

TM

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Peachtree
Software™

User's Manual



Peachtree
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office
productivity
series **9**

PeachCalc™ Electronic Spreadsheet

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PREFACE

PeachCalc is a software system that will turn your microcomputer into an automated worksheet. With PeachCalc, you will be able to analyze data faster and more accurately, reduce preparation time and prepare all types of reports, including graphic representations, automatically.

How to Use the Manual

- ① The General Information section provides an overview of PeachCalc and some helpful information on installing and starting up your new system.
- ② The 12 lessons in the Self-Instruction section introduce you to the features of PeachCalc in a self-paced study program. You will be able to follow the lessons and operate PeachCalc even if you have never used a computer.
- ③ A Reference Guide follows the lessons and details all features of the system. Use the Reference Guide as a supplement during the lessons and for more detail later. This section contains some procedures not covered in the lessons.
- ④ The appendices contain a glossary of terms used in the manual and a list of error messages with explanations of when and why they occur. The appendices also contain sample worksheets, helpful operating tips, a quick reference for commands, and an index.

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OVERVIEW OF PEACHCALC

What is PeachCalc?

PeachCalc is a data analysis system that turns the memory of your microcomputer into an electronic spreadsheet, taking the place of a pad of paper, pencil, calculator, and eraser. It aids in the development of statistical data by using numbers, formulas, conditional expressions, etc. to compare alternatives and try out myriad possibilities in any situation you design. Even computer novices can soon use the full power of PeachCalc, because the program is user-friendly with helpful prompting, clearly worded messages, and protection from inadvertent changes.

What is an electronic spreadsheet?

An electronic spreadsheet is a grid that exists in the memory of the computer. The electronic spreadsheet, or worksheet as we call it, is a grid consisting of 254 rows and 63 columns. Each row is labeled with a number (1-254) and each column is labeled with a letter (A-Z, AA-ZZ, BA-BK).

This grid contains 16,002 positions. Each position is called a block and is named for the column/row of the intersection. You will enter data into these blocks for the system to analyze.

In the blocks, you may enter alphabetic or numeric information and then establish relationships between blocks. PeachCalc can add, subtract, multiply, divide, find partial sums, minimums, maximums, square roots, and much more. Data is easily altered, replaced entirely, or deleted. Values are then recalculated as they are affected by the new or changed data.

Examples...

If Row 1, Column C (C1) is to be the sum of A1 and B1, then any number entered into A1 or B1 will directly and immediately affect the total in Column C. This is called an interdependent relationship, and is the basis of the PeachCalc system.

For an even more concrete example, if three columns represent projected sales, overhead, and profit, any change in any month's sales or overhead value will cause a recalculation of that month's profit figure.

Why do I need a data analysis system?

With a data analysis system, the guesswork is taken out of planning. Instead of the time-consuming process of manual calculations and reams of paperwork, all the data needed to compare alternatives is available at a keystroke. As you compare the possible consequences of various courses of action or relationships, you can develop accurate, supportive information and translate your ideas into exact and concrete reports. PeachCalc will even save and print these reports.

OVERVIEW OF PEACHCALC (Cont.)

What type of applications will PeachCalc handle?

PeachCalc is beneficial in business, financial, scientific, and engineering applications. Let's take a look at just a few of the ways PeachCalc could be used:

- forecasting
- profit-and-loss statements
- rate-of-return calculations
- break-even analyses
- manpower assignments
- pricing strategy
- financial planning
- loan amortization
- chemical calculations
- surveys

What makes PeachCalc unique?

PeachCalc's features provide distinct advantages over other data analysis systems. Some of these features are:

- **Ease of use.** This manual teaches you everything you need to know to use PeachCalc almost immediately. The lessons are self-paced so you can study at your own speed without an instructor.
- **The HELP Key.** Simply pressing "?" at any point in the program will display an extensive list of reference help on the screen.
- **Ability to merge worksheets.** You may combine one or several worksheets into one, or repeat any portion of a worksheet to any other part of a worksheet.
- **Cursor/Block manipulation.** An Active Block is the one with which you are working at any given time. The cursor moves from one block to another as you direct it, and it moves quickly. There are several short-cuts to block manipulation.

OVERVIEW OF PEACHCALC (Cont.)

What makes
PeachCalc
unique?
(Cont.)

- **Interpretive prompting.** Each time you give PeachCalc a one-letter command, it automatically fills out the command with an entire word. You can always see exactly what you are doing.
- **Flexible column width.** Each column can be a different width. This produces beautifully formatted reports.
- **Protected blocks.** Any block or group of blocks can be protected to insure the retention of valuable material.
- **Status line.** A status line at the bottom of the screen displays important information, such as the amount of memory available, the current block contents, and error messages.
- **Clear error messages.** When you make a mistake, PeachCalc will inform you of your error in clear, English-language messages.
- **Editing capabilities.** Block contents can be edited easily either before or after entry to the block.
- **Automatic formatting of printed reports.** Print all of the worksheet or only part of it.
- **Interactive formulas examination.** You can look at formulas in more than one block at a time, and can determine their interactive relationships.
- **Value/Formula formatting.** With one simple command, you can change a block or group of blocks back and forth between value and formula displays.
- **Compatibility.** PeachCalc is designed for use on any CP/M compatible computer. The installation program handles many types of terminals.

PEACHCALC CONCEPTS

This section describes basic PeachCalc terms and tools so they will be familiar when you see them in the lessons. The lessons are self-contained — if you want to start now, go ahead. We do however, encourage you to read this information first as it provides a framework that may be helpful.

The Worksheet PeachCalc lets you use the computer's memory as a large worksheet organized in a grid.

Worksheet columns are designated by letters: A, B...Z, AA...AZ, BA...BK. Rows are designated by numbers: 1 to 254.

The coordinates — for example, A12, AB5 — identify specific locations called "blocks". The block at the upper left of the worksheet is A1. The block diagonally opposite it at the lower right is BK254. There are 16,002 blocks on the grid. The number of columns and rows you can use for a worksheet is determined by the memory of your particular computer; you may not be able to use all blocks on the grid.

The Active Block and the Worksheet Cursor You enter data into blocks. Only one block is "current" or "active" at any moment. This Active Block is the one immediately available for use. When you enter data, it goes into the Active Block. The row and column that contain the Active Block are called the current row and current column.

The Active Block is always indicated on the screen by the "worksheet cursor." Most terminals use underlining for this, but your terminal may use something else. For example, some terminals use < > or reverse video. (With reverse video, screens that display light characters on a dark background will show the Active Block as a light bar; the characters in the block will be dark.)

When you enter data, PeachCalc automatically moves the worksheet cursor to an adjacent block. This becomes the new Active Block. You can easily specify a different location for the Active Block. You can also set the cursor direction.

Display window The worksheet is much too large to be seen on your screen at once. Your screen acts as a "display window" through which you see part of the worksheet and manipulate its contents. As you enter data and the worksheet begins to fill up, you can move the window over the worksheet as necessary to keep the Active Block in view.

PEACHCALC CONCEPTS (Cont.)

Scrolling	The movement of the window is called "scrolling". The window may scroll up or down, left or right. You can "lock" some columns or rows in place so they will remain in place when the rest of the window scrolls. This feature is especially useful for titles, so it is called "title lock".
Split window	You can split the display window into two windows, horizontally or vertically, in order to look at separate parts of the worksheet at the same time. The two parts of the screen can scroll separately or together.
Status, prompt, and entry lines	At the bottom of the screen (beneath the grid), are three lines - the status, prompt, and entry lines. You will learn more about these lines and their contents in the lessons, but for now, a few simple concepts will suffice. PeachCalc uses both the status and prompt lines to display information. In general, the first of the three lines gives you a "status" report on such things as the Active Block and its contents. The second line "prompts" you, asking you what you want to do next, as well as listing your options at that point. The bottom line on the screen is the entry line. This is where you tell PeachCalc what to do by typing commands or data.
Help available	If you are ever confused or unsure about what to do next or simply need a memory boost, just press the "?" key to ask for help. You can do this at any point — even in the middle of entering a command. The screen will immediately change to give additional information about your choices. You can return to the worksheet display by pressing any other key.
Interpretive prompting	Interpretive prompting means you only need to give the first character of a command on the entry line, and PeachCalc will immediately fill in the rest of the word. The program will also use the prompt line to indicate all options for the next entry.
"/" commands	The "/" symbol precedes commands. If you press "/", the character appears on the entry line and the prompt line changes to a list of possible single-letter commands. Suppose you then press B. You have put /B on the entry line. PeachCalc fills out the rest of the command. /B becomes /Blank. In this example, the prompt line will change to ask you which block(s) should be "blanked."

PEACHCALC CONCEPTS (Cont.)

Modifying commands and entries	The PeachCalc program makes it easy to edit information on the entry line. If you make a mistake while entering a command or data, you can quickly correct the mistake by adding or deleting characters without affecting the correct position of the entry. The EDIT command uses the same editing techniques to modify the contents of a block.
Protecting your work	PeachCalc provides several safeguards against accidentally destroying work that should be preserved. You can protect individual blocks or groups of blocks in the worksheet so their contents and format cannot be changed until you unprotect them. Similarly, PeachCalc will check with you before executing commands that have major consequences for your work; for example, clearing the entire worksheet or exiting from the program before saving your new or modified worksheet.
Block format	When you first start the PeachCalc program, blocks are only potential locations on the worksheet and take up no space in the computer's memory. You can only bring a block into existence by "using" it in some way — by putting an entry into it or by formatting it (that is, preparing it to express an entry in a particular manner, such as an equation, text, or numeric value).
Block contents	When you format a block, you tell PeachCalc how you want the content to look on your screen. This display format can differ from the way the block contents looked when you entered them. For example, you might want a numeric value to display in ordinary notation (1776), with or without a decimal; or in scientific notation (1.776×10^3). You may enter data in whichever format is convenient, and PeachCalc will convert the data into the display format you have specified. You can also change any of a block's format characteristics without affecting the actual contents. You can specify formats for individual blocks or groups of blocks, for rows, for columns, or for the entire worksheet.

PEACHCALC CONCEPTS (Cont.)

Block contents (Cont.)	Formulas can be calculated based on values stored in other blocks. (Examples: A5 +10, SUM(B1:B9), E7/9-BK2) PeachCalc has many special functions for use in formulas. You can use formulas to compare values in blocks or groups of blocks and then perform one calculation or another, depending on the result of the comparison. These are called conditional statements.
	If you put a formula into a block, PeachCalc also puts into the block the value of the calculated formula. You can display either the original formula or its current value. When a block's value changes, the program will recalculate formulas referring to that block.
Block value	Many PeachCalc operations use the numeric value of blocks — for example, adding an entire column. The value of a block containing a number is the value of that number. The value of a block with a formula is the value obtained by calculating the formula. Blocks that have text, are empty, or are blank have a value of zero.
Display width	The display width formatting attribute determines the width of a column you see displayed and is independent of the "width" of the data in the block. For example, you might have a 12-digit number in a block. The program will show as much of the number as it can. With a display width of 12 or more, you could see the entire number; with a display width of 9, you could see 9 digits, and so forth. Whatever the display width, PeachCalc will consider all 12 digits in calculations. You can set display widths from 0-127 characters. Different columns can have different widths. When PeachCalc starts up, columns are set at a standard (or default) width of 9 characters. The status line shows the display width of the column containing the Active Block.
Conclusion	This has been a very brief discussion of some of the essential features of PeachCalc. The lessons in the Self-Instruction chapter will let you build upon this basic knowledge by taking you through these and other PeachCalc features in step-by-step detail.

EQUIPMENT REQUIRED

The hardware described below is the minimum required for the successful operation of PeachCalc at this time.

- | | |
|-------------|---|
| Computer | PeachCalc will run on any 8080-type (Z-80, 8085), CP/M compatible microcomputer with at least 48K characters of internal (RAM) storage. |
| Terminal | A keyboard and a video unit are required. |
| Printer | Although a printer is not required for PeachCalc since you can see your worksheet on the screen, you will not be able to take advantage of all the output options without one. Any printer is sufficient for the limited printing needs of PeachCalc. |
| Disk drives | One or two disk drives are sufficient. If you have only one disk unit, a single diskette must have enough space for the PeachCalc program, the operating system, and any worksheet files you wish to retain. This manual assumes you have two drives. |

SUPPLIES REQUIRED

In addition to PeachCalc and the required computer equipment, you will need to order an initial set of supplies that should arrive before you run PeachCalc. As processing continues, you will need to restock to ensure that there are always adequate supplies on hand. Refer to the table below to assist you with ordering supplies for startup and your ongoing needs.

Printer paper	Various formats, colors, and multi-part paper are available. Reorder when level reaches one month's supply.
Printer ribbons	Order at least one box of ribbons. Reorder when the level reaches one month's supply.
Software media	Have at least 10 diskettes on hand to hold backup information and programs. Reorder as needed.
*Binders for printouts	Special binders are available to hold computer printouts in an orderly way.

*Optional item

GETTING TO KNOW YOUR COMPUTER

What goes on "inside" the computer?

When you are using PeachCalc, there are four basic operations going on inside the computer, although they may not be happening at the same time. These operations are:

- Input
- Processing
- Storage
- Output

Input

Input is the process of entering information into the computer through the keyboard, which resembles a typewriter with a few more special keys. The keyboard is usually attached to a video unit, although the screen is not required for input.

An example of input to PeachCalc would be typing in the command marker and the letter indicating the command itself, such as /Format.

Processing

The computer **processes** by accepting input, generating output, making decisions, or calculating a mathematical computation.

An example of processing in PeachCalc would be the calculation of formulas within blocks of the worksheet.

Storage

There are two ways a computer **stores** programs and data — in internal memory or on a diskette.

Internal memory stores programs and data only as long as they are being worked on by the computer. This is temporary.

Diskettes store programs and data when the disk is not being used. This is permanent.

Output

Output occurs when the computer relays information back to you. This can be done in two ways — on the printer and on the terminal screen.

PeachCalc relays information to you when it displays the worksheet on the screen and when it prints a copy of the worksheet.

INSTALLING PEACHCALC

This procedure tells you how to install your new PeachCalc system. It assumes that you are using the CP/M operating system and are familiar with its functions.

What is contained in the PeachCalc package?

When you receive PeachCalc, you will get one floppy diskette and this manual.

The **diskette** has been carefully prepared to be compatible with the CP/M computer system you specified on your order form.

This **manual** contains all the information necessary for learning and operating PeachCalc. Continue to use the manual as you become more proficient with the system and try more involved procedures. It contains a great deal of useful information.

Installation procedure

The following procedure should be completed upon receipt of the PeachCalc system:

1. Be sure you have the complete PeachCalc system — one copy of the manual and one floppy diskette sealed in a plastic protector and labeled as to contents.
2. Read the General Information section of this manual before you attempt to install, start, or use PeachCalc.
3. Turn on the power to your computer.
4. The CP/M operating system should reside on the same disk as PeachCalc to make operation as simple as possible. It is necessary to complete the following steps to prepare your disk in this manner:
 - **Immediately** make a copy of your PeachCalc diskette and save the original. The original is called the **master** diskette. Place it in a safe and secure location.
 - Copy CP/M into the copy you just made of the PeachCalc diskette, using the appropriate copy program for your computer.
 - Now your PeachCalc system can be started up with only one diskette. This is called your **program** diskette. Make a copy of this program diskette as a backup. It would also be a good idea to make another copy of the program diskette at this point to use with the lessons in the next section of this manual.

INSTALLING PEACHCALC (Cont.)

Configuring
for different
terminals

For information on how to configure the system for your particular terminal, see "Configuring Your System" on page 173 of this manual.

Starting up

1. **Get ready.** Be sure you have your system's operating manual and program disk (also a data disk, if you are using a separate one).
2. **Power up your system.** Consult your hardware manual. Different systems have different procedures.
3. **Insert the system disk.** This disk is the system, or program, disk that you prepared during the installation process. It should contain the PeachCalc programs and the CP/M operating system.

