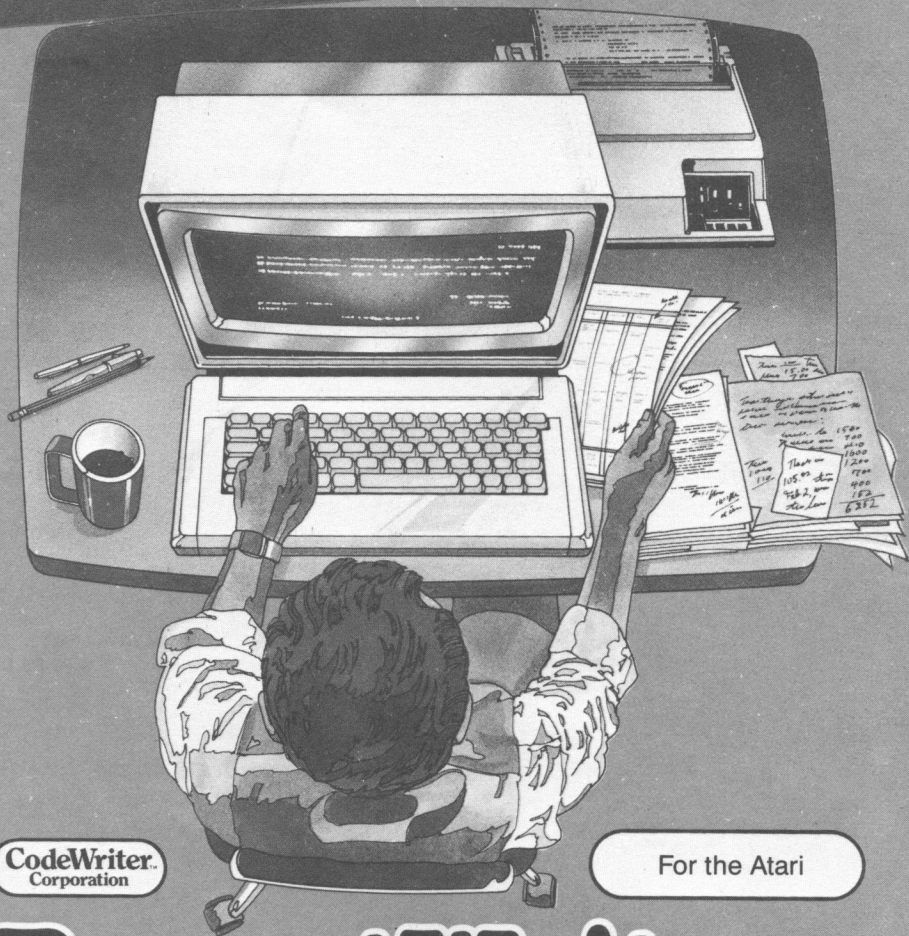# YOUR OWN REPORT PROGRAM
the first time you try!

CodeWriter Corporation

For the Atari

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 Atari Computers

CodeWriter™
Corporation

Acknowledgments

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introduction

Using this Manual

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 <u>learn</u> how to use ReportWriter. There are two types of
tutorials included with this program:

The first is a detailed, <u>written</u> 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 **Atari** 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 quide 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 <u>exactly</u> 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.

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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.

Introducing ReportWriter_____

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 <u>same</u> information in <u>different</u> orders.

The CodeWriter system provides you with a **sort** program which <u>arranges</u> the <u>data</u> 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

F1 ....
F2 ....
F3 .... F4 .....

F1 – Client Name   F2 – Street Address
F3 – City and State   F4 – 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. Harriet 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 SHIPPING INVOICE

```
Shipped To:                    Date F1 ../../..
  F2 ..................
  F3 ..................
  F4 ............    F5 .......

Item Description:
  F6...................................
  F7...................................

Qty F8.....   Cost/Unit. F9...$   Sub Total F10 ..$
                                        Tax  F11 ...$
                              Shipping Chrg  F12....$
  Shipped Via F13 ........  INVOICE TOTAL F14 ...$
```

FINAL REPORT: SHIPPING INVOICES

EXAMPLE OF SCREEN FORMAT FOR
ACCOUNTS RECEIVABLE REPORT

F2 . . . . F3 . . . . F4 . . . . . F5 . . . .

