3.

$$pc4 = ke1+ke2+(ke3-ke4)$$

**Meaning:** To find the value of Program Calculation 4, subtract the value of ke4 from ke3 first, then add ke1 and ke2 to the subtracted value.

$$pc5 = gt3/ke7 * 100$$

**Meaning:** To find the value of Program Calculation 5, divide Grand Total 3 by ke7, then multiply the result by 100.

**Note:** No spacing is used between letters, numbers, and operators

## USING "ACCEPT IF:" STATEMENTS

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ACCEPT IF: tells ReportWriter how to select data which is to be included in a report or in a section of a report. It is set up much like an equation.

<u>Symbol</u>	<u>Meaning</u>
=	equal
>	greater than
<	less than
>=	greater than or equal to
<=	less than or equal to
<b>and</b>	inclusive
<b>or</b>	may be either or both
<b>not</b>	exclusive

### CAPACITY

The length of an ACCEPT IF: Statement will vary depending on its content, but may not exceed **45 characters**.

### EXAMPLES

ACCEPT IF: **all**

Entering "all" causes ALL the records in the file to be part of your report, so it really doesn't make use of the ACCEPT IF: feature to qualify information. No records are evaluated; ReportWriter simply presents all records according to the format you designed.

ACCEPT IF: **not** . . .

Use of the word "not" means that the following word, number, symbol or statement must NOT be true for a record to be used in a report. For example, if you wish to **exclude** all records of sales to Dallas Texas, the City field (ke4) must NOT be Dallas. Your instruction would be:

ACCEPT IF: **not (ke4 = 'Dallas')**

**Note:** For the purpose of reading clarity, we are using spaces between words, but it is preferable not to use spacing when you are typing ACCEPT IF: Statements for ReportWriter.

ACCEPT IF: **and** . . . . **or**

The words "and" and "or" may be used singly or in combination with "not" to produce many sophisticated selection criteria with which data may be evaluated. For example, suppose you want to print invoices for Dallas, Texas and Chicago, Illinois only. Your instruction would be:

ACCEPT IF: **ke4 = 'Dallas' or ke4 = 'Chicago'**

Can you think why "and" would not produce the desired results? The reason is that the field ke4 may contain only one city for any given record. It could not contain both Dallas and Chicago, so the word "or" is correct. You wish to select a record if it is either Dallas or Chicago.

Text that is specified within single quotes is called a **string constant**. A string constant is a group of letters or characters such as 'Dallas' or 'XYZ123\*\*\*' that is not a numeric value. It is important to use single quotes, not double quotes! The program compares the information within the quotes EXACTLY to what is in your data file to determine if there is a match.

## MORE COMPLEX EXAMPLES

You can extract records according to very specific guidelines by skillfully combining mathematical operators, field names, qualifying words, and any legal Basic statement. Assume you wish to pull the records for bicycle sales which exceed \$250 and which took place after June. There are 3 factors which must be considered in order to set up the statement properly:

- 1) a dollar amount
- 2) a specified item
- 3) a time period

If pc3 represents the sales total, ke4 is the sales item, and ke1 is the date, first define the statement needed for each part of our conditions:

**pc3>250**  
(sales greater than 250)

**ke4='bicycle'**  
(item equals bicycle)

**ke1>=@06/01/84@**  
(date is greater than or equal to June 1, 1984)

Notice that date constants are placed within @ signs rather than within quotes. Now link all statements together:

ACCEPT IF: **pc3>250 and ke4='bicycle' and**  
**(ke1>=@06/01/84@ and ke1<=@08/31/84@)**

Study the following examples of ACCEPT IF: Statements to gain an understanding of this powerful ability. BE CAREFUL! ReportWriter can trap some, but not all, syntax errors.

**Idea:** Find all the Pennsylvania customers with an invoice of \$1000 or more

ACCEPT IF: ke4='PA' and pc3 >1000

**Idea:** Find all customers who have a negative credit balance

ACCEPT IF: pc3 < 0

**Idea:** Which locations in New York have the best ratio of sales to payroll (over 50%)

ACCEPT IF: ke6 = 'NY' and pc5/pc8 >.50

**Idea:** We need the names of all female coronary patients who were admitted since February 4, 1981.

ACCEPT IF: ke2='F' and ke3='CO' and ke7>@02/04/81@

## VARIABLE DATA

**Variable data** is a term used to indicate that the contents of a data field may change, or **vary**. These varying data fields may be alphanumeric, numeric, or date fields and may also be used in ACCEPT IF: Statements.

## EXAMPLES

Often a report format stays the same, but the data which is to be included may change each time the report is run. For example, suppose you are a pharmacist and need to be able to run a report on medication for a specific customer on demand. Since it is impossible to predict which customer will need the report or when, the ke field for "Customer Name" must remain open-ended to enable you to select any customer's record. This

is when using a variable (in this case a variable alphanumeric) comes into play. When the report is run, the program asks the operator to type in the name of the customer who needs the report. Your report program then selects the appropriate records from your data file. The report format for each individual customer would be the same, but of course, the data would be different.

To write a report accomodating varying customers, set up your ACCEPT IF: Statement in the following manner:

ACCEPT IF: **ke1=va1** (name = variable alphanumeric\*1)

You can see that setting up the statement as:

ACCEPT IF: ke1 = 'Smith' (name = Smith)  
would limit your selection to customers only named Smith.

However, the use of the variable in the first statement allows you to print reports for customers with any name (Smith, Jones, Rutherford etc.).

ReportWriter recognizes three types of variable fields:

**variable alphanumeric** (va\* - va1, va2, va3 . . . )

**variable numeric** (vn\* - vn1, vn2, vn3 . . . )

**variable date** (vd\* - vd2, vd3, vd4 . . . )

Since you may have more than one variable field, each name ends with a number. For example:

**va1** is your first alphanumeric

**vn3** is your third variable numeric

**vd2** is your second variable date

**Important: Variable Date 1** is always reserved for today's date. When you run a report, one of the first questions asked of you (or the operator) is: What is today's date? ReportWriter automatically assigns this entry to vd1 (Variable Date1). Consequently, if you use a variable date elsewhere in your report, you must begin with **vd2**.

To report on all records dated from a previous date up until today:

ACCEPT IF: ke1 >= vd2 and ke1 <= vd1

When prompted, you would enter 05/01/81 (or any other earlier date) for vd2.

In the creation of a report using variables, ReportWriter enables you to type a question that will be used later as a prompt for the user when the report program is run.

### **Example**

ON SCREEN: Enter the question you want to be asked to set va1

**Question:**

Some typical prompts might be:

Enter date of the first record to be included.

or

Enter the customer name for report.

These questions will prompt the operator for an entry from the keyboard. When the answer is entered, the report program uses the entry as the value of the appropriate variable field. The report program then searches your data file for matches and prints the selected records.

## PAGING AND PAGE HEADERS

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**Paging** (page numbering) and **page headers** can be added to your report format. If you indicate that you want to include them with your report, ReportWriter provides page numbering automatically, and then you set up titles, date, or other labels to appear as at the top of every page.

There are **two lines** for headings. The top line is normally used for an overall report heading or title, leaving the second line for column headings if you wish. It is also possible to leave either line blank by pressing the space bar and then the RETURN key.

Since you can only work on half of the report screen at one time, the screen will scroll automatically when necessary. If your title lines use only the left half of the screen, the right half is still presented for possible titles when you press RETURN. ReportWriter will ask if the headings are correct so that you may make any necessary corrections.