Consult your hardware manual for specific instructions on inserting diskettes into your drive.

4. **Start up your system.** This is also called loading or booting a system. Doing so will give the CP/M operating system control of the computer. You cannot use PeachCalc until you complete this step.

Consult your hardware manual since some systems start up automatically and others require that you push a button or switch. There is usually a light over each drive that, when lit, tells you which drive is being accessed. Once the system is started up, a prompt will display on the screen; for example, A>. When you see this indicator, your system is ready to accept commands.

5. At the A>, type the letters PC (for PeachCalc).
6. The PeachCalc title screen will appear and you are ready to use the program.

CARE OF DISKETTES

Use And Care Of Diskettes

Diskettes are fragile. They will last a long time if handled properly. Careless treatment can result in irretrievable loss of data. Here are some guidelines for handling diskettes.

Do's...

- When loading a diskette, remove it from the protective jacket and insert it according to your system's instructions. After the diskette "clicks" into place, gently close the compartment door.
- Always replace a diskette into its protective jacket.
- Magnetic fields near the diskette can scramble data. Keep the diskette away from objects that can cause such interference (the top of the video unit, an electrical motor, or any magnets or magnetized objects.).
- Store diskettes at a temperature of 10-52°C or 40-125°F. When disks are stored for transportation or later use, place them in their jackets and set them upright in protective boxes.
- When writing on a diskette label, use a felt or fiber-tip marker. Ballpoint pens or pencils can damage the diskette.
- Decide on a standard place to put labels (usually the upper corner) and be consistent. Remove old labels.

Don'ts...

- Do not erase on the label. Rubbing damages the diskette.
- Do not rubber-band or paperclip the diskette.
- Never remove the diskette from the disk drive while the computer is processing.
- Do not leave the diskette lying around. Dirt, dust or stains can cause disk errors or the loss of data.
- Do not expose the diskette to sunlight or excessive heat.
- NEVER put your fingers or thumb on the diskette through the slot that exposes the magnetic surface. The surface is easily contaminated and this causes disk errors.
- Do not "fold, spindle, or mutilate" the diskette.
- Do not place heavy objects (such as books) on top of the diskette.

BACKING UP DISKETTES

What is a backup diskette?

A **backup diskette** is simply an up-to-date copy of a diskette that contains important data.

Why are backups important?

As you can tell from the instructions on the care of diskettes, there are numerous ways to lose the data on a diskette. If you damage a diskette and have not backed it up, all the data on that disk is gone and cannot be retrieved. This situation can be avoided if you regularly make backup copies.

What should I backup on PeachCalc?

The first backup you should make is a copy of the original PeachCalc diskette (the master). Store the master in a secure place such as a fireproof safe. You may wish to store it off the premises.

The second backup you should make is a copy of the PeachCalc program disk that contains the CP/M operating system. This will be the diskette you use daily and should be backed up due to potential wear.

You should also make periodic backup copies of the data diskettes that contain important PeachCalc worksheets.

Procedure for backups

The specific procedure for making a backup copy of a diskette depends upon your particular system. If you are not sure how to copy on your system, consult your dealer. Here are some pointers on backing up diskettes:

- It is a good idea to use three diskettes. Label one diskette "Program Diskette" or "Data Diskette" and the other two diskettes "Backup 1" and "Backup 2". Rotate the diskettes by taking turns using them. Note on a log or on the labels which diskette was used last so you know which one has the most up-to-date data on it.
- Place the backup diskette in a secure location. Some people prefer to store backups in another physical location to prevent the possibility of loss in case of fire, flood, etc.

LESSON ONE

Moving the Active Block Around the Worksheet

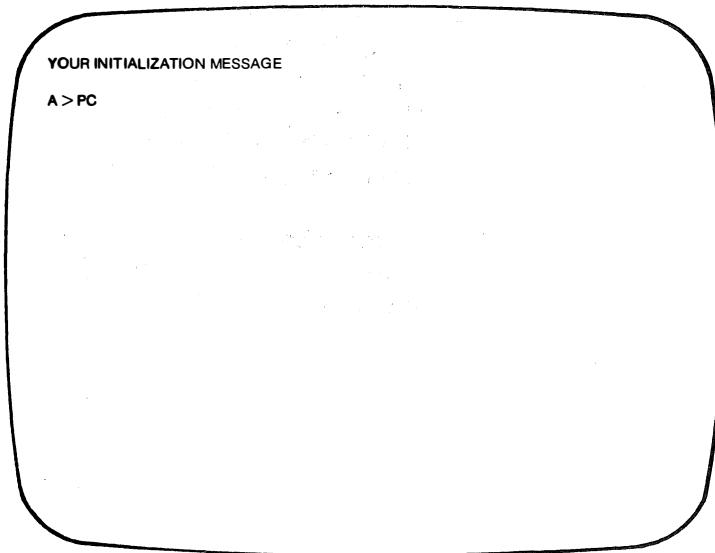
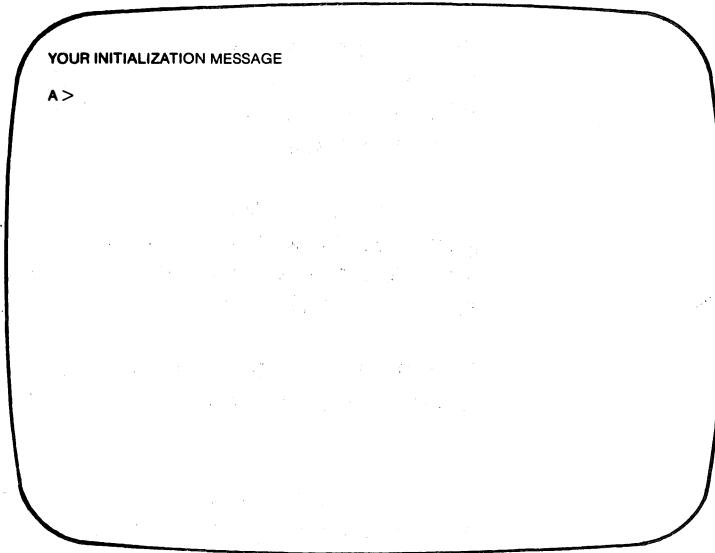
The first lesson teaches you the very basic operation of PeachCalc. You will learn some of the terminology we use with PeachCalc and how to move the cursor around the worksheet. You will also learn how to read the information on the status line.

STARTING UP PEACHCALC

The first thing you need to do is put PeachCalc on the system. If you have not already done so, turn on the power to the computer, disk drives, terminal, and printer.

Exercise:

1. Insert the exercise copy of your PeachCalc diskette into the disk drive. (This is the only diskette you will need.)
2. Start up your CP/M program. The prompt **A>** will appear on the screen.
3. At the **A>**, type **PC** and press RETURN (ENTER on some keyboards). The first screen you will see is the title page.



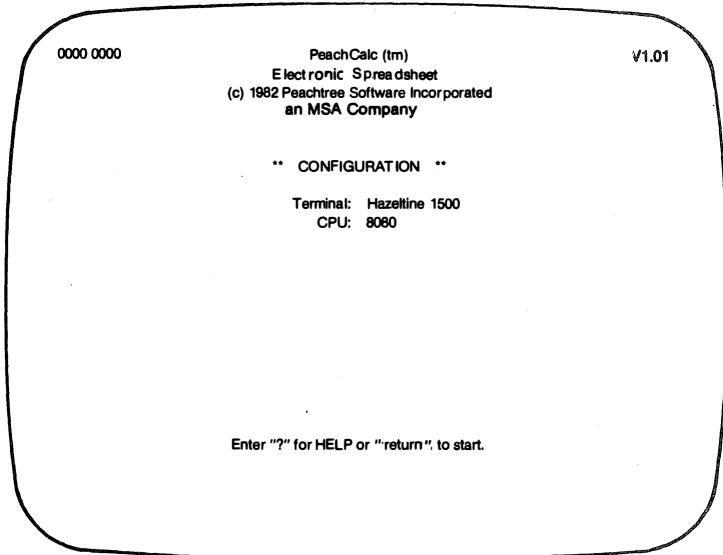
GETTING HELP!

Before we show you the main functions of PeachCalc, we want to show you how to get reference help. If you need a memory boost, asking for **HELP!** is the quickest way. For more detail, you can refer to the Reference Guide.

Exercise:

1. At the bottom of the title page is the prompt **Enter "?" for HELP or RETURN to start.** Type ? and press RETURN.
2. A Help! screen now displays. Pressing any key will take you to a blank worksheet. Other Help! screens can be accessed from points in the program where you might need help with a specific operation.

NOTE: The terminal name on the screen should agree with the name of the terminal you are using. If it does not, contact your dealer.



MOVING THE CURSOR TO ACTIVE BLOCKS ON THE WORKSHEET

When you pressed RETURN, the screen shown below displayed on the terminal. If you imagine that you are examining a map through a magnifying glass, you can compare the video screen or "display window" to a magnifying glass; through it, you can look at any area of your map or PeachCalc worksheet. In this exercise, you will learn how to move your display window across the surface of the worksheet. You will make the display window move or "scroll" to different positions on the worksheet.

There are two words you need to learn before you go any further - **block** and **cursor**.

In the same way that latitude and longitude measurements designate unique locations on a map, locations on the PeachCalc worksheet are pinpointed by alphabetically named columns and numerically named rows. A unique letter and number combination names every location on your worksheet; this location is called a **block**. Every block has a name that is a combination of the column and row, such as A1, B3, or H19. The **active block** is the location or destination of any data you are entering.

Let's look at the display that is on the screen:

```
| A || B || C || D || E || F || G || H |
1| < >
2|
3|
4|
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
>A1
Width:9 Memory:28 Last Col/Row:A1 ? for HELP
1>
```

You can see columns A through H and rows 1 through 20 on this section of the worksheet. Block A1 is highlighted. The highlight differs according to the terminal — it could be a bright underscore, a "reverse video" (bright bar), or perhaps the symbol < >. This is called the "worksheet cursor" and designates the Active Block. The worksheet cursor can be moved to any block on the screen by pressing arrow keys on the keyboard.

Note: Alternatively, or if your keyboard is not equipped with the arrow keys, you can use the D, S, E, X keys along with the **Control** key (CTRL) to move (respectively) right, left, up, or down. When you press one of these keys at the same time as the control key, it will function like an arrow key. For convenience, we will refer only to arrow keys in the manual.

MOVING THE CURSOR (Cont.)

Exercise:

1. Press the right arrow. The worksheet cursor should have moved one block to the right, to B1.
2. Press the same key again to move to C1.
3. Try the down direction. Experiment, using these four keys to move the worksheet cursor to different block positions on the worksheet screen.

SCROLLING

What happens if you try to go above Row 1 or to the left of Column A? Nothing. You have reached the worksheet margin in these directions. But what about moving to the right or down? Since the worksheet is much larger than the screen, there must be some way of looking at the rest of it.

Exercise:

1. Try to move the worksheet past the right or bottom margin. As the cursor appears ready to go off the screen, the rows and columns renumber. These are the "off-screen" blocks (beyond the range of display) that are brought into view one column or row at a time.
2. Move one column beyond the right screen edge. The columns change to B-I. Only part of the usable worksheet displays at one time. This is the "display window" and moving it is called "scrolling".
3. Try moving off the right screen edge by holding the key down. The screen will scroll until you stop pressing the key.
4. Continue "scrolling" the screen to column Z. Note that the remaining columns are labeled AA, AB, and so on.

| z || AA || AB || AC || AD || AE || AF || AG |
1| < >
2|
3|
4|
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
> Z1
Width: 9 Memory:29 Last Col/Row:A1 ? for HELP
1 >

THE STATUS, PROMPT, AND ENTRY LINES

There are three lines at the bottom of the screen. The first of these lines is the Active Block and worksheet cursor "status" line. PeachCalc uses this line to indicate the position of each of these functions.

The first character, an arrow (^, v, >, <), indicates the direction the worksheet cursor will move when you press RETURN. To change the direction of cursor movement, press an arrow key that points in a different direction.

The next entry on the status line is the name of the current Active Block. The status line tells you the location of the Active Block and is much more convenient than visually figuring the cursor position with respect to the worksheet borders.

If the current Active Block is empty, the "status line" remains unchanged; however, if the Active Block contains text, numbers, or formulas, the contents of the block will appear as you originally entered it. The display will read: Form = (contents of block)

Exercise:

Now move the worksheet cursor around, and watch the status line as the Active Block and direction arrows change.

The second line is the "prompt" and secondary status line. This line tells you the current block width, available memory, and the last block used for the current application. When you have made a command entry, the message displayed here will change depending on what command you are using. The prompt message lists your options at any given moment.

The bottom line is the "entry" line. It displays a 1 at the left margin. This line lets you tell PeachCalc what to do. It displays the information you enter at the keyboard — data, commands, or responses to prompt messages. The entry line is like a scratch pad — you can check and edit the data or text you wish to enter before putting it on the worksheet. As you input characters, the entry line cursor will move to indicate where the next character will appear. At the left-hand margin, the number 1 will change to 2, 3, etc. as the cursor moves.

THE GOTO COMMAND

You are probably wondering if there is an easier way to move the worksheet cursor to another block without using a combination of arrow keys. There is. Typing an equals sign (=) gives PeachCalc a **GoTo** command.

Exercise:

1. Type an equals sign (=).

(What if you mistyped "="? What can you do about it? You can use the left arrow key to backspace and then try again. We'll explain this feature more fully later on; for now, you know how to correct a mistake.)

The prompt line now reads "Enter block to jump to." This is one of the helpful conversational features you can expect from the prompt line.

2. Now type **M31** or **m31**. Either will work. (The PeachCalc program accepts either lower case or upper case letters for any entries, but you cannot use a lower case letter "l" for the numeral one, "1".) For anything to occur, you must press **RETURN**. It's a good habit to check your work first by reading the entry line before you press **RETURN**.
3. Now press **RETURN** (if you have not done so already). If you did everything right, you have quickly moved to the part of the worksheet where M31 is located. Block M31 now appears at the top left corner of the display window.
4. See if you can use the "=" to find out how large the worksheet is. When you are finished, **GOTO A1** again.

```
| A || B || C || D || E || F || G || H |
1| <   >
2|
3|
4|
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
> A1
Enter block to jump to.
6=>M31
```

```
| M || N || O || P || Q || R || S || T |
31| <   >
32|
33|
34|
35|
36|
37|
38|
39|
40|
41|
42|
43|
44|
45|
46|
47|
48|
49|
50|
> M31
Width: 9 Memory:28 Last Col/Row:A1 ? for HELP
1>
```

THE GOTO COMMAND (Cont.)

5. Here is another feature of the GOTO command. Move the Active Block near the middle of the screen, say to E8. Enter =, but enter no block, just press RETURN. Notice how the Active Block remains E8, yet the display window is repositioned so the Active Block appears at the top left corner.

We have now used the arrow keys and the "=" key. Remember that for most situations, any entry must be followed by pressing the RETURN key. The PeachCalc program will then accept and display the entry.

6. Press the RETURN key a few times and notice that the position of the Active Block advances to the next block. The direction taken — left, right, up, or down — depends on which arrow key was last used.
7. Press the down arrow and then RETURN a few times. Now press the left arrow and RETURN several times. The arrow keys set the direction, and then RETURN moves the worksheet cursor block by block. (Remember that you can always check the status line to find the current direction.)

```
| A || B || C || D || E || F || G || H |
1|
2|
3|
4|
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
>E8
Width: 9 Memory:28 Last Col/Row:A1 ? for HELP
1>
```

```
| E || F || G || H || I || K || K || L |
8|<   >
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
21|
22|
23|
24|
25|
26|
27|
>E8
Width:9 Memory:28 Last Col/Row:A1 ? for HELP
1>
```

THE QUIT COMMAND

What about some of the other operations? Let's try "/". Press the / key. You see the prompt change to say "B,C,D,E,F,G,I,L,M,N,O,P,Q,R,S,T,U,W,Z, or ?."