F2 – Customer Name
F4 – Number of Items
F3 – Accounts Receivable Amount
F5 – Amount Past Due

FINAL REPORT: ACCOUNTS RECEIVABLE

ACCOUNTS RECEIVABLE STATUS

CUSTOMER	A/R AMT	NBR ITEMS	PAST DUE
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

Summary Report

Total:	Accts Recvbl $138918	
Maximum:	Accts Recvbl $67385	Past Due $6754
Minimum	Accts Recvbl $1805	Past Due $100

tutorial

Getting Started_____

EQUIPMENT AND MATERIALS NEEDED

- Atari 800 or XL series computer with at least 48K
- Atari 810 or 1050 disk drive (or compatible drive)
- Monitor or TV
- Atari Basic

- Disks:

    - **ReportWriter Disk**

    - **Application Disk**
        Use either a blank, formatted disk, or
        use the application disk that contains your
        FileWriter-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)

Phase I: Report Design——————— 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; since
only 40 columns are visable at any one time, you will need to
scroll between right and left screens. 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 F7...
    Customer Name F2...................         Account * F3...

    Item F9................          Quantity F8...*

    Paid on Account F14...$                    Price F10...$
    % Paid with Order F19                      ----------------

                                               Total F11...$
                                                Tax F12...$
                                               ====================
                                               Invoice Total F13...$

           * INVOICE BALANCE F15...$ *
            Thank you for your business !
```

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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

- specifying how to **select data** (ACCEPT IF:) to be included in the report and how to **summarize** this data

LOADING PROCEDURE

INSERT ReportWriter Disk (label side up) into the drive

POWER UP computer

After a while, you will see the **CodeWriter** title screen with a brief copyright notice. You will then have the opportunity to view user notes or to begin the report system. If you have this manual, you can ignore the user notes.

NOTE: The ReportWriter diskette is referred to as PART-A and PART-B. If your disk has a label on only one side, PART-A is the side WITH the label.

ENTER 2

Once the program loads you can begin the report creation system.

VIEW:

```
┌─────────────────────────────────────┐
│     System Configuration Menu       │
├─────────────────────────────────────┤
│       Number of Drives = 1          │
├─────────────────────────────────────┤
│       Default is 1 Drive            │
├─────────────────────────────────────┤
│   Hit number for Drives (1/2) or    │
│   [Start] to continue ■             │
└─────────────────────────────────────┘
```

Note: This manual is written for a single drive system. If you have two drives, the procedures are essentially the same, but you will have fewer disk swaps. Follow the instructions on your screen!

If you do have a two-drive system, the **ReportWriter** disk belongs in drive 1.

ENTER 1 or 2 as appropriate and **PRESS** START

The first set of disk swaps that you will encounter, is needed in order to copy the sort program on to your disk.

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The **screen file name** is the <u>same</u> as your **application program name**. In this case, it is the name "INVOICE". Type the name of the screen file EXACTLY as you entered iot when designing your data entry system. It is important to use upper case letters if you did so when creating the file.

TYPE <u>INVOICE</u> and **PRESS** <u>RETURN</u>

ON SCREEN: What report number is this (1-99) ?

ReportWriter assigns a number of your choice from 1 to 99 to each report you design. Be sure to use a different number for each one.

ENTER <u>1</u> and **PRESS** <u>RETURN</u>

ON SCREEN: Do you wish to enter dates in
         [A]merican format: mm/dd/yy or
         [E]uropean format: dd/mm/yy

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 <u>a</u> and **PRESS** <u>RETURN</u>

VIEW

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

Please enter your name below
(25 characters or less)

Designed by ■

TYPE <u>your name</u> (using 25 characters or less)

TYPE <u>ABC Company Sales Invoice</u> and **PRESS** <u>RETURN</u>

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

NEW PROGRAM CALCULATIONS

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
fields and program calculated 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 <u>calculation value</u> 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.

REFER to the question on your screen

If the answer were no, you would enter "n" and press RETURN.
However, for our example, you will set up some new
calculation fields.

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ENTER y and **PRESS** <u>RETURN</u>

You will see a screen with information pertaining to new program calculations.

PRESS <u>SELECT</u> and **VIEW**:

Type '?' for help, 'L' to list fields or 'done' to end.

Enter the calculation for this field:

F19 = ▯

TYPE L and **PRESS** <u>RETURN</u>

VIEW:

Keyboard entered fields

F2 – Customer name   F3 – Account #
F4 – Date   F5 – Street Address
F6 – City   F7 – INVOICE #
F8 – Quan   F9 – Item
F10 – Price   F14 – Paid on Invoice

Program calculated fields

F11 – Total   F12 – Tax
F13 – Invoice Total   F15 – Invoice Balance

SELECT to exit

ReportWriter displays all the fields defined in the original data entry program. The numbers assigned to a particular field (ex: F9 – Item) may be slightly different on your screen, but the fields themselves (date, price, total, etc.) should all be present.

PRESS <u>SELECT</u> and the screen for defining new pc values reappears

On this screen you are to declare **new program calculated fields** for use in the report. The next available field number is displayed: **F19**. You enter the formula for the calculation the same way you did with FileWriter. Remember, you may not use the same field 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:

> F13 = invoice total
> F14 = paid on invoice
> F15 = invoice balance
> F17 = total accounts receivable
> F18 = total sales

The actual 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 <u>L</u>).

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 field called F19 could be created for the report program to calculate percent:

TYPE <u>(F14/F13)*100</u> and **PRESS** <u>RETURN</u>

ENTER y

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

TYPE <u>% paid with order</u> and **PRESS** <u>RETURN</u>

ENTER <u>4</u> and **PRESS** <u>RETURN</u>

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.

ENTER y

This is the only calculation necessary for this application.

TYPE <u>DONE</u> and **PRESS** <u>RETURN</u>

RECORD SEGMENTS and COLUMN WIDTH

There are two points to consider before going further. First
is the concept of a **record** as it is used within the Report
System. The second point concerns using an **80-column
screen** on your 40-column Atari.

1) 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 <u>how many records</u> you wish to print across the page so that it can calculate the space needed for each record on the page. <u>Space</u> 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.

2) ReportWriter allows you to display **80-column-width** reports to either the screen or to your printer. How is this possible on a 40-column screen ? When designing your report, the ReportWriter System allow you to alternate between <u>two</u> 40-column "screens." You will normally see the left half of your report design. To see the remaining portion of your screem use the editing commands

If the correct disk is not in the drive, you will see a message asking you to be sure that the ReportWriter disk is in the drive.

ON SCREEN: Program loading - Please wait

The question "Records across the page (1-16)?" asks you to consider the following:

1) Although only 40 columns are visible at a time, your screen <u>workspace</u> is 80 columns (with the left/right control) and your printed page is 80 columns.
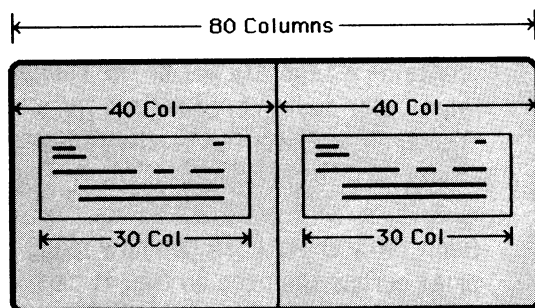
2) If the significant information from one record can be rearranged to fit a space 30 columns wide, you can get two records across the screen (with space left over). If you wish to use the entire workspace, simply answer "1" and only one record will be printed across an 80-column width.

3) 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 our 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.

ENTER 1 and **PRESS** RETURN

ON SCREEN: Each record is 80 characters wide.
            Lines for 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.
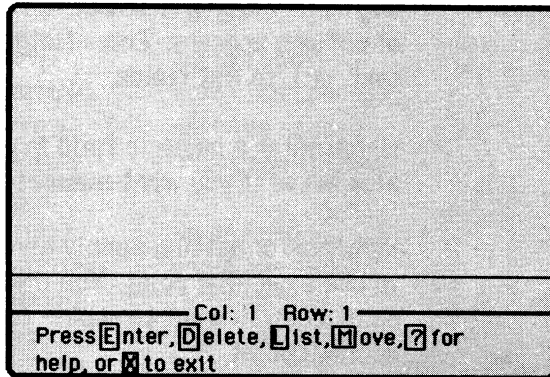
Twenty lines is enough space for this invoice report:

TYPE 20 and **PRESS** RETURN

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

ENTER y and **PRESS** RETURN

VIEW:

```
┌─────────────────────────────────────┐
│                                      │
│                                      │
│                                      │
│                                      │
│                                      │
│                                      │
│                                      │
├──────────── Col: 1   Row: 1 ─────────┤
│ Press[E]nter,[D]elete,[L]ist,[M]ove,[?] for
│ help, or [X] to exit                 │
└─────────────────────────────────────┘
```

Now we are ready for the next step – designing the format of each record.

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: Enter field number (1-19), T for text, or L to list 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 <u>decimal point</u>. 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.

(M)ove – allows any field entered to be moved anywhere within the segment. The field is selected and then moved with the cursor keys.

? for help – 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.

The following is a list of commands which may be used to move your cursor on the format creation screen:

- (minus sign)	- up one space
= (equal sign)	- down one space
+ (plus sign)	- left one space
* (asterisk)	- right one space
↑ (up arrow)	- up ten spaces
↓ (down arrow)	- down ten spaces
<- (left arrow)	- left ten spaces
-> (right arrow)	- right ten spaces
_ (underline)	- up one page
I (vertical line)	- down one page
\ (back slash)	- left one page
^ (exponential)	- right one page

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 M̲

ON SCREEN: Move fields using cursor controls

The title field is highlighted and is ready to 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 rounds down to 27

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

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

ENTER E

ON SCREEN: Enter field number (1-19) T for text or L to
                       list fields ☐

ENTER T and **PRESS** RETURN

ON SCREEN: Enter a maximum of 38 characters ☐

You are now ready to type the title:

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

MOVE the cursor to the right until the column indicator at the
bottom of the page reads: Col: 27. You will notice that the
screen scrolls to the right along with your text. First,
however, you must end the move command.

PRESS RETURN 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 number (1-19) T for text or L to list
                     fields ☐

ENTER T and **PRESS** RETURN

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

This entry must 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 RETURN

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

Chicago, Illinois 60606

VIEW:

```
                              ABC COMPANY SA
                              12345 Washingt
                              Chicago,   Illin




          ──────────── Col: 27  Row: 4 ──────────
          Press Enter, Delete, List, Move, ? for
          help, or X to exit
```

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 18.

ENTER E

ENTER T and **PRESS** RETURN

ON SCREEN: Enter maximum of 23 characters

ReportWriter automatically calculates the number of spaces remaining on this line (within the frameworl of a 40-column screen).

TYPE Invoice Number 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" to column 33

ENTER E

ON SCREEN: Enter field number (1-19) T for text or L to list fields □

ReportWriter is asking you for the field number previously assigned to Invoice Number. It is a good idea to have a printed list all fields to use in answering these questions. You may also use the list option and get a screen listing of all fields and numbers.

TYPE L and **PRESS** RETURN to check which field number corresponds to "Invoice Number"

In our case, it is **F7**. Yours may be a different number.

PRESS SELECT after viewing the listing and you are returned to the report design screen.

ENTER appropriate number and **PRESS** RETURN

VIEW:

ABC COMPANY SA
12345 Washingt
Chicago , Illin

Invoice Number F7. . . .

Col: 33 Row: 6
Press Enter, Delete, List, Move, ? for help, or X to exit

Your screen should look like this. F7 indicates that the contents of the F7 field from each record of your existing FileWriter data will appear on the invoice when the report is run.

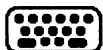Next you will add the Customer Name and Account Number to the report.

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

TYPE Customer Name and **PRESS** RETURN

MOVE the cursor two spaces beyond the **e** in "Name" to Column 32.

ENTER E

TYPE L to see your field listing

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

MOVE your cursor to the right until the right half of the screen comes into view. On this same line (Row 7) continue moving your cursor to the right until you get to Column 62:

VIEW:

```
LES INVOICE
on Blvd.
ois    60606



. . . . . . . . . . . . . . . . . . . .  ■


━━━━━━━━━━ Col: 62  Row: 7 ━━━━━━━━━
Press Ⓔnter,Ⓓelete,Ⓛist,Ⓜove,Ⓟfor
help, or Ⓧto exit  *
```

ENTER T and **PRESS** RETURN

TYPE Account # and **PRESS** RETURN

MOVE cursor two spaces beyond Account # (Column 72)

ENTER E

ON SCREEN: Enter field number (1-19) T for text or L to list
fields □

ENTER number corresponding to Account# and **PRESS** RETURN
(Our account number designation is F3)

PRESS RETURN again and the left half of the screen reappears

VIEW:

```
                              ABC COMPANY SA
                              12345 Washingt
                              Chicago,   Illin
                       Invoice Number F7...
                       Customer Name F2......
    ■



  ───────────────── Col: 1  Row: 7 ─────────────
  Press[E]nter,[D]elete,[L]ist,[M]ove,[?]for
  help, or[X]to exit
```

MOVE the cursor down to Row 9 and over to column 18 under
Customer Name

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

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VIEW:

```
        ABC COMPANY SALES INVOICE
           12345 Washington Blvd.,
          Chicago,  Illinois  60606

   Invoice Number F7...
   Customer Name F2............|..............  Account # F3.

   Item F9.................           Quantity F8...

   Paid on Account    F14...$       Price    F10...$
   X Paid with order      F19.      ----------------+--
                                    Total    F11....$
                                      Tax      F12...$
                                    ===================
                        Invoice Total  F13.....$

           * INVOICE BALANCE F15...$ *
           Thank you  for your business !
```

You can easily move back and forth between right and left hand screens by using editing features mentioned earlier.

Quantity and **Price** are both numeric fields. You will answer **y** to numeric formatting for Qty and Price and also provide for **2** digits to the right of the decimal point.

You may create lines under the Price and Tax fields by entering the lines as <u>text</u>.The **"Thank you for your business"** note at the bottom of the invoice is <u>text</u> and must be typed at the left margin and centered by the **move** command, as you did earlier with the title "ABC COMPANY SALES INVOICE."

If you position or enter any field incorrectly, remember that you have the option to **move** or **delete** any field on your screen.

When you have finished creating your screen . . . .

ENTER X to exit

ON SCREEN: Is your report format correct

ENTER Y

VIEW:

> Now that you have formatted a report, you may have headers on the top two lines of your report.
>
> Would you like headers ? ■

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. However, the Reference Section explains the features of **paging** (page numbering) and **page headers** and how to go about setting them up.

REPORT SECTIONS and DATA SELECTION

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 only contain invoices from Illinois customers. The other section must only report customers from Texas.

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?

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

ENTER 3 and **PRESS** RETURN.

VIEW:

```
                    ACCEPT IF'S
    F3              - Field 3 from record
    @06/11/63@      - Date constant
    VN1             - Variable numeric
    VA1             - Variable alphanumeric
    VD2             - Variable date
    'text'          - String constant

    Examples
Accept if - All (accepts all records)
Accept if - L (list fields)
Accept if - F1>3 AND F4<VA1 OR VD2<@10/10/83@


    Specify condition 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: F1>= ●1/1/84● and F1<= ●3/30/84●

Meaning:

>   Accept (data for reporting) if: F1(the date entered) is greater than or equal to January 1, 1984 **and** if F1 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).

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

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 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 L and **PRESS** RETURN

VIEW:

Keyboard entered fields	
F2 – Customer name	F3 – Account *
F4 – Date	F5 – Street Address
F6 – City	F7 – INVOICE *
F8 – Quan	F9 – Item
F10 – Price	F14 – Paid on Invoice

Program calculated fields	
F11 – Total	F12 – Tax
F13 – Invoice Total	F15 – Invoice Balance
F19 – % Paid with Order	

Grand total fields	
F17 – Total Accounts Receivable	F18 – Total Sales

SELECT to exit

In our listing, **"Item"** corresponds to **F9**.

PRESS RETURN and **TYPE**: F9='bicycle' or F9='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 **single quotes** (shifted 7 key).

PRESS RETURN

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

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.

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

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 F 15. If the dollar range is between $100 and $500, we can set up a simple equation:

Accept if: F15>=100 and F15<= 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 alphanumerics** or text, and **variable numerics**.

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

Accept if: F15 $\geq$ vn1 and F15$\leq$ 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 (F9='bicycle' or KF9='bike' could have also been set up as a variable alphanumeric. **F9=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 follwing the ACCEPT IF: prompt:

F15>= vn1 and F15 <= vn2 and **PRESS** RETURN

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

ENTER y and **PRESS** RETURN

ON SCREEN: Enter prompt for variable VN1 ▢

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 Enter beginning dollar amount

PRESS RETURN and you are asked if this is correct

ENTER y and **PRESS** RETURN

ON SCREEN: What is the maximum length (1-35) ▢

This question is asking for the maximum length for the variable. The length can be from 1 to 35 characters in length. For our variables we will use a length of 6.