The prompt line is telling you that these letters represent the only entries you can make after typing the "/", which is called the **command marker**. Each letter designates an option of the "/" commands. Whenever you wish to examine the entire command option list, press "?" and the list will be displayed on your screen. To return to your worksheet display, press **RETURN**. We will look at many of these commands soon, but for now you should know about one in particular.

Exercise:

1. Press the **Q** key. What happened? First the /**Q** was interpreted by PeachCalc so that your /**Q** appears on the entry line as /**Quit**. Second, the prompt line changed. It now reads, "EXIT PeachCalc? Y(es) or N(o)".
2. If you want to stop here and continue the lesson later, press the **Y** key; otherwise, press **N**.

```
| A || B || C || D || E || F || G || H |
1|< >
2|
3|
4|
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
< A1
Enter B,C,D,E,F,G,I,L,M,O,P,Q,R,S,T,U,W,Z or ?
2>/
```

REVIEW

What have you learned in this lesson? You have seen the display window scroll and learned what "current direction" means. You have also learned how to:

- Identify the worksheet cursor and locate the Active block.
- Move the worksheet cursor anywhere on the worksheet.
- Move the cursor with the four arrow keys, the alternate movement keys, and the **RETURN** key.
- Use the = (or **GoTo**) command, either as a shortcut to a new location, or to reposition the worksheet with respect to the active block.
- Read the Active Block location, current direction, and column display width on the status line.

LESSON TWO

Entering Data - Numbers, Text, and Simple Formulas

Lesson One gave you a general understanding of the control and display features in PeachCalc. In this lesson, you will learn how to enter data onto the worksheet. You will also learn the ZAP command (/Z) to clear the worksheet, the "in-line editing" features, and the EDIT command (/E).

If the PeachCalc program is not already loaded, load it now. (See **Getting Started** if you aren't sure how to do this.)

MAKING SIMPLE ENTRIES

Now you are ready to put some data on the worksheet. In this exercise, you will be entering numbers down the column, so you want to set the worksheet cursor to move "down".

Exercise:

1. Press the **down arrow**. Now use the GOTO command to place the active block marker at A1.
2. Type the number 5 on the entry line. Do not press RETURN yet. You may cancel an operation any time by pressing the CTRL key and the Z key simultaneously. If you start to do something but then change your mind, pressing CTRL-Z will allow you to start over without harming the worksheet.

"5" is showing on the entry line. Now press RETURN.

Pressing RETURN will enter whatever is currently shown on the entry line; that is, the characters you have typed will be sent to the active block, and the entry line will be cleared. In our example, the data item "5" should now appear on the screen in block A1.

```
| A || B || C || D || E || F || G || H |
1| 5 |
2|< >|
3| |
4| |
5| |
6| |
7| |
8| |
9| |
10| |
11| |
12| |
13| |
14| |
15| |
16| |
17| |
18| |
19| |
20| |
v A2
Width: 9 Memory:28 Last Col/Row:A1 ? for HELP
```

MAKING SIMPLE ENTRIES (Cont.)

3. Notice that the worksheet cursor moved to A2. Type **6**, but do not press RETURN yet. Did you notice that before you typed **6**, there was a **1** at the left side of the entry line? Now there is a **2**. This number increases each time you type a character on the entry line — it is always one more than the number of characters you have typed. For now, this information helps you fit data into the column width you have (remember the "9" on the status line?) Later, you will learn how to change the column width and this character count will help even more.
4. Now press RETURN, and block A2 will contain the value **6**. Block A3 is now the Active Block.
5. Let's try another entry — type **12** and press RETURN.

The same thing should have happened. The worksheet cursor is progressing down the column, automatically anticipating the location of your next entry.
6. Now press the **right arrow**. Type **56** and press RETURN.
What happened? **56** appears in B4, and the worksheet cursor has moved to block C4. After each entry, the worksheet cursor will continue to move automatically to the next block. The direction of the moves has been set by the last arrow key used. For instance, suppose you wish to change the data in block B4. Press the **left arrow**. Type **8** and press RETURN.

This will replace the previous entry of "**56**". But, in addition, the worksheet cursor continues now in a leftward direction to A4.

	A	B	C	D	E	F	G	H
1		5						
2		6						
3			12					
4	<	>		8				
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

MAKING SIMPLE ENTRIES (Cont.)

7. Try entering different letters and numbers as data, using the arrow keys to change direction.
Take a few minutes.

Depending on how adventurous you were, you may have made some discoveries. Generally speaking, there are two kinds of entries -- "text" and numbers. Your entry will be regarded as a number unless you type a single or double quotation mark as the first character, in which case it will be entered as repeating text or non-repeating text, respectively.

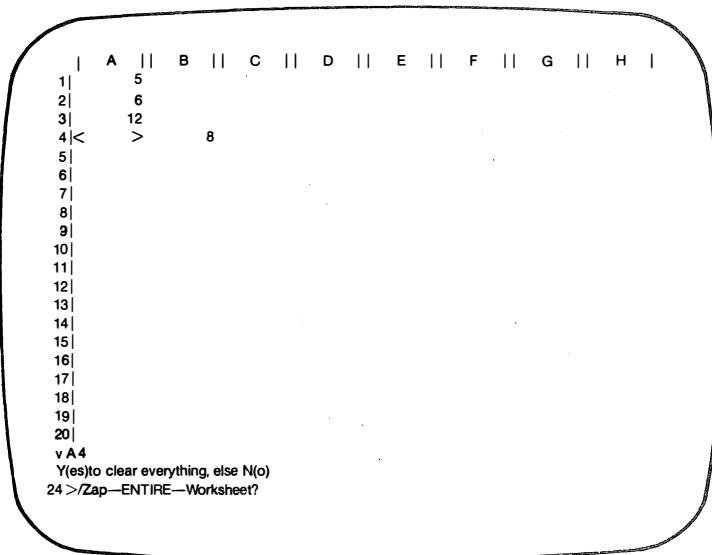
Headings, labels, and explanatory notes are all types of text entries. In a mathematical sense, they are regarded as having a value of zero. If you forget to lead these with quotation marks, the computer will give you an error message. Quotation marks do not appear on your screen; they simply signal the computer that you are making a text entry. You do not have to close the quotation marks.

THE ZAP COMMAND

The ZAP command clears the worksheet. You will use it now to call up a fresh screen for making sample entries. The ZAP command is different from the QUIT command; it does not end the PeachCalc program, but merely clears the information on the screen.

Exercise:

1. Enter / (slash). The prompt line again displays all the possible "/" commands.
2. Enter z; the prompt now reads "Zap-ENTIRE-worksheet?" The ZAP command clears the entire worksheet and returns everything to its original state, as if you had just loaded PeachCalc. Because this is so drastic, PeachCalc uses the prompt line to remind you that the entire worksheet will be emptied and to tell it if you really want to do this. The prompt asks, "Y(es) to clear everything, else N(o)?"
3. You do want to clear everything, so enter Y, and PeachCalc will do just that. Whatever you had put on the worksheet is now gone, permanently.



TEXTUAL AND NUMERICAL ENTRIES

On your newly cleared screen, you are ready to learn how to make two types of entries to fill a block — text entries and numerical entries.

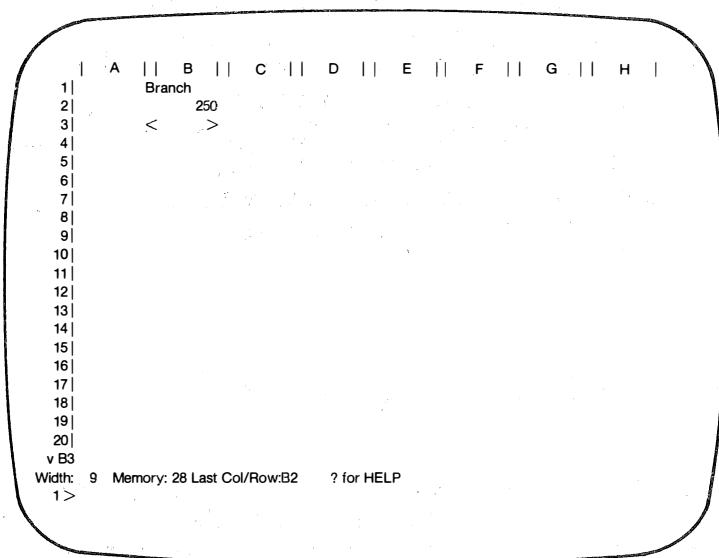
Exercise:

1. Type "**Branch**" in block B1 and **250** in B2. Remember to precede Branch with quotation marks (""). Notice that text is left-justified and numeric values are right-justified within the column.
2. Move the Active Block back to B2 and watch the far right display of the status line. It will say "Form=250." Move the Active Block to B1; the same display will say "Text=Branch".

How wide are the columns, and how large a number can we enter? How much text? We talked about "display width" earlier when looking at the status line. Note again the "9" on the status line.

The 9 tells you that the current column (the column with the Active Block) can display nine characters. Nine is the standard (or default) value that PeachCalc will use for the display width of all columns unless you tell it otherwise. You will soon learn how to set display widths. Blocks may contain as many as 116 characters.

3. Move the worksheet cursor to B3, and type "**Departments**". This text is certainly longer than nine characters, but PeachCalc allows text to extend over neighboring blocks if they are unused.
4. Move to A1 and try the same thing. What happens?



TEXTUAL AND NUMERICAL ENTRIES (Cont.)

Your entry did not display in full because B1 is occupied. However, the entire entry was accepted to block A1 even if only part of it (the first nine characters) is displayed. (You can see that the status line indicates the contents of A1 as Text="Departments - the full text.)

5. Move to B4. Type, without commas, 2500000000. The number is too large to display. PeachCalc converts it to scientific notation, a more compact format, and displays it as 2.5e9. 2.5e9 is the display form of the expression 2.5×10^9 , or the conventional abbreviation of 2,500,000,000. PeachCalc provides many different display and format options. These will be discussed in more detail later.

```
| A || B || C || D || E || F || G || H |
1| DepartmentBranch
2| 250
3| Departments
4| 2.5e9
5| < >
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
v B5
Width: 9 Memory:28 Last Col/Row:B4 ? for HELP
1>
```

EXPONENTIAL NUMBERS

If exponential numbers are new to you, let's take a moment to look at what they are and how PeachCalc displays them. Exponential numbers are displayed as "powers of 10". The following exercise helps explain what this means.

Exercise:

1. ZAP the worksheet you've been using. Go to Block C1 and set column C for exponential display. The format command does this. Type /F for the command, and C for "column for formatting." When the prompt asks you what column to format, you can just press the "," key, because you are already at column C. Then enter E for exponential, and press RETURN.

```
| A || B || C || D || E || F || G || H |
1| < >
2|
3|
4|
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
< C1
Define Formats: (I,G,E,$,R,L,TR,TL*,D,column width)
27 >/Format, Column,C,Exponent,
```

EXPONENTIAL NUMBERS (Cont.)

2. Press the **down arrow** to set the current direction as down. Type **1776**. Block C2 shows "1.776e3." What does this mean? e3 means "exponential 3" or "10 to the power of 3." 10 to the power of 3 is 1000; 1.776 times 1000 is 1776. That's all that 1.776e3 means.
3. Try typing **1000**. Was 1e3 what you expected? What will **100** be? Try it. Now enter **2000**, and then enter **.002**. Notice that 2000 is 2e3 and that .002 is 2e-3. e3 is thousands; e-3 is thousandths. What is **-2000**? Try it and see.
4. What happens if you enter a number in exponential notation? Let's try it. Enter **567e13**. Are you surprised to see it display as 5.67e15? PeachCalc prefers to put the decimal point just after the first digit and will adjust the exponent value to do so.

Explore on your own — entering numbers as you ordinarily would, and entering them in exponential form. Try to guess beforehand what the display will be.

When you feel comfortable with exponential notation, let's give the PeachCalc program a little job to do.

Exercise:

1. Press the **down arrow**, (v) if necessary, to reset the cursor direction; then go to, (=), C1.
2. In block C1, enter **93000000**. That is 93 million, which is the number of miles between the earth and the sun. 9.3e7 is 9.3 times 10 million, which seems right. Now in block C2, enter **5280*C1**. The value displayed, **4.910e11**, is the number of feet in 93 million miles. What about inches? Type **12*C2** in block C3. **5.892e12** is the number of inches in 93 million miles.

	A	B	C	D	E	F	G	H
1								
2			1.776e3					
3			1e3					
4			1e2					
5			2e3					
6			2e-3					
7			-2e3					
8			5.67e15	<	>			
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
v C9								

Width: 9 Memory:28 Last Col/Row:C8 ? for HELP
1>

	A	B	C	D	E	F	G	H
1			9.3e7					
2			4.910e11					
3			5.892e12	< 1e3>				
4			2e3					
5			2e-3					
6			-2e3					
7			5.67e15					
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
v C4								

Form=100
Width: 9 Memory:28 Last Col/Row:D8 ? for HELP
1>

EXPONENTIAL NUMBERS (Cont.)

So 5.892×10^2 is the number of inches between the earth and the surface of the sun? Not exactly. It is the number of inches in 93 million miles, but 93 million is the number of miles between here and the sun expressed to the nearest million. Only the first two digits of 5.892 are significant, since only the 93 was significant in 93 million miles.

Why bring this up? Because that is the point of scientific notation — to quickly grasp the essential points of a number and discard the unessential. The first part of the number gives you the essentials (and probably some others that you can discard). The exponent value, the number after E, tells you whether you are talking about 10s, 100s, 1000s, or millions, billions, trillions. Or billionths and trillionths, for that matter.

In short, exponential or scientific numbers give you the essential: the significant digits and the general magnitude of the value.

Three types of exponential expression may occur:

- 1) 1.776×10^3 ; 1.776×1000 or 10^3
- 2) 1.776×10^{-3} ; $1.776 \times 1/1000$ or 10^{-3}
- 3) -1.776×10^3 ; -1.776×1000 or 10^3 (a negative number)

IN-LINE EDITING

Let's investigate PeachCalc's "in-line" editing feature. If you have used the exponential notation section of the lesson, ZAP your worksheet and re-enter your original data.

Exercise:

1. Move the Active Block to B5.
Type this incorrect spelling,
Divsion, but DO NOT press
RETURN. As you know, you could
use a left arrow to backspace
and re-type from the point of
the error. The right arrow key
just moves in the opposite di-
rection.

IN-LINE EDITING (Cont.)

2. Using the left and right arrows, move back and forth across the text, taking care not to back-space beyond the leftmost character. Notice that nothing is changed except the position of the cursor on the entry line. Locate the cursor on the "s". Notice, too, that the number 4 appears at the left of the entry line. This indicates that the cursor is located at the fourth character position.

3. Press the up arrow key, and see what happens.

A space has been created just ahead of the "s" so you may insert the correction without having to re-type good text. Enter i. The entry line now says **"Division.** What if you had needed to insert several characters, or to delete some?

4. Press the up arrow key continuously and generate a large gap in the text.

5. Press the down arrow key once and notice that the gap is reduced by one character. Hold the key down and watch the blank spaces being deleted. Go ahead and enter **"Division,** and then make up other examples.

6. Practice with these keys until you are confident with this "in-line editing" feature. Try it with numeric entries, too.

```
| A || B || C || D || E || F || G || H |
1| DepartmentBranch
2| 250
3| Departments
4| 2.5e9
5| < >
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
>B5
Width: 9 Memory:28 Last Col/Row:B4 ? for HELP
4 >Div sion
```

Regardless of where the cursor is positioned on the entry line, all of the visible text or numeric values will go into the Active Block when you press RETURN.

You have discovered that the arrow keys have two different uses. They move the active block around the worksheet until you type a character on the entry line. Then PeachCalc recognizes that you have begun to enter data, and the prompt changes to "Enter into block (or CTRL/Z to abort command)." The function of the arrow keys changes in data entry mode; they are used for editing.

THE EDIT COMMAND

You know how to edit data before you actually enter it into the Active Block, but how can you edit data that is already in a block? Of course, you could enter the data again in its entirety and the new entry would replace the old one, but there is a better way. You can use a new command, the **EDIT** command (**/E**).

Exercise:

1. Make B4 the Active Block (use **GOTO** or move the worksheet cursor). Enter **/E**, for **EDIT**. You see the prompt line now says, "From? enter block." It needs to know where to find the material to be edited.
2. Because you want to edit the contents of the Active Block (as opposed to just any block on the worksheet), you don't have to give a block address. Simply press **RETURN**, and PeachCalc will bring the Active Block's contents to the entry line.
3. Make your changes, using the arrow keys. For instance, delete three of the zeros from **2500000000**. When your change is complete, press **RETURN**, and your modified entry replaces the old one in B4. If you haven't done this, try it now.
4. You may sometimes wish to edit the contents of a block and put them into another block. For example, position the Active Block on B5 (your destination block). Enter **/E**. In response to the prompt, "From?", type **B4** (our source block), and press **RETURN**. The contents of B4 will be copied to the entry line. After you have made your change, press **RETURN** and the edited version of B4 will be copied back to B5.

```
| A || B || C || D || E || F || G || H |
1| DepartmentBranch
2|          250
3| Departments
4| < 2.5e9>
5| Division
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
> B4      Form=2500000000
From? Enter block
7 >/Edit,
```

```
| A || B || C || D || E || F || G || H |
1| DepartmentBranch
2|          250
3| Departments
4| 250000
5| 250000
6| < >
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
v B6      Width: 9 Memory:28 Last Col/Row:B5 ? for HELP
1>
```

THE EDIT COMMAND (Cont.)

No matter where it comes from, the "new" or "edited" data on the entry line is always entered into the Active Block. In the first example, the original contents of B4, the Active Block, were modified and replaced by an edited version. In the second example, the contents of B4 were not changed. The edited material went into B5, the Active Block, and the source material remained unchanged in B4.

REVIEW

What have you learned in this lesson? You know how to:

- Make number and text data entries
- Cancel an operation by using Control-Z
- Replace one data entry with another
- Set the direction in which the worksheet cursor moves
- Recognize and use exponential notation
- Do in-line editing
- Use /E, the EDIT command

If you want to stop here, use the QUIT COMMAND. Or if you wish, continue to Lesson Three.

LESSON THREE

Blanking, Protecting, Unprotecting, and Saving Your Work

In this lesson, you will enter more data, learning how to blank, protect, unprotect, and save your data. You will also learn to use the /G command to make some general or "global" changes in your worksheet display and to use the /F command to make certain formatting changes.

If you are continuing directly from Lesson Two, do a /Z command to start with an empty screen. Otherwise, load the PeachCalc program in accordance with the instructions in "Getting Started."

MORE DATA ENTRY

In Lesson Two, you learned how to modify a block's contents to EDIT. But what if you want to "blank" a block, to completely clear out its contents? You can do that with a new command, the BLANK command, which will blank out, or erase, data that you have already entered on any size portion of your worksheet. You can blank an individual entry or block, partial or complete rows or columns, or entire groups (rows and columns) of blocks. You will try an example of each in this lesson.

Exercise:

1. Use the **down arrow** to set the current direction. Use the GOTO command to go to A1. Type "**Dept.**" At A2, type 5. Continue in this way with A3 through A9, typing values of **8, 3, 11, 4, 9, 6, and 12** respectively.
2. Type / and note the prompt line. Now enter B. The interpretive prompting fills this out as /Blank. And the prompt line changes to say, "Enter Range." You must now tell PeachCalc the portion, or range, of the worksheet you wish to blank.

	A	B	C	D	E	F	G	H
1	Dept.							
2		5						
3		8						
4		3						
5		11						
6		4						
7		9						
8		6						
9		12						
10 <		>						
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
V A10								
Enter Range								
10 >/Blank,A4								

MORE DATA ENTRY (Cont.)

3. Type **A4** and press **RETURN**. The contents of A4 have been "blanked", or erased. (You can also enter **/B**, place the worksheet cursor on the block you wish to blank, and (with no block reference) press **RETURN**. Try doing this with block A5.) When working regularly within PeachCalc, use whichever way is more convenient for you. Remember that since the cursor can only point to an individual block, the cursor/**RETURN** method of the **/B** command will only affect an individual entry.
4. Enter **/B** again. Now in response to the prompt, "Enter Range", specify A6 through A8 by typing **A6:A8**. Press **RETURN**. This is how you can give PeachCalc a range of blocks for either a row or a column. The range that you name will always include the end points.

```

| A || B || C || D || E || F || G || H |
1| Dept.      |
2|          5 |
3|          8 |
4|          |
5|          |
6|          |
7|          |
8|          |
9|          |
10|<    12    >   | Enter Range
11|          |
12|          |
13|          |
14|          |
15|          |
16|          |
17|          |
18|          |
19|          |
20|          |
VA10
Width: 9 Memory:28 Last Col/Row:A9 ? for HELP
1>

```

THE PROTECT COMMAND

Exercise:

1. Re-enter the numbers you just blanked out. Create a new column of numbers in column B. Label it **Branch**.
2. Now let's protect a block. Type **/P**. You will use the **protect** command in the same way as the **blank** command; that is, enter a block or a range. For example, enter **A5**. Press **RETURN**. Move the cursor to A5 and note that a "P" appears now next to the "Form" display on the status line. This tells you that the Active Block is "protected". (If your terminal provides half-intensity display, you will also see the protected blocks at half-intensity.)

```

| A || B || C || D || E || F || G || H |
1| Dept. Branch |
2|          5   1 |
3|          8   2 |
4|          3   3 |
5|          11  4 |
6|          4   5 |
7|          9   6 |
8|          6   7 |
9|          12  8 |
10|<    >   | Enter Range
11|          |
12|          |
13|          |
14|          |
15|          |
16|          |
17|          |
18|          |
19|          |
20|          |
VB10
Enter Range
12 >/Protect,A5

```

THE PROTECT COMMAND (Cont.)

Let's continue by protecting a range of blocks...

3. Type /P and enter **A8:B8**. Press RETURN. This will protect that portion of row 8.

What is the significance of what you have done? Remember we said that /B could blank out an entire group of blocks. Let's try to blank out that group of blocks from row 2 through row 8 for both columns A and B. How do you specify this?

4. Enter /B. Now enter **A2:B8**. (The range for a **Group of blocks** as a diagonal, top left-most block forward by the lower, far right block in the group.) Now press RETURN, and let's consider the results.

Row 1, with titles, should remain because it was outside the range of the group definition you used with the **Blank** command. A5 and row 8 remain because they were protected. Row 9 remains, not because it was protected but because it, too, was beyond the range you blanked out.

5. Try to change the contents of A9. Now try the same thing with A5 or B8. Since the blocks have been protected, they cannot be changed or blanked out. This feature can provide you with a large measure of safety when you are working with information that has taken you time to develop, and which you cannot afford to accidentally lose.

	A	B	C	D	E	F	G	H
1	Dept.	Branch						
2								
3								
4								
5			11					
6								
7								
8		6	7					
9		12	8					
10 <		>						
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

V A10
Width: 9 Memory: 28 Last Col/Row:B9 ? for HELP
1>

THE PROTECT COMMAND (Cont.)

The **unprotect** command (/U) can be used to unprotect blocks, partial rows, partial columns, or groups of blocks. You could use the command twice to unprotect block A5 and row 8, but can you do it with just one /U command? Yes.

6. Unprotect the "group", row 5 through 8 of columns A and B. What is the proper range specification? Did you say **A5:B8**? Correct.

	A	B	C	D	E	F	G	H
1	Dept.	Branch						
2								
3								
4								
5			11					
6								
7								
8		6	7					
9		12	8					
10	<	>						
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
	v A10							

Enter Range
17 >/UnProtect,A5:B8

FORMULA AND NUMERIC DISPLAY OPTIONS

Exercise:

1. Move the Active Block to A2. Enter $3 + 5$. What happened? The value of the expression, 8, was placed in A2. If the worksheet cursor is not at A2, move it there and examine the status line. The far right display will read "Form=3+5", your original expression. What has PeachCalc actually stored, "3+5" or the "8"? It has stored both!

However complicated the expression is, PeachCalc will calculate the result and display it. This lets you use the entry line like a scratch pad. For instance, we may be adding two columns of numbers but be only interested in their total value.

2. Again at A3 enter $1 + A2$. PeachCalc will recognize this as a formula for block A2 and will quickly calculate and display the value based upon the value in A2. Further, if you change the contents of A2 — for instance, to "5" — you will observe that the new value of A3 is recalculated as well.

FORMULA AND NUMERIC DISPLAY OPTIONS (Cont.)

3. Now move the Active Block to A3. The screen displays "6" there, the current value, while the status line displays "Form = 1 + A2." PeachCalc is keeping track of both. In A4, enter **A3*.65**. (The "*" means multiply and is equivalent to the "X" sign in conventional notation. Division is represented by "/".)
 4. Locate the active block at A10. Enter **SUM(A2:A9)**.
- SUM is a built-in function. PeachCalc provides many special built-in functions, including SQRT (square root), AVERAGE (mathematical mean), NPV (net present value), trigonometric functions, IF conditionals, and many more. For SUM, you can specify a list of ranges (as you have done in this example) and blocks, for example, "SUM(A8, B9, A2)."
5. Change the value of any block in column A and watch the sum be recalculated.

The screenshot shows a software application window titled "PeachCalc". Inside the window, there is a table with data. The columns are labeled A through H. The first row contains headers: "Dept." and "Branch". The data rows are as follows:

	A	B	C	D	E	F	G	H
1	Dept.	Branch						
2		5						
3		6						
4		3.9						
5		11						
6								
7								
8		6	7					
9		5	8					
10		36.9						
11 < >								
12								
13								
14								
15								
16								
17								
18								
19								
20								

V A11
Width: 9 Memory:28 Last Col/Row:B10 ? for HELP
1>

THE GLOBAL COMMAND - FORMATTING OPTIONS

You know that PeachCalc is keeping track of formulas even though only values are displayed on the worksheet. How can you review all the original formulas more clearly? This can be done with the **Global** command.

Exercise:

1. Type **/G**. PeachCalc's interpretive prompting fills this out to read **/Global**. The prompt line now reads, "F(orm.), N(ext), B(order), T(ab), R(ow), C(ol.), M(an.), A(auto)?" What does this mean? The **/G** command is a way to make overall or "global" changes to the worksheet, rather than specific or local changes. It is as if you had a map of the United States before you, and could, at will, change it into a topographical map, a population density map, a tourist attraction map, etc.
2. To see your formulas, enter **F** and they will display.
3. To return to the other kind of display (block values), simply repeat the sequence **/G, F**. PeachCalc will alternate or flip-flop between the two display modes.

	A	B	C	D	E	F	G	H
1	Dept.	Branch						
2	5							
3	1+A2							
4	A3*.65							
5	11							
6								
7								
8	6	7						
9	5	8						
10	SUM(A2:A9)							
11	< >							
12								
13								
14								
15								
16								
17								
18								
19								
20								

Width: 9 Memory:28 Last Col/Row:B10 ? for HELP
1>

DETERMINING COLUMN WIDTH

In your formulas, you will notice one problem. The SUM formula in A10 has two characters more than the column width, which is only 9. You need to widen the column to accommodate the entry.

Exercise:

1. Type **9** in block B10.
2. Enter **/F** for format. The prompt line will respond with "Enter Level: G(lobal), Column, R(ow), or E(ntry)." This "G" is not the same as the **/G** command; here it simply qualifies the **/F** command. Its meaning, however, is similar - "for all" or "every".

DETERMINING COLUMN WIDTH (Cont.)

3. Now type **G**. The prompt line now displays, "Define Formats: (I, G, E, \$, R, L, TR, TL, *, D, column width)". As you can see, the /F command has many possible parameters; however, for now, enter a new column width by typing 12 and RETURN. Now move the cursor to column B and note the status line display, "12". Notice that you changed all columns to a width of 12 characters. You could have specified the new width for just a single column by typing **C** for column level.

Now that you are using commands with several levels of prompts, we should point out another use for the left arrow key — one that you may have discovered for yourself. Backspacing with the left arrow will always take you back to the prior "step" in a command.

4. For instance, enter **/F, G, 12** again. Now backspace one with the **left arrow** (or **CTRL/S**). Backspace again, and see that the prompt changes to its earlier message, "Enter Level: G(global),...". If you wished, you could then enter a level other than G(global), and continue on with the command sequence. Instead, backspace once more.

You will see the list of "/" command options on the prompt line. Backspace again. Now you have finally backed all the way to the original prompt.

The screenshot shows a terminal window with a table and some command history. The table has columns labeled A through H. The first row contains headers: Dept., A, B, C, D, E, F, G, H. The data rows are as follows:

Dept.	A	B	C	D	E	F	G	H
2	5							
3	6							
4	3.9							
5	11							
6								
7								
8	6	7						
9	5	8						
10	36.9	9						
11	<	>						
12								
13								
14								
15								
16								
17								
18								
19								
20								

Below the table, the status line shows: Define Formats: (I,G,E,\$,R,L,TR,TL,*,D,column width)
18>/Format, Global,12
v B11

DETERMINING COLUMN WIDTH (Cont.)

Of course, no matter how far you have gone in specifying a command, range, or option, you can always use **CTRL/Z** to cancel everything you started to enter. Simultaneously pressing the **CTRL** key and "Z" will return you to the original prompt. You can use this technique, for example, if you start to enter data on the entry line and then notice that the Active Block is not positioned where you want it.

- Now return to the display mode that displays block values rather than formulas. (**/G, F**).

THE SAVE COMMAND

You can save what you have done in this lesson for later use with the **/S** command (SAVE). If you choose the "A(11)" option, this command copies the entire worksheet and stores it on a diskette located on the drive (A or B) you specify.

Exercise:

- Enter **/S**. The prompt requests, "Enter File name." You can respond in several ways:

- If you wish to save it on the disk on the system drive (the same disk that has the PeachCalc program), enter **WORK1** and press RETURN.
- Or you can specify the drive to use by entering either: **A:WORK1, RETURN** or **B:WORK1, RETURN**.

The program will not accept file names containing blank spaces, such as **TOM 1**. If you have more than two disk drives, you can specify **C:WORK1** or **D:WORK1**, etc. If you are unsure what is meant by "system drive", review that material in "Getting Started".

	A	B	C	D	E	F
Dept.		Branch				
2	5					
3	6					
4	3.9					
5	11					
6						
7						
8	6	7				
9	5	8				
10	36.9	9				
11	<	>				
12						
13						
14						
15						
16						
17						
18						
19						
20						
v B11						

Enter File Name (or <RETURN> for directory)
7 >/Save,

THE SAVE COMMAND (Cont.)

2. After the file name, the prompt line inquires further, "A(11), V(alues), or P(art)?" Since you want to save both formulas and values, enter A, for all. The disk drive unit will whir and click for a few moments.
3. You will use this file to "load" your work back into the system in Lesson Four, so keep the disk handy. Now type /Q and exit from PeachCalc. All your work "disappears." It is irretrievable unless you have specifically saved it with the SAVE command before exiting.

Dept.	A	B	C	D	E	F
2	5					
3	6					
4	3.9					
5	11					
6						
7						
8	6		7			
9	5		8			
10	36.9		9			
11	<		>			
12						
13						
14						
15						
16						
17						
18						
19						
20						
v B11						
	A(11), V(alues), or P(art)?					
13>	/Save,WORK1,A					

REVIEW

What have you learned in this lesson? You know how to:

- Blank the contents of a block or group of blocks by using the /B command
- Protect and unprotect blocks, using the /P and /U commands, and what protection does for a block.
- Use the arithmetic expressions, "*" to multiply and "/" to divide.
- Enter numerical expressions and formulas for which PeachCalc will calculate and display the results, and continue to recalculate as necessary.
- Use the global option command, /G, to display formulas or their calculated values on the worksheet display.
- Use the FORMAT command, /F, to change column display width.
- Use the backspace (left arrow) key to return to an earlier step in a command sequence.
- Create a file and SAVE your work by using the /S command.