ENTER 6 and **PRESS** RETURN

ON SCREEN: Enter prompt for variable VN2 ▢

TYPE Enter ending dollar amount

PRESS RETURN

ON SCREEN: What is the maximum length (1-35)

ENTER 6 and **PRESS** RETURN

ENTER y and **PRESS** <u>RETURN</u>

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

ENTER <u>b</u> You will have an opportunity to specify what fields will be summarized a little later.

PRESS <u>RETURN</u>

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 <u>ALL</u> , **ENTER** y and **PRESS** <u>RETURN</u>

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

ENTER <u>r</u> and **PRESS** <u>RETURN</u>

VIEW:

A summary is a page of totals, maximums, minimums, and averages of fields in a report section. Up to 30 items are allowed.

Enter a field number for which a TOTAL is required.

Number of items defined: 0
RETURN to skip, L to list

Before responding 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 <u>all</u> sections of the report.

You may specify different <u>types</u> 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 minumum 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

The summarization you are about to do will apply to Sections 1 and 2 (but not to Section 3 because you requested only records and no summary).

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

Typing **13** (Invoice Total) to be summed, will affect both sections. Since Section 1 reports invoices for bicycles sold, if you type 13, ReportWriter will report the cumulative total for all bicycle invoices. Similarly, summarizing 13 will give cumulative totals for all invoices having a balance within a designated dollar range (for Section 2).

TYPE 13 and **PRESS** RETURN

ON SCREEN: Total 13

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

"Quantity" (F8) would provide useful information if totalled, so you will include it as well:

PRESS SELECT, then **ENTER** 8 and **PRESS** RETURN

ON SCREEN: Total 13 8

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 RETURN to end entering fields to be totalled

ON SCREEN: Enter a field number for which a MAXIMUM is required

ENTER 10 and **PRESS** RETURN to get the cost of the highest priced bike (and the highest priced item for Section 2)

PRESS RETURN

ON SCREEN: Enter a field number for which a **MINIMUM** is required

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

ON SCREEN: Minimum 10

PRESS RETURN

ON SCREEN: Enter a field number for which a **Average** is required

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 RETURN

ON SCREEN: Is your summary correct ?

Here's your chance to change your mind ! If you answer "n" 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 Y and **PRESS** RETURN

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

WAIT for the program to load.

ReportWriter leads you through a series of disk swaps which allows it to gather all necessary information to create your report program on your application disk.

FOLLOW your screen instructions for several disk swaps until code generation begins

CODE GENERATION

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

After your program has been successfully generated and saved to your application disk, ReportWriter displays a message telling you how to run your program:

You have now successfully completed designing a report with ReportWriter !

The only commands you need to know to run your report program are:

LOAD"D:INVOICE.RO1
and
RUN

When you create reports for other applications, the filename (invoice) and likely, the report number (1) will be different, but you will use these same commands to run each report.

You may either run your report now, or exit and return to run it later.

If you wish to run your report now, **TYPE** <u>RUN"D:INVOICE.RO1</u> and continue on to Chapter V.

To **exit**:

REMOVE Application Disk from drive and **POWER DOWN**

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.

If you are <u>continuing</u> from Chapter IV without exiting, skip these next instructions and go directly to "When to Run Sort."

If you did <u>exit</u> your system in Chapter IV, you will need to proceed as follows (this is the same procedure you will use each time you run any report):

POWER UP system:
- Turn on Disk Drive
- Turn on Monitor
- Turn on Computer

TYPE <u>LOAD"D:INVOICE.RO1"</u> using no spaces between letters, quotes, and commas

PRESS <u>RETURN</u>

WAIT for the ready message, and **TYPE** <u>RUN</u>

PRESS <u>RETURN</u>

ON SCREEN: Which drive will hold your data disk (1/2)

You may place the disk containing your data in either drive if you are using two drives. This would eliminate the disk swap to load the sort program and sort the data. This example will use only one disk drive.

ENTER 1 and **PRESS** RETURN

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

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

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 ending dollar amount do you want? ☐

ENTER 500 and **PRESS** RETURN

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

ENTER S and **PRESS** RETURN

ON SCREEN: Do you want all sections of this report ? (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 a section number to include in this report or **RETURN** to exit. ☐

ENTER 1 and **PRESS** RETURN

ON SCREEN: Section: 1

PRESS RETURN again since you will not request any more sections

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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 ingore differences between
upper and lowercase letters:

ENTER y and **PRESS** RETURN.

This would print a page to the printer in the format that we
specified.