LESSON FOUR

Copy and Repeat

Lesson Three began to show you the power of PeachCalc, particularly its ability to recalculate automatically all values that depend upon the values in other blocks. In this lesson, you will learn even more about its versatility. You will learn to use the LOAD command (/L), COPY command (/C), REPEAT command (/R), and the current-block key (ESC). The /C, /R, and ESC commands are basically time-saving commands.

THE LOAD COMMAND

You are going to use the same worksheet you began to develop in Lesson Three. Retrieve the file you created at the end of that lesson. You will use the LOAD command, /L, to do this. (If the file is not on the disk that has PeachCalc, be sure to insert the disk with the file into your other disk drive.)

Exercise:

1. Type /L. The answer to the prompt "Enter File name" depends on where you stored the file. If it is on the same disk as PeachCalc, it is on the system drive, so enter WORK1 and press RETURN. (If the file is not on the system drive, you should designate the appropriate drive by entering A:WORK1 or B:WORK1, etc., before pressing RETURN.)

The disk drive will respond with some clicking, and the prompt line will change to read, "A(11) or P(art)?"

2. Type A, for "all", and the worksheet saved from your last effort will be copied from the disk and appear on the screen.

The screenshot shows a PeachCalc session window. At the top, there is a menu bar with options like File, Edit, View, Insert, Format, Tools, and Help. Below the menu is a toolbar with icons for various functions. The main area is a grid with columns labeled A through H and rows numbered 1 through 20. Row 1 contains the formula $=B1+C1$. Row 2 contains the formula $=B2+C2$. Rows 3 through 20 are empty. In the bottom left corner of the main area, there is a status message: "Enter File Name (or <RETURN> for directory)". Below this message, the command `12 >/Load,WORK1` is entered. The entire window is enclosed in a rounded rectangular border.

THE COPY COMMAND

Let's investigate another command, COPY (/C). The COPY command is easy to use. You can copy a single block, a partial row or partial column, or a group of blocks.

In this first example, you will COPY the data in column A into column C.

Exercise:

1. Enter /C. The prompt line says, "From? (Enter Range)."
2. In response, enter A1:A10, (RETURN). This time the prompt asks, "To? (Enter Range), then Return; or ;," for Options." We just want a "standard" COPY this time — we will look at "options" later. So enter C1 and press RETURN.
3. Now use the COPY command to copy the contents of block A10 to B10.
4. Change the display to show formulas and look at the contents of B10 and column C. The formulas have all been translated automatically in relation to the column. All block references have changed to reflect the new location of the formulas. If you had moved to a new row, as well as a new column, row designations would also have been adjusted.

Generally, this automatic adjustment is exactly what you want, but there are other options available. For instance, you can specify that there be no adjustment, or you can tell PeachCalc to ask whether each occurrence of a block reference should be adjusted or left alone. You will try this later in this lesson.

	A	B	C	D	E	F
1	Dept.	Branch				
2	5					
3	6					
4		3.9				
5	11					
6						
7						
8	6			7		
9		5		8		
10		36.9		9		
11		<		>		
12						
13						
14						
15						
16						
17						
18						
19						
20						
v B11						
To? (Enter Block), then Return; or ;," for Options						
16 >/Copy,A1:A10,C1						

	A	B	C	D	E	F
1	Dept.	Branch	Dept.			
2	5		5			
3	1+A2		1+C2			
4	A3^65		C3^65			
5	11		11			
6						
7						
8	6	7	6			
9	5	8	5			
10	SUM(A2:A9)	SUM(B2:B9)	SUM(C2:C9)			
11		<	>			
12						
13						
14						
15						
16						
17						
18						
19						
20						
v B11						
Width: 12 Memory:28 Last Col/Row:C10 ? for HELP						
1>						

THE COPY COMMAND (Cont.)

The COPY command makes a one-to-one copy of its source material into a destination of the same type of size - block to block, row to row, or column to column. But suppose you want to repeat a series of values and formulas many times, perhaps to compare alternative cases?

THE REPEAT COMMAND

You can use another very powerful command, REPEAT (/R), to do that. It will make a "one-to-many" copy of a block, a partial row, or a partial column and will distribute these copies over a range that is larger than the source range. Let's REPEAT a single block, A10.

Exercise:

1. Type /R. For "From", enter A10, (RETURN). For "To?", enter the range D10 through F10 by typing, D10:F10 and RETURN. Look at what happens...
2. Try REPEATING the partial column A3 through A4 into D3 through F3. These columns, D through F, now have data in rows 3, 4, and 10.
3. Fill up these columns by entering some data (whatever you want) in rows 2 and 5 through 9.

The REPEAT command has the same formula adjustment options as the COPY command. Try one now:

4. Type into block A12, the formula A2 + A2.
5. Now type /Repeat, A12, B12:F12. After you type "F12", enter an additional "," to get the options. They will be displayed on the prompt line: "N(o Adjustment), A(sk for Adjust.), V(alues)."
6. Enter A. The prompt changes to say, "Source location A12. Adjust A2?" and the first A2 is highlighted on the entry line.

	A	B	C	D	E	F
1	Dept.	Branch	Dept			
2	5	1	8			
3	1+A2	2	1+C2	1+D2	1+E2	1+F2
4	A3*.65	3	C3*.65	D3*.65	E3*.65	F3*.65
5	11	4	11			
6	4	5	4			
7	9	6	9			
8	6	7	6			
9	7	8	7			
10	SUM(A2:A9)	SUM(B2:B9)	SUM(C2:C9)	SUM(D2:D9)	SUM(E2:E9)	SUM(F2:F9)
11					<	>
12						
13						
14						
15						
16						
17						
18						
19						
20						
	v F11					

Width: 12 Memory:27 Last Col/Row:F12 ? for HELP
1>

THE REPEAT COMMAND (Cont.)

7. Type **N**, for no adjustment. Now the second reference to A2 is highlighted on the entry line. Respond with **Y**. You see that the first part of the formula remained unchanged while the second was adjusted according to your responses. In this way, you can tell one component of a block to be constant, while other components are adjusted relative to their new location. If you enter **Y** in response to both prompts, both components are adjusted relative to their location.
8. Repeat block A1, to D1 through F1. Then use **/E** to EDIT the contents of C1 through F1 so they will be DEPT-1, DEPT-2, and so forth.

NOTE: The sub-commands N(o Adjust), A(sk for Adjust), and V(alue) do not work with Text entries.

SAVING YOUR WORK

It's very important to save the work you have completed up to this point because you will use it again in Lesson Five.

Exercise:

If you want to save it on the same disk as PeachCalc, enter **/S**, then **WORK1**, RETURN; otherwise, specify the drive that has your destination disk. (If you want to jog your memory about the SAVE command, try **HELP (?)**. Or you could look back at Lesson Three or at the Reference Guide.)

To help protect your work, the PeachCalc program checks to see if you already have a file with the same name on your destination disk. If you do, the PeachCalc program asks you, "OK to overwrite?" If you no longer need the original version, then reply with "Y". Otherwise, rename the new file you want to save. (In this case, you can overwrite because you won't need the old "WORK1" file created in lesson 3. The worksheet developed in this lesson is the one you will use later.)

	A	B	C	D	E	F
1	Dept.	Branch	Dept-1	Dept-2	Dept-3	Dept-4
2	5	1	8	3	4	5
3	1+A2	2	1+C2	1+D2	1+E2	1+F2
4	A3*.65	3	C3*.65	D3*.65	E3*.65	F3*.65
5	11	4	11	6	7	8
6	4	5	4	10	11	12
7	9	6	9	13	14	15
8	6	7	6	1	2	3
9	7	8	7	4	5	6
10	SUM(A2:A9)	SUM(B2:B9)	SUM(C2:C9)	SUM(D2:D9)	SUM(E2:E9)	SUM(F2:F9)
11						
12	A2+A2	A2+B2	A2+C2	A2+D2	A2+E2	<A2+F2 >
13						
14						
15						
16						
17						
18						
19						
20		Form=A2+F2				
		v F12				
		Width: 12	Memory:27	Last Col/Row:F12	? for HELP	
		1>				

PRACTICING WHAT YOU HAVE LEARNED

Exercise:

Try repeating a row, or rows, or a block. If an application of your own comes to mind, begin an example on the screen. If you want to save this first effort of your own, be sure to use a different name — for example, TRIAL or MYTRY.

(Safety tip: It is a good idea to choose a name different from WORK1, so there is less chance of overwriting the material you will need on this tutorial.

"WORK2", for example, is so close that it might cause you some confusion.)

By now you have probably realized that PeachCalc offers you a great many command options. This makes it a tremendously powerful and versatile tool. We will not discuss all the options in this tutorial section. Instead, we encourage you to investigate them on your own. You should find it easy to make the best possible use of the PeachCalc program by combining what you learn here with information available in the reference section of this guide and through the HELP function, (?), built into the PeachCalc program itself.

THE CURRENT-BLOCK KEY: ESCAPE KEY

This is a good time to become acquainted with the "current-block" key. It can boost the efficiency of certain kinds of data manipulation which use the COPY and REPEAT commands. The ESC key serves as the current-block key.

Whenever a block or range is required by the PeachCalc program, the Active Block will be placed on the entry line when you press the ESC key.

Let's set up an example and learn how to use this feature. Start with a fresh screen. After you have saved any work you want for later, use the ZAP command.

Exercise:

1. Enter 123 into A1. Use the REPEAT command to fill every block on the visible screen with "123". Can you do this? Try it before looking ahead. Here is how your entries should have looked:

THE CURRENT-BLOCK KEY (Cont.)

First, enter /Repeat,A1, B1:H1.
Then /Repeat, A1:H1, A2:A20.
Or /R, A1,A2:A20.
Then /R, B1:H1.

Now you should have "123" every-
where for the purposes of this
example.

2. Enter /B, for BLANK. Peach-Calc now wants you to specify a block or a range to be blanked. Let's start with a single block.
3. Press the **ESC** key. The address of the Active Block will appear on the entry line. Use the arrow keys to move the worksheet cursor to another location — for example, C11. Notice the Active Block address on the entry line changes as you go.
4. Now press **RETURN**. Watch carefully. Notice that the latest Active Block was blanked, and that the Active Block location has returned to its original place. Again, enter /Blank, and press **ESC**.
5. Use the arrow keys to make block C16 the Active Block. The entry line now reads /Blank, C16.
6. You will use this to begin a range specification. Just enter ":". The line now reads /Blank, C16:C16. Now move the worksheet cursor to block H16. Notice that the second address of the range is incremented as we go. Press **RETURN**. The blocks in the range C16 through H16 have been blanked.

	A	B	C	D	E	F	G	H
1	123	123	123	123	123	123	123	123
2	123	123	123	123	123	123	123	123
3	123	123	123	123	123	123	123	123
4	123	123	123					
5	123	123	123					
6	123	123	123					
7	123	123	123					
8	123	123	123					
9	123	123	123					
10	123	123	123					
11	123	123						
12	123	123	123					
13	123	123	123					
14	123	123	123					
15	123	123	123	123	123	123	123	< >
16	123	123						
17	123	123	123	123	123	123	123	123
18	123	123	123	123	123	123	123	123
19	123	123	123	123	123	123	123	123
20	123	123	123	123	123	123	123	123

This is what happened. Once you have set the **ESC** function, the arrow keys will move the worksheet cursor and set the block location on the entry line. A colon ":" will generate a limiting location (end point) for a range specification. Pressing **ESC** or **RETURN** will terminate the **ESC** function and allow the arrow keys to be used for editing. The **ESC** movement of the Active Block is only temporary; when you terminate the **ESC** function, the Active Block returns to its starting place.

THE CURRENT-BLOCK KEY (Cont.)

Here is another sample:

Exercise:

Enter /Blank. Press ESC.
Move the worksheet cursor to
D4, press ":" and move again
to H14, press RETURN. You have
blanked blocks from D4 to H14.

By using the ESC key and placing the Active Block at the appropriate points, you can let PeachCalc define your statements. At first, this may seem a little difficult, but with some practice you will begin to find it very useful. This feature allows you to modify a screen simply by pointing with the Active Block to the boundary of the range of blocks you wish to blank without having to blank each block individually.

USING WHAT YOU HAVE LEARNED

Here are some examples you can try using REPEAT and ESC.

Exercises:

1. Enter in E5, aac. Enter /Repeat. Press ESC, place the Active Block at E5, then press "," or RETURN. Now press ESC again for the "To?" portion of the entry. Move the Active Block to E6, enter ":"; and move the Active Block to E13; then press RETURN.
2. One more example. /Repeat, ESC, move the Active Block to E5, enter ":"; move to E13, press RETURN. Press ESC, move to G7, enter ":"; move to J7, press RETURN.

The ESC key allows you to identify blocks either by contents or location on the worksheet, and to perform operations on them without concerning yourself with their block address. The ESC function can be used any time you have information on the entry line. You can use it in commands or with data. For example, you can use it to provide block locations in formulas.

There is no need to save any of this work. At this point, you may QUIT or continue on to Lesson Five.

REVIEW

What have you learned in this lesson? You know:

- How to use the LOAD command, (/L), to bring a worksheet into the PeachCalc program from a disk file.
- How to use the COPY command, (/C).
- That the PeachCalc program will adjust formulas automatically when data is moved to new locations — or that the program will let you specify whether to leave part or all of a formula unchanged.
- How to use the REPEAT command, (/R), to make a "one-to-many" copy of a block, a partial row, or a partial column and to distribute the copies over a range.
- That you can use the ESC key to bring the Active Block location to the entry line and can then change the location by using the arrow keys to move the worksheet cursor. You have also learned the special use of ":" with the ESC function.

LESSON FIVE

Move, Insert, Delete

You have learned to use the GOTO command, the ESC key, and many important "/" commands. You can SAVE and LOAD your worksheet. Now we are going to introduce some new commands and techniques that help simplify the building of complex worksheet displays.

If you are continuing directly from Lesson Four, use the ZAP command so you can begin with an empty worksheet. Otherwise, start up the PeachCalc program.

THE MOVE COMMAND

You will continue to work with the worksheet you saved in Lesson Four. Suppose Column B, labeled "Branch", really belongs to the right of "Dept-4", at Column F. With what you know already, you could use COPY to "move" it there and then use BLANK to erase Column B. But there is a better way.

Exercise:

1. Use /L to LOAD the file WORK1. (You can use ? for HELP or check back to Lesson Four if you want a refresher on how to use LOAD.)
2. Type /M for MOVE. The prompt reads, "R(ow) or C(olumn)?"
3. Type C, and the prompt changes to "Enter column letter."
4. You want to move Column B, so enter B and press RETURN. The new prompt, "To?", asks where you want to put the material. Type F, for Column F.

But isn't Column F already occupied?

5. Press RETURN and see what happens.

	A	B	C	D	E	F
1	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	Branch
2	5	8	3	4	5	1
3	1+A2	1+B2	1+C2	1+D2	1+E2	2
4	A3*.65	B3*.65	C3*.65	D3*.65	E3*.65	3
5	11	11	6	7	8	4
6	4	4	10	11	12	5
7	9	9	13	14	15	6
8	6	6	1	2	3	7
9	7	7	4	5	6	8
10	SUM(A2:A9)	SUM(B2:B9)	SUM(C2:C9)	SUM(D2:D9)	SUM(E2:E9)	SUM(F2:F9)
11						
12	A2+A2	A2+B2	A2+C2	A2+D2	A2+E2	<A2+F2 >
13						
14						
15						
16						
17						
18						
19						
20						

v F12 Form=A2+F2
Width: 12 Memory:27 Last Col/Row:F12 ? for HELP
1 >

THE MOVE COMMAND (Cont.)

The column has moved and the formulas have been adjusted. The gap which you might have expected Row C to leave behind has been filled. PeachCalc moved your entries for former columns C through F one column to the left, in effect, vacating Column F and making it available to you. The program has neatly moved all the columns and adjusted all the formulas to reflect the new locations.

THE INSERT AND DELETE COMMANDS

There are two other complementary commands that can create or delete intermediate columns and rows — /I (INSERT) and /D (DELETE).

Let's insert a new row between rows 9 and 10.

Exercise:

1. Type /I, followed by R for row. Respond to the next prompt by typing 10, and a "new" row appears.

Look at the formulas in row 11; they are unchanged. PeachCalc has no way of knowing if you want to include the new row in the SUM equations — you would have to change them yourself.

Note first the range you have specified in the SUM formulas.

2. Now let's insert another row at 7. /Insert, Row 7.

Look at the SUM formulas in row 12. They have been adjusted automatically from A2:A9 to A2:A10, because the row you just inserted fell within the range you had described.

3. Now type /D and R (for row). For row number, enter 14 and press RETURN. Row 14 is deleted. If you delete row 7, will the SUM formulas be adjusted back to A2:A9? Try it and see.

	A	B	C	D	E	F
1	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	Branch
2	5	8	3	4	5	1
3	1+A2	1+B2	1+C2	1+D2	1+E2	2
4	A3*.65	B3*.65	C3*.65	D3*.65	E3*.65	3
5	11	11	6	7	8	4
6	4	4	10	11	12	5
7	9	9	13	14	15	6
8	6	6	1	2	3	7
9	7	7	4	5	6	8
10						
11	SUM(A2:A9)	SUM(B2:B9)	SUM(C2:C9)	SUM(D2:D9)	SUM(E2:E9)	SUM(F2:F9)
12					< >	
13	A2+A2	A2+B2	A2+C2	A2+D2	A2+E2	A2+F2
14						
15						
16						
17						
18						
19						
20						
v	F12					

Width: 12 Memory:27 Last Col/Row:F13 ? for HELP

1>

	A	B	C	D	E	F
1	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	Branch
2	5	8	3	4	5	1
3	1+A2	1+B2	1+C2	1+D2	1+E2	2
4	A3*.65	B3*.65	C3*.65	D3*.65	E3*.65	3
5	11	11	6	7	8	4
6	4	4	10	11	12	5
7						
8	9	9	13	14	15	6
9	6	6	1	2	3	7
10	7	7	4	5	6	8
11						
12	SUM(A2:A10)	SUM(B2:B10)	SUM(C2:C10)	SUM(D2:D10)	SUM(E2:D10)<SUM(F2:F10)>	
13						
14	A2+A2	A2+B2	A2+C2	A2+D2	A2+E2	A2+F2
15						
16						
17						
18						
19						
20						
v	F12					

Form=SUM(F2:F10)

Width: 12 Memory:27 Last Col/Row:F14 ? for HELP

1>

INSERT AND DELETE (Cont.)

4. Delete a column, and try an experiment as well to find out what happens to a value that depends on one you delete. Enter into block E9 the equation F2. E9 will contain whatever value F2 contains. Change the display to show block value.
5. Now type /Delete, Column, F, and press RETURN. The column entitled Branch has been deleted. E9 displays "ERROR". PeachCalc has no value to use in calculating the value of E9, and warns you of that with this message. Once a block is in error, any reference to it will display a similar error message. As you see, the SUM value also indicates ERROR.

If block E9 should, in fact, have "F2" in it, you could simply type that formula again, and everything would be set right. Now put a number or F2 into E9, whichever you wish. Notice that the error display in the SUM value also goes away. It is replaced by the recalculated value.

6. If you delete row 10, will this affect the range specification for the SUM formulas in row 10? No, because row 10 is beyond the range. Delete row 10.
7. What will happen if you delete row 9? Try it. See, it produced an ERROR in the SUM formula.

	A	B	C	D	E	F
1	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	
2		5	8	3	4	5
3		6	9	4	5	6
4		3.9	5.85	2.6	3.25	3.9
5		11	11	6	7	8
6		4	4	10	11	12
7		9	9	13	14	15
8		6	6	1	2	3
9		7	7	4	5ERROR	
10		51.9	59.85	43.6	51.25ERROR	< >
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
v E10						

Width: 12 Memory:27 Last Col/Row:E12 ? for HELP
1>

	A	B	C	D	E	F
1	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	
2		5	8	3	4	5
3		6	9	4	5	6
4		3.9	5.85	2.6	3.25	3.9
5		11	11	6	7	8
6		4	4	10	11	12
7		9	9	13	14	15
8		6	6	1	2	3
9	ERROR	ERROR	ERROR	ERROR	ERROR	
10						< >
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
v E10						

Width: 12 Memory:27 Last Col/Row:E10 ? for HELP
1>

INSERT AND DELETE (Cont.)

The general rule is not to delete either of the boundaries specified in a range like the one in this example, which was "SUM(A2:A9)". Deleting either A2 or A9 will cause an ERROR condition because PeachCalc cannot guess your exact intentions. These warnings help you avoid inadvertently leaving references to non-existent blocks after a DELETE command. Change the display to show formulas.

8. Use the BLANK command to blank out the blocks from A7 to E9. Now re-enter **SUM(A2:A6)** in A7, and then use REPEAT to place it in blocks B7 through E7.
9. Use the /I, the INSERT command, to create a new column at A for labels.
10. Now enter **Variable A** in block A2, **Formula 1** and **Formula 2** in A3 and A4, respectively. Enter **Variable B** and **Variable C** in A5 and A6, and **Total** in A7.
11. At this point, use /S to save your work. This time, call it "LESSON5." It will be used later.

A screenshot of the PeachCalc software interface. The window shows a table with columns labeled A through F. Row 1 contains labels for columns B through F. Rows 2 through 6 contain data and formulas. Row 7 contains totals. Row 8 is a command line with '<' and '>'. Rows 9 through 20 are empty. The status bar at the bottom right shows: Width: 12 Memory:27 Last Col/Row:F10 ? for HELP 1>

	A	B	C	D	E	F
1		Dept.	Dept-1	Dept-2	Dept-3	Dept-4
2	Variable A	5	8	3	4	5
3	Formula 1	1+B2	1+C2	1+D2	1+E2	1+F2
4	Formula 2	B3*.65	C3*.65	D3*.65	E3*.65	F3*.65
5	Variable B	11	11	6	7	8
6	Variable C	4	4	10	11	12
7	Total	SUM(B2:B6)	SUM(C2:C6)	SUM(D2:D6)	SUM(E2:E6)	SUM(F2:F6)
8 <		>				
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
v A8						

TITLES AND LEDGER LINES

Now that you have saved that worksheet, let's try something new. You should start with a fresh worksheet, so use the ZAP command. As you have seen, doing insertions and deletions at the boundaries of specified ranges creates problems. But because you will often want to add or delete from lists — including, naturally, the beginning or end of the list — here is a suggestion for doing so properly.

Exercise:

1. At B1, type **TITLE**. From B2 through B4, enter some numbers. At B5, type "—". At B6, enter **SUM(B1:B5)**. Notice that the range specification includes the title line and the ledger line (—). This is alright, because in a mathematical sense, "text" has a value of zero.

2. Now you may **INSERT** or **DELETE** at will. Type **/Insert, Row, 5**, and add a new number. Now **DELETE** row 2. You are now able to add or remove entries without concerning yourself about the top and bottom of the column.

Here is an easy way to put lines of repeating characters like the "—" you entered in block B5. PeachCalc has a function to repeat text.

3. Go back to block B5, enter **'-**, and press RETURN. The single quote ('') causes the display of **"-"** to be repeated to fill the block display, and to continue displaying to the right until it meets an occupied block. Not bad for three keystrokes. Take a look at the contents of block B5. As you see, they contain what you typed in.
4. Experiment with this one a bit. Find some open space and try:

'123 and press RETURN.
'abcd and press RETURN.
'* and press RETURN.
'* and press RETURN.
And so on. Try your name...

	A	B	C	D	E	F	G	H
1	Title							
2		3						
3		4						
4		5						
5								
6		SUM(B1:B5)						
7		< >						
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
	v B7							

"NOT AVAILABLE" FLAGS

Sometimes you may be working on a complex worksheet containing many values which are functions of other values. Because your data may be incomplete, you could mistakenly view some totals or values as significant when in fact they are not yet complete.

Here is what you can do in such cases:

Exercise:

Using the example you started above, type **NA** into block B3. This tells PeachCalc that you intend to put a value here at some future time so the value of the block should be considered as "Not Available" rather than zero. As soon as you enter **NA**, block B6 is also flagged as NA.

NA and ERROR behave identically; the difference is the display: "NA" or "ERROR". By using NA, you inform yourself of the consequences of any incompleteness or oversights.

You may either QUIT here or continue on to Lesson Six.

	A	B	C	D	E	F	G	H
1		Title						
2		4						
3		NA						
4		7						
5								
6		NA						
7		< >						
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Width: 9 Memory:28 Last Col/Row:B7 ? for HELP
1>

REVIEW

What have you learned in this lesson? You know:

- How to use the MOVE, INSERT, DELETE commands. (**/M, /I, /D**).
- That those commands automatically adjust your formulas to fit the new worksheet.
- That if you delete blocks which are referred to by formulas elsewhere, you get error messages. You learned how to fix that error.
- How to use "" to repeat the display of one or more characters.
- How to use **NA** to make sure that you do not forget to enter important information.

LESSON SIX

Format

You have already learned most of the basic skills needed to use PeachCalc. You may remember that when you learned the FORMAT command, /F, in Lesson Three, you used it to change the display width of all the worksheet, but the prompt line indicated that there were other options available to you with this command. In this lesson, we want to examine these options more closely.

You will use the worksheet that you have been developing in previous lessons. It is the one you saved under the name "LESSON5" in the last lesson. If you are continuing directly on from Lesson 5, use /Z now, so that you will have a fresh start. Otherwise, bring up the PeachCalc program.

Now LOAD the file, LESSON5.

INTEGER FORMAT

Look at your worksheet. Is it displaying formulas? You will want to look at block values, not formulas, in this example. Use the GLOBAL options command, /G, if you need to change to a values display.

Exercise:

1. Look at column B. If it does not contain a decimal fraction (for example, 6.4), enter one.
2. Type /F, and note the prompt line: "G(lobal), Column), R(ow) or E(ntry)." This means you can specify whether the format change will affect all blocks, a column only, a row only, a block, or a range of blocks.
3. Enter C for column. The prompt line now asks what column you want to change. Enter the column letter, in this case, B. Press RETURN.

Now the prompt gives you several "Define Formats: (I, G, E, \$, R, L, TR, TL, *, D, column width)."

	A	B	C	D	E	F
	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	
1						
2	Variable A	5	8	3	4	5
3	Formula 1	6	9	4	5	6
4	Formula 2	3.9	5.85	2.6	3.25	3.9
5	Variable B	11	11	6	7	8
6	Variable C	4	4	10	11	12
7	Total	29.9	37.85	25.6	30.25	34.9
8	< >					
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
	V A8					
	Width: 12	Memory: 28	Last Col/Row:F7	? for HELP		
	1 >					

INTEGER FORMAT (Cont.)

4. Enter **I**, for INTEGER format. Press RETURN. Look at the entries on the display and see what happened to the value in column B — and to any other decimal fractions you might have had on your worksheet. Only the integer portion of the value is displayed. Integer format will round values to the nearest whole number.

Until now, you have only used PeachCalc's standard or "default" display format — the GENERAL format — to display numbers. You have seen that with general format, numbers too large to display in ordinary notation are converted to scientific or exponential notation. In INTEGER format, numbers too large to display will appear as a series of >>>'s at the block location. (In fact, whatever the format, >>>'s will be displayed whenever a number cannot be shown. PeachCalc will round off as necessary, even if it can only display one significant digit, the E, and the exponent.)

5. Enter 123456789 in block B5.
 6. Now reduce the display width to 8. Do you remember how? /F, G, 8. Notice the >>>. Now change the column width back to 12.
 7. Again, enter /Format, Column, B, RETURN. This time specify G, for GENERAL format. Notice that the decimal fractions have been restored.

	A	B	C	D	E	F
	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	
1-						
2 Variable A		5	8	3	4	5
3 Formula 1		6	9	4	5	6
4 Formula 2		4	5.85	2.6	3.25	3.9
5 Variable B		11	11	6	7	8
6 Variable C		4	4	10	11	12
7 Total		30	37.85	25.6	30.25	34.9
8 < >						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
v A8						

Width: 12 Memory:27 Last Col/Row:F7 ? for HELP
1>

	A	B	C	D	E	F	G	H	I
	Dept.	Dept-1	Dept-2	Dept-3	Dept-4				
1 -									
2 Variable		5	8	3	4	5			
3 Formula		6	9	4	5	6			
4 Formula		4	5.85	2.6	3.25	3.9			
5 Variable	>>>>>		11	6	7	8			
6 Variable		4	4	10	11	12			
7 Total	>>>>>		37.85	25.6	30.25	34.9			
8 < >									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
v B8									

Width: 8 Memory:27 Last Col/Row:F7 ? for HELP
1>

EXPONENTIAL NOTATION

Exercise:

1. For scientific or exponential notation, enter /Format, Column, B, (RETURN), Exponent, (RETURN). This format displays numbers as a power of 10. For example, 1776 is 1.776E3, or 1.776×10^3 ; 1,000,000 is 1.0E6, or 1.0×10^6 .
2. Look at your worksheet. As you can see, PeachCalc converted all the data to this format. If it does not look familiar, you may wish to experiment.
3. Enter some ordinary numbers in column B and watch how they are displayed.

	A	B	C	D	E	F
1		Dept.	Dept-1	Dept-2	Dept-3	Dept-4
2	Variable A	5e0	8	3	4	5
3	Formula 1	6e0	9	4	5	6
4	Formula 2	3.9e0	5.85	2.6	3.25	3.9
5	Variable B	1.23456789e8	11	6	7	8
6	Variable C	4e0	4	10	11	12
7	Total	2.99e1	37.85	25.6	30.25	34.9
8		< >				
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
v B8						

Width: 12 Memory:27 Last Col/Row:F7 ? for HELP
1>

\$ FORMAT

The dollar (\$) format option may be more familiar to you.

Exercise:

Enter /Format, Global, \$, (RETURN). The dollars and cents format is displayed. Numbers are rounded to the nearest cent. (PeachCalc adds the ".00" to whole numbers, but does not insert a "\$".)

	A	B	C	D	E	F
1	7	Dept.	Dept-1	Dept-2	Dept-3	Dept-4
2	Variable A	5e0	8.00	3.00	4.00	5.00
3	Formula 1	6e0	9.00	4.00	5.00	6.00
4	Formula 2	3.9e0	5.85	2.60	3.25	3.90
5	Variable B	1.23456789e8	11.00	6.00	7.00	8.00
6	Variable C	4e0	4.00	10.00	11.00	12.00
7	Total	2.99e1	37.85	25.60	30.25	34.90
8		< >				
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
v B8						

Width: 12 Memory:27 Last Col/Row:F7 ? for HELP
1>

INDIVIDUAL AND GLOBAL FORMAT CHANGES

Let's change the format for a single block.

Exercise:

1. Move the worksheet cursor to C6, making that the Active Block.
2. Enter /Format, Entry. Notice that the prompt line reads, "Enter range". You could specify a range of blocks — that is, a partial row or a partial column — at this point. Or you could specify a single block.
3. Let's change the format of C6, the Active Block. Of course, you could type "C6" on the entry line. Instead, press "," or RETURN and see what happens.

PeachCalc automatically added C6, the Active Block, to the entry line.

4. Now enter E for Exponent and press RETURN. Note the change on the worksheet.

Now, suppose you wished to convert the entire display back to the "general" format. Could you make a "global" change? Try it.