ENTER N and **PRESS** RETURN

WHEN TO RUN SORT

Required: - The very first time you run a report you <u>must</u>
                  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.**"

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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.RO1", you will naturally have to run the sort
program:

ENTER Y and **PRESS** RETURN

ON SCREEN: Enter field to sort records by (1-19) or L to list

The sort program mainly sets up a file needed for the report to
run; the 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 see a screen asking if you
want to use the **old order**. The old order is the last order
used. For example, if you had run a report according to
descending numeric order (from highest account * to lowest),
then ran another report later and choose not to sort, you would
again have a reporting of records by descending numeric order,
the "old order."

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 L and **VIEW:**

```
┌─────────────────────────────────────────────────┐
│                                                   │
│   ┌─────────────────────────┐                    │
│   │ Keyboard entered fields │                    │
│   │ F2 - Customer name        F3 - Account ●      │
│   │ F4 - Date                 F5 - Street Address │
│   │ F6 - City                 F7 - INVOICE ●      │
│   │ F8 - Quan                 F9 - Item           │
│   │ F10- Price                F14 - Paid on Invoice│
│                                                   │
│                                                   │
│                                                   │
│              SELECT  to exit                      │
│                                                   │
└─────────────────────────────────────────────────┘
```

You will sort your invoices according to **"Customer Name,"**
which corresponds to field **2**.

PRESS SELECT to return to the selection screen

ENTER 2 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: Upper case letters have a greater value than all lower
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.

Any records contained in Section 1 are displayed. Since it isn't likely that your report contains data on bicycle sales, your screen will not display any records. Normally, however, you would see one record at a time and could scroll from left to right screen to see the complete record using the cursor controls.

ON SCREEN: ready.
             □

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.

reference

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 may be used in expressions.
Equation operators which may be used are:

Symbol	Meaning
+	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

$$F3 = F1+F2+F3-F4$$

Meaning: To find the value of Program Calculation 3, add the
values of Fields 1, 2, and 3; then subtract the value
of F4 from the total of 1, 2, and 3.

$$F4 = F1+F2+(F3-F4)$$

Meaning: To find the value of Program Calculation 4, subtract
the value of F4 from F3 first, then add F1 and
F2 to the subtracted value.

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

USING "ACCEPT IF: " STATEMENTS _____

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 and equation.

Symbol	Meaning
=	equal
>	greater than
<	less than
>=	greater than or equal to
<=	less than or equal to
and	inclusive
or	may be either or both

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: **and . . . . or**

The words "and" and "or" may be used singly or in combination 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: **F4 = 'Dallas' or F4 = 'Chicago'**

Can you think why "and" would not produce the desired results? The reason is that the field F4 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 in the summer. 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 F3 represents the sales total, F4 is the sales item, and F1 is the date, first define the statement needed for each part of our conditions:

F3>250
(sales greater than 250)

F4='bicycle'
(item equals bicycle)

F1>=@06/01/84@ and F1<=@08/31/84@
(date is greater than or equal to June 1, 1984 and date is less than or equal to August 31, 1984)

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

ACCEPT IF: **F3>250 and F4="bicycle" and**

   (F1>=@06/01/84@ and F1<=@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: F4 ="PA" and F3 >1000

Idea: Find all customers who have a negative credit balance

   ACCEPT IF: F3 < 0

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

   ACCEPT IF: F6 = "NY" and F5/pc8 >.50

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

   ACCEPT IF: F2="F" and F3="CO" and F7>@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 <u>alphanumeric,</u> <u>numeric,</u> or <u>date</u> 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 field for "Customer Name" must remain open-ended to enable you to select any customer's record. This is when using a <u>variable</u> (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: **F1=VA1** (name = variable alphanumeric#1)

You can see that setting up the statement as:
         ACCEPT IF: F1 = 'Smith' (name = Smith)
would limit your selection to customers <u>only</u> named Smith.

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

ReportWriter recognizes three types of variable fields:

         variable alphanumeric (VA# – VA1, VA2, VA3 . . .)

<div align="center">

variable numeric (VN* – VN1, VN2, VN3 . . .)

variable date (VD* – VD2, VD3, VD4 . . .)

</div>

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 <u>reserved</u> 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: F1>= VD2 and F1<= 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 prompt for the variable VA1

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

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 overal 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. ReportWriter will ask if the headings are correct so that you may make any necessary corrections.

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