5. Enter /Format, Global, General (RETURN).

Everything has changed except those blocks where you have been changing formats. Why? PeachCalc will change all the formats when "Global" is indicated — except those that you have named by the Column, Row, or Entry options. It leaves these untouched, because you set them individually.

The screenshot shows a software window titled "PeachCalc". Inside, there is a table with data and a command line at the bottom.

	A	B	C	D	E	F
	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	
2	Variable A	5e0	8	3	4	5
3	Formula 1	8e0	9	4	5	6
4	Formula 2	3.9e0	5.85	2.6	3.25	3.9
5	Variable B	1.2345679e8	11	6	7	8
6	Variable C	4e0	4e0	10	11	12
7	Total	2.99e1	37.85	25.6	30.25	34.9

Below the table, the command line shows:

```
Width: 12 Memory:27 Last Col/Row:F7 ? for HELP  
1 >
```

FORMAT CHANGES (Cont.)

What can you do so that "global" changes will include any column, row, or block that was formatted individually? Column B, for example? If you said it would be necessary to "undo" the individual format, you were right.

- Position the Active Block to column B. Enter /Format, Column, (RETURN). Now enter D, for default, and press RETURN. Notice that column B has changed to GENERAL format.

When a FORMAT setting that refers to a column or row is defaulted, it changes back to whatever format operates on the next level. An entry level format, entered as a block or a range of blocks, is the "highest" level. The next levels, in order, are row, column, and finally the global formats. In this case, the column defaulted to the existing global format because there was no intervening row format.

- See if you can "default" the format on C6.

	A	B	C	D	E	F
1		Dept.	Dept-1	Dept-2	Dept-3	Dept-4
2	Variable A	5	8	3	4	5
3	Formula 1	6	9	4	5	6
4	Formula 2	3.9	5.85	2.6	3.25	3.9
5	Variable B	123456789	11	6	7	8
6	Variable C	4	4e0	10	11	12
7	Total	29.9	37.85	25.6	30.25	34.9
8		< >				
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

>B8
Width: 12 Memory:27 Last Col/Row:F7 ? for HELP
1>

DISPLAY FORMAT: RIGHT AND LEFT JUSTIFICATION

Exercise:

- Enter /Format, Row, 1, RETURN. You will see these options ("...R, L, TR, TL...") on the prompt line. They let us change the setting to left or right justification. Standard or "default" values are left-justified text and right-justified numbers. Let's shift the text on row 1 so that all text entries are right justified. TR stands for "Text Right".

	A	B	C	D	E	F
1		Dept.	Dept-1	Dept-2	Dept-3	Dept-4
2	Variable A	5	8	3	4	5
3	Formula 1	6	9	4	5	6
4	Formula 2	3.9	5.85	2.6	3.25	3.9
5	Variable B	123456789	11	6	7	8
6	Variable C	4	4e0	10	11	12
7	Total	29.9	37.85	25.6	30.25	34.9
8		< >				
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

>B8
Width: 12 Memory:27 Last Col/Row:F7 ? for HELP
1>

JUSTIFICATION (Cont.)

Now that you have done that, try another one.

2. Enter /Format, Global, L, RETURN. All numbers will now be justified to the left.

Format entries may be entered in combination; for example, /F, G, R, \$. Try this one, and you will see the numbers right-justified in dollars and cents format.

	A	B	C	D	E	F
1		Dept.	Dept-1	Dept-2	Dept-3	Dept-4
2	Variable A	5.00	8.00	3.00	4.00	5.00
3	Formula 1	6.00	9.00	4.00	5.00	6.00
4	Formula 2	3.90	5.85	2.60	3.25	3.90
5	Variable B >>>>>>		11.00	6.00	7.00	8.00
6	Variable C	4.00	4e0	10.00	11.00	12.00
7	Total	29.90	37.85	25.60	30.25	34.90
8		<	>			
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
>B8						

Width: 12 Memory:27 Last Col/Row:F7 ? for HELP
1>

GRAPHIC DISPLAY

There is one more FORMAT option to try - "graphic" display.

1. Place the Active Block at C2. Enter =, RETURN to put C2 at the upper left of the screen. Enter /Format, Global. Enter * to specify graphic format. You will also need some display space, so enter 75 as the column width. Press RETURN.

If your values in column C are less than 75, you will see them represented by bar graphs composed of asterisks. Values greater than 75 will fill the column and the screen width; you cannot tell if they are 75 or larger. But it is possible to make the column display wider than the screen. The screen is 75 characters wide. You can use a column width up to 126. Then you can scroll back and forth to see the whole line. You might like to try doing this with column C.

2. Try putting values between 75 and 126 into the column and scrolling to see their display.

	C	
2 <.....		>
3 		
4 		
5 		
6 		
7 *		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
<C2Form=8		
Width: 75 Memory:27 Last Col/Row:F7 ? for HELP		
1>		

GRAPHIC DISPLAY (Cont.)

This was a very brief look at the GRAPHIC FORMAT option. In practice, you will want to make the graphic display fit within a column width of convenient size and still give a comparison of values. In Lesson Eight, you will find out how to do this by "scaling" the values in order to fit them within the column.

There is no need to save your work from this lesson, but remember you will use the file LESSON5 again, so do not overwrite it.

Now you may either QUIT or continue on to Lesson Seven.

REVIEW

What have you learned in this lesson? You know:

- That formats can be entered globally, by column, row or block (including a range of blocks).
- The Integer, General, Exponential, and \$ formats of display.
- How to change individual column widths.
- How to default formats.
- How to alter justification for text or numbers.
- How to transform numerical values into graphic display.

LESSON SEVEN

Title Lock and Window (Split Screen)

You know enough now about PeachCalc and its many commands to put it to practical use. You have used the different FORMAT options. This lesson adds two more commands to your store of tools.

One of them, TITLE LOCK, is useful if you want to keep a portion of the worksheet locked in place while you scroll the rest of the screen. Although it is called "title lock" because locking titles can be especially useful, any part of the screen can be locked. The other command, WINDOW, lets you "split" your screen and look at different parts of a worksheet at the same time. Let's try them now.

TITLE LOCK

Start the PeachCalc program if it is not already running. Or, if you are continuing directly on from Lesson Six, ZAP the screen so you will have a fresh worksheet.

Exercise:

1. Now load the file you saved under the name LESSON5. What can title lock do for you? Place the Active Block at A1. Enter /T. The prompt line asks, "H(oriz), V(ert), B(oth), or C(lear)?" PeachCalc wants to know which titles you want locked in place.

2. Press V, for vertical titles.

Now scroll the screen to the right. You will see that the titles at the left of the screen are "locked" in place, while the rest of the screen scrolls as usual. The position of the Active Block when you enter the T command determines how much of the screen will be locked in place.

3. Use the H option to lock the top row of titles in place.

	A	C	D	E	F	G
1		Dept-1	Dept-2	Dept-3	Dept-4	
2	Variable A	8	3	4	5	
3	Formula 1	9	4	5	6	
4	Formula 2	5.85	2.6	3.25	3.9	
5	Variable B	11	6	7	8	
6	Variable C	4	10	11	12	
7	Total	37.85	25.6	30.25	34.9	
8		<	>			
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
v C8						

Width: 12 Memory: 28 Last Col/Row:F7 ? for HELP
1 >

TITLE LOCK (Cont.)

Move the worksheet cursor down the screen and watch the information scroll up while the row 1 titles stay in place. Now, go back to A1 by using the = command.

4. Now clear the locked row. Enter /T. Then enter C, for "Clear". You are telling PeachCalc that you do not want anything locked. Use the /I command to insert a new row 1 for an additional title. At C1, enter Sample Worksheet.
5. This time, lock both the horizontal and vertical titles with one command. Position the Active Block at A2. Enter /T. Enter B, for "Both". This locks column A and rows 1 and 2.
6. Move the worksheet cursor down and to the right to make the display scroll both up and to the left. Note that rows 1 and 2 and column A stay in place.

	A	B	C	D	E	F
1						
2 < > Dept.		Dept-1	Dept-2	Dept-3	Dept-4	
3 Variable A	5	8	3	4	5	
4 Formula 1	1+B3	1+C3	1+D3	1+E3	1+F3	
5 Formula 2	B4*.65	C4*.65	D4*.65	E4*.65	F4*.65	
6 Variable B	11	11	6	7	8	
7 Variable C	4	4	10	11	12	
8 Total	SUM(B3:B7)	SUM(C3:C7)	SUM(D3:D7)	SUM(E3:E7)	SUM(F3:F7)	
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
<A2						
Width: 12	Memory:27	Last Col/Row: F8	? for HELP			
1>						

WINDOW -- SPLIT SCREEN (VERTICAL)

What if you want to look at two widely separated areas of a worksheet at the same time? The WINDOW command will help you do this. You will use one of the sample worksheets on the PeachCalc program disk to demonstrate WINDOW, but you will need a new worksheet.

Use the ZAP command to clear everything.

Now load the sample worksheet.

Exercise:

1. Use /L and enter the file name, BALANCE. BALANCE is a sample PeachCalc worksheet. You will study it more closely later. For now, just scroll to column N, and notice that we have columns representing months and a total column for the year.

WINDOW (VERTICAL) (Cont.)

2. Go back to A1 and scroll down to row 25 to see "Net Income". Go back to A2. Now move the Active Block to Column D. This will designate the place to "split" the screen.
 3. Type /W, for window. The prompt reads, "H(oriz), V(ert), C(lear Split), S(ync), or U(nsynch)". You are going to split the screen vertically into two separate display windows, so enter V.

A	B	C	D	E	F
1 This is a Sample PeachCalc Worksheet		1			
2		2 <	>		
3	.Jan	Feb	Mar	Apr	May
4 ASSETS		4			
5 Accts Receivable	1000.00	1050.00	5 1102.50	1157.63	1215.51
6 Cash	300.00	500.00	6 525.00	551.25	578.81
7 Unsold Goods	250.00	262.50	7 65.63	289.41	303.88
8		8			
9 Total Assets	1550.00	1812.50	9 1693.13	1998.28	2098.20
10			10		
11 LIABILITIES		11			
12 Accts Payable	1000.00	916.67	12 840.28	770.25	706.07
13 Storage Costs	50.00	50.00	13 50.00	50.00	50.00
14 Labor	100.00	105.00	14 110.25	15.76	121.55
15 Materials	50.00	52.50	15 55.13	57.88	60.78
16		16			
17 Total Liabilities	1200.00	1124.17	17 1055.65	993.90	938.39
18			18		
19 NIBT	350.00	688.33	19 637.47	1004.38	1159.80
20 Dep. Allowance	100.00	100.00	20 100.00	100.00	100.00
D2					

WINDOW -- SPLIT SCREEN (HORIZONTAL)

Instead of splitting the screen into a right and a left half, you could split it horizontally. In fact, you can do this without having to return to a single window display.

Exercise:

1. First, clear the previous split. Enter /W and then C for "Clear split." Then set the Active Block at the point at which you wish to split the screen horizontally. For this example, move the Active Block to row 15 and then enter /Window, H.
 2. Press ";" to move to the lower screen, and scroll down to see Net Income. Press ;. Move the cursor to B5 and change the value. Watch as recalculation takes place. Within moments, you will see the Net Income change in the lower window.
 3. Now clear the horizontal split.

	A	B	C	D	E	F	G
1	This is a Sample PeachCalc Worksheet						
2	<	>					
3		Jan	Feb	Mar	Apr	May	Jun
4	ASSETS						
5	Accts Receivable	1000.00	1050.00	1102.50	1157.63	1215.51	1276.28
6	Cash	300.00	500.00	525.00	551.25	578.81	607.75
7	Unsold Goods	250.00	262.50	65.63	289.41	303.88	319.07
8							
9	Total Assets	1550.00	1812.50	1693.13	1998.29	2098.20	2203.11
10							
11	LIABILITIES						
12	Accts Payable	1000.00	916.67	840.28	770.25	706.07	647.23
13	Storage Costs	50.00	50.00	50.00	50.00	50.00	50.00
14	Labor	100.00	105.00	110.25	115.76	121.55	127.63
	A	B	C	D	E	F	G
15	Materials	50.00	52.50	55.13	57.88	60.78	63.81
16							
17	Total Liabilities	1200.00	1124.17	1055.65	993.90	938.39	888.67
18							
19	NIBT	350.00	688.33	637.47	1004.38	1159.80	1314.43
A2	P Text=						
Width:	20	Memory:21	Last Col/Row:025	?	for HELP		
1>							

SYNCHRONIZED SPLIT-SCREEN SCROLLING

The **S** option tells PeachCalc to scroll both windows in a "synchronized" fashion; that is, to scroll simultaneously. Try it now.

Exercise:

1. Split the screen vertically at D again, but now enter **/W, S**. Now scroll the displays together. To "unsynchronize" the displays so that only one window will scroll at a time, enter **/W, U**.

Note that now, starting at column D, there is a second set of row numbers. This is the left-hand border of the new display. You should realize that the worksheet itself has not been split. You have simply created two display windows through which to view it. Either window may now be scrolled independently.

2. Scroll the display and notice that the right-hand window remains still.
3. Now press the ";" key. This will transfer you to the "other" window. Regardless of which window you are working in at a given moment, the ";" key will move you over to the other.

USING SPLIT SCREENS

With split screen in effect, each window has its own "global" identity for both the GLOBAL options and FORMAT commands. For instance, you could specify formula display in one window and block value display in the other. Similarly, you could use FORMAT to specify General format in one window and Integer in the other. You could even look at the same data, if you wished, in two different formats at once.

Exercise:

1. Enter /W, U. Scroll both displays to show January through April. Now change to display formulas for one side of the screen. Enter /W, S. Now you can scroll through the data in one window and compare it to the formulas as you go.
2. SAVE this split worksheet.

The WINDOW and TITLE LOCK affect the way your worksheet is displayed. The effect is temporary and may always be reversed. When you SAVE your worksheet to a disk, the TITLE LOCK and "split screen" information is included. When you load your work back to the screen, it will look exactly as it did before.

If you want to take a break now, use QUIT to exit from PeachCalc.

	B	C	D	E		B	C	D
1 hCalc Worksheet					1 hCalc Worksheet			
2					2 < >			
3	Jan	Feb	Mar	Apr	3	Jan	Feb	Mar
4					4			
5	1000.00	1050.00	1102.50	1157.63	5	1000	1.05*B5	1.05*C5
6	300.00	500.00	525.00	551.25	6	300	0.5*B5	0.5*C5
7	250.00	262.50	65.63	289.41	7	0.25*B5	0.25*C5	0.25*C7
8					8			
9	1550.00	1812.50	1693.13	1998.28	9	UM(B5:B7)	UM(C5:C7)	UM(C5:D7)
10					10			
11					11			
12	1000.00	916.67	840.28	770.25	12			1000-(B12:B12)-(C12:C12)
13	50.00	50.00	50.00	50.00	13	50	50	50
14	100.00	105.00	110.25	115.76	14	100	1.05*B14	1.05*C14
15	50.00	52.50	55.13	57.88	15	50	1.05*B15	1.05*C15
16					16			
17	1200.00	1124.17	1055.65	993.90	17	(B12:B15)	(C12:C15)	(D12:D15)
18					18			
19	350.00	688.33	637.47	1004.38	19	B9-B17	C9-C17	D9-D17
20	100.00	100.00	100.00	100.00	20	1200/12	1200/12	1200/12
< B2								

Width: 9 Memory:21 Last Col/Row: 025 ? for HELP

1>

REVIEW

What have you learned in this lesson? You know:

- How to lock any number of rows or columns in place so that they will remain in place while the rest of the screen scrolls.
- How to split the screen, either horizontally or vertically, into two windows and how to move back and forth from one "window" to the other.
- How to "synchronize" the windows.
- That you can specify different GLOBAL display options (block values or formulas) and Global level FORMAT options for each window.

LESSON EIGHT

Graphic Format and Recalculation

In this lesson, we will look more closely at some of the options available with two of PeachCalc's most powerful commands, FORMAT and GLOBAL. By now you have enough experience to appreciate what they can do for you. You will need to start with a fresh screen — so use ZAP if you are continuing directly from Lesson Seven.

We touched briefly on graphic representation of data in Lesson Six and promised that you would learn more about it. Now it's time to work a bit with it, so that you will feel confident to try it with your own data.

GRAPHIC FORMAT

Exercise:

1. Enter some numbers in column A, from row 1 to row 20; use numbers between 1 and 50.
2. Enter /Format, Column, A, RETURN, *, 50, RETURN.

You have done two things — you have changed to graphic display, and you have increased the width of column A to 50 in order to accommodate the largest number.

3. Suppose you wish to have the number itself display as well. Try this: enter /F, C, A, RETURN, Default, RETURN. Enter /G, F to show formulas. Enter at B1, the "formula" A1. Enter /Repeat, B1, B2:B20.
4. Enter /F, C, B, RETURN, *, 50. Enter /G, F.

	A	B	C	D	E	F	G	H
1	45							
2	3							
3	12							
4	50							
5	23							
6	13							
7	8							
8	31							
9	29							
10	6							
11	43							
12	21							
13	9							
14	17							
15	25							
16	36							
17	48							
18	23							
19	7							
20	<41>							

v A20 Form=41
Width: 9 Memory:28 Last Col/Row:A20 ? for HELP
1>

	A	B	C	D	E	F	G	H
1	45	<A1>						
2	3	A2						
3	12	A3						
4	50	A4						
5	23	A5						
6	13	A6						
7	8	A7						
8	31	A8						
9	29	A9						
10	6	A10						
11	43	A11						
12	21	A12						
13	9	A13						
14	17	A14						
15	25	A15						
16	36	A16						
17	48	A17						
18	23	A18						
19	7	A19						
20	41	A20						

B1 Form=A1
Width: 9 Memory:27 Last Col/Row:B20 ? for HELP
1>

GRAPHIC FORMAT (Cont.)

Now you have a one-for-one graphic display. But what if the values you wish to display are as large as 600 or 1000? Put a "scaling" formula into column B so the largest value will be equal to the column width. You may remember from Lesson Six that you can make column B longer — up to 126 characters — but it would be difficult to view beyond the screen width, so you may as well leave it at 50 characters.

If you divide any value in column A by the maximum value within the sample from A1 to A20, the result will express its size (relative to the maximum). And since the maximum, whatever it is, will be represented by 50 characters (*) of display, you can multiply the size by 50 to determine its "scaled" value.

Now you have an opportunity to use another built-in function: MAX. The value of MAX will be the largest value within the specified range or list. You will use MAX to scale the graphic displays so that they are relative to the maximum value. The formula will look like this: A1*50/MAX(A1:A20).

- Enter /G, F. Enter A1*50/MAX(A1:A20) at B1.

Now you will use one of the REPEAT options. Enter /R, B1, B2:B20 and the , for options. Enter A, for "A(sk for Adjust)". Respond Y for "yes" for the first A1, then N for "no" for the other two values in the formula.

- If you would like to see what these formulas look like, use /G, F. Your formulas should look like the illustration to the right.

- Enter /G, F to return to the graphic display. The graph looks the same, but now change the value in any block to 75. Notice that all the other lines are "scaled", relative to 75. Enter 150.

You may wish to save this example for your own use later. Use SAVE and call the file GRAPH or something easy to remember.

Next you will change the formula to scale from the maximum to the minimum value in A1 through A20.

	A	B	C
1	45	<.....	>
2	3	...	
3	12	
4	50	
5	23	
6	13	
7	8	
8	31	
9	29	
10	6	
11	43	
12	21	
13	9	
14	17	
15	25	
16	36	
17	48	
18	23	
19	7	
20	41	
B1		Form=A1	
		Width: 50 Memory:27 Last Col/Row:B20	? for HELP
		1 >	

	A	B	C
1	45	<A1*50/MAX(A1:A20)	
2	3	A2*50/MAX(A2:A20)	
3	12	A3*50/MAX(A3:A20)	
4	50	A4*50/MAX(A4:A20)	
5	23	A5*50/MAX(A5:A20)	
6	13	A6*50/MAX(A6:A20)	
7	8	A7*50/MAX(A7:A20)	
8	31	A8*50/MAX(A8:A20)	
9	29	A9*50/MAX(A9:A20)	
10	6	A10*50/MAX(A10:A20)	
11	43	A11*50/MAX(A11:A20)	
12	21	A12*50/MAX(A12:A20)	
13	9	A13*50/MAX(A13:A20)	
14	17	A14*50/MAX(A14:A20)	
15	25	A15*50/MAX(A15:A20)	
16	36	A16*50/MAX(A16:A20)	
17	48	A17*50/MAX(A17:A20)	
18	23	A18*50/MAX(A18:A20)	
19	7	A19*50/MAX(A19:A20)	
20	41	A20*50/MAX(A20:A20)	
B1		Form=A1*50/MAX(A1:A20)	
		Memory:27 Last Col/Row:B20	? for HELP
		1 >	

GRAPHIC FORMAT (Cont.)

Exercise:

1. Go to B1 and use EDIT. You will insert new information into the formulas:

A1-MIN(A1:A20) *50/MAX(A2:A20)

Move the cursor to the left and put in (, then move right to the * and insert 13 spaces. Then, replace the blanks with **-MIN(A1:A20)**).

Repeat it for A2 through A20, using the ASK option. Be careful to adjust only the first block reference in the formula.

2. Enter /G, F. Notice how the results of this formula differ from those of the first formula. Try different values to test and verify your work.

RECALCULATION OPTIONS

If you enter a new value in column A, notice that the program takes a bit of time to go through all the necessary recalculation of formulas. It may take even longer with a larger worksheet, because PeachCalc recalculates each time you enter a new value.

This is the way to suspend that automatic recalculation.

Exercise:

1. Enter /G, M (for manual). Now try entering new numbers for the graph.

As you can see, the time required for their entry is greatly reduced.

RECALCULATION OPTIONS

This is fine, but what does "manual" recalculation mean? Certainly, you don't do it yourself with pencil and paper. How can you get PeachCalc to do it? By now you have used almost every option offered. You may have wondered just what the "!" is for.

Besides its usual exclamatory function in text, "!" has a very special meaning in PeachCalc: pressing ! "forces" a recalculation.

2. Press !.

Manual mode allows you to make periodic recalculations at your convenience. When you wish to re-establish automatic recalculation, enter /G, A for "automatic".

ORDER OF RECALCULATION

When the PeachCalc program recalculates, it does so in a certain order. You can change that order. Usually, the order of calculation will not affect the results of your recalculations, and you can ignore it. But there are times when it can make a crucial difference. Let's explore this problem.

First, use ZAP to get a fresh worksheet.

Exercise:

1. Enter 4 into block A1, 6 into A2, and **SUM(A1:A2)** in A3. Now enter A3 into B1. Look at the values. Everything seems fine. A3 and B1 both display 10. Now change the value in A1 to 3.

Observe that B1 does not yet contain the 9, which is the new result in A3. Why?

PeachCalc recalculates row by row. First row 1, then row 2, then 3, and so on. Obviously, A3 was still 10 when B1 referenced its value during recalculation.

2. Now enter /G. The prompt line now says, "F(orm), N(ext), B(order), T(ab), R(ow), C(ol), M(an), A(uto)?"
3. You have just determined that, in this example, recalculation should proceed column by column, so let's enter C. This will change the order of recalculation.
4. Enter 5 in A1. And now everything seems to work, because PeachCalc is proceeding down columns as it recalculates. Both A3 and B1 display 11.

```
| A || B || C || D || E || F || G || H |
1| 4 | 10 |
2| 6<   > |
3| 10 |
4|
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
v B2
Width:9 Memory:28 Last Col/Row:B3 ? for HELP
1>
```

```
| A || B || C || D || E || F || G || H |
1| 5 | 11 |
2| 6 |
3| 11 |
4| <   > |
5|
6|
7|
8|
9|
10|
11|
12|
13|
14|
15|
16|
17|
18|
19|
20|
v A4
Width: 9 Memory:28 Last Col/Row:B3 ? for HELP
1>
```

AVOIDING FORWARD REFERENCES

It is possible to create a situation where neither order of calculation can give you current values in all blocks.

Here is an example. First, ZAP the worksheet.

Exercise:

1. Enter 5 in block A1. In C1, enter A1. In A3, enter A1.
Now GOTO B2 and enter C1 + A3.
You can see a problem coming up, can't you? Of course, at the moment all looks fine—C1 and A3 display 5, B2 displays 10.
Now GOTO A1, and enter 4.

Blocks C1 and A3 display 4, which is correct. But B2 has 9. When it was calculated, one of the blocks was 4, the other was 5.

2. Change the order and try again. /G, C. Then enter 6 in A1. C1 and A3 show 6, but B2 shows 10. When it was calculated, one block had 6 and the other had the leftover 4.
3. Press !. Now B2 has 12, the correct value. You have forced a second recalculation and have the correct value.

	A	B	C	D	E	F	G	H
1	<	>						
2			12					
3			6					
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
	A1	Form=6						
	Width: 9	Memory: 28	Last Col/Row: C3					
	? for HELP							
	1 >							

AVOIDING FORWARD REFERENCES (Cont.)

This example is unrealistic and improbable. Still, you should be aware that it is possible to create situations involving out-of-order references, which give misleading values. In a case like this one, you can press ! and cause a second recalculation, which gives the correct values. (You see that you can use "!" in automatic mode as well as in manual mode. Generally, of course, you don't need to).

Cases of out-of-order references like this one are called "forward" references, because the reference is "forward" to a value not yet recalculated. They can occur in actual worksheets, perhaps because a worksheet is especially complex or because it has been amended or changed in ways very different from its original design.

A real-life example of forward reference might happen like this: You build a worksheet with a table of expenditures by category (columns) and locations (row). You SUM the rows and columns to get totals. Everything works fine. Later, you add a table comparing various category and location totals. Everything still works fine, because you know where the second table should be. Then, someone else adds new material to the worksheet, and moves one of your tables to a new location...Now the comparison table shows incorrect values, but they might seem reasonable.

One way to check for such cases is to press ! and see if any value changes. If so, it is time to re-do the worksheet.

AVOIDING CIRCULAR REFERENCES

The "circular" reference is another case you will certainly want to avoid. Here is an example:

Exercise:

First ZAP the worksheet. Now in block A1, enter **1 + B1**. It shows as 1, since there is nothing in B1. In block B1, enter **1+A1**. Suddenly you have 3 and 4. Got the idea? Press ! a few times, and watch the values increase. They will never stop changing, because there is no logical place to stop calculating.

You might like to experiment by making up some forward or circular references and trying them out. Then you can QUIT — or you can ZAP these crazy formulas away forever, and go on to the next lesson.

REVIEW

What have you learned in this lesson? You know:

- How to make practical use of the * FORMAT option for the graphic display of data by scaling values to fit the display width.
- The difference between the "manual" calculation option and automatic recalculation.
- That the ! key causes a recalculation to occur when you press it.
- What order of calculation means, and how to change it by using the GLOBAL options command.
- What a forward reference is, and how to use ! to get the correct value for such a case.
- What a circular reference is, and that there is no correct value for such a case.

LESSON NINE

Output

You have worked with all but one of the PeachCalc commands and have no doubt come to appreciate the power and flexibility of PeachCalc and its electronic worksheets.

But so far, you can't photocopy those worksheets, put them in a binder, or have them reformatted later into some special report layout. In this lesson, we will discuss the OUTPUT command which makes those things possible.

The OUTPUT command will make a copy of a worksheet and send that copy to any of three places, depending on your specification. You can send the "output" — that is, the copy of all or part of the worksheet — to the computer system's printer which will print it immediately. Or you can send it to the "console" (the terminal), where it will temporarily replace the usual PeachCalc display. Or you can send the output to a disk drive; in this case, the output will be "saved" or "stored" as a special sort of disk file, different from the ones you have created in the past with the SAVE command.

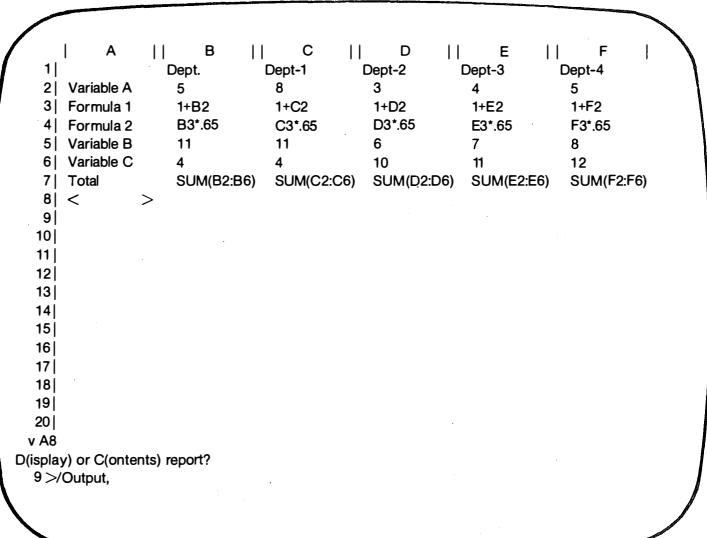
THE OUTPUT COMMAND

Let's try this new command now. Be sure you have a fresh worksheet. Start up the PeachCalc program, or use ZAP.

If you do not have a printer, skip the part of this lesson which covers the option to print your output.

Exercise:

1. LOAD the file you created in Lesson Five. (You may have made some practice files of your own. This is the one you stored as **LESSON5.**)
2. Type the /O command. Now the prompt line reads, "D(isplay) or C(ontents) report?".
Display means the output will reproduce exactly what you see on the screen. Try that first.
3. Enter the D option.



THE OUTPUT COMMAND (Cont.)

4. You see that the prompt line requests the range of the material you want as output. Specify the range as usual. In this case, enter **A1:F8**, which describes the whole worksheet. Press RETURN. The prompt now says, "Enter Device: P(rinter), S(etup), C(onssole), or D(isk)."
5. Enter **C**, to list the report to the screen. There may seem to be no reason to do this, but sometimes you may need to check your output before printing it. By the way, if you have several pages of output, PeachCalc shows them to you one at a time; you tell the program when to show the next one.
6. Press any key to return to the PeachCalc display.

Now let's send output to the printer, printing just part of the worksheet. You will use a range specification that is a little different from the one you used before. (If you don't have a printer connected to your system now, skip to the next example.)

8. Be sure that your printer is turned on. Now enter **/O, D, A1:D8, RETURN** and enter **P** for printer.
9. So far, all our examples have used the "D" or display option. What will happen if we choose "C" for contents output? Try it - type **O, C**, and specify **A1:F7** for the range. Enter **P**. (If you don't have a printer, specify **C** for console and see the contents displayed on your screen.)

	A	B	C	D	E	F
	Dept.	Dept-1	Dept-2	Dept-3	Dept-4	
2 Variable A	5	8	3	4	5	
3 Formula 1	1+B2	1+C2	1+D2	1+E2	1+F2	
4 Formula 2	B3*.65	C3*.65	D3*.65	E3*.65	F3*.65	
5 Variable B	11	11	6	7	8	
6 Variable C	4	4	10	11	12	
7 Total	SUM(B2:B6)	SUM(C2:C6)	SUM(D2:D6)	SUM(E2:E6)	SUM(F2:F6)	
8						

End of Report ... Type any key to return to worksheet

PeachCalc Ver. 1.01

```

B1      = "Dept."
C1      = "Dept-1"
D1      = "Dept-2"
E1      = "Dept-3"
F1      = "Dept-4"
A2      = "Variable A"
B2      = 5
C2      = 8
D2      = 3
E2      = 4
F2      = 5
A3      = "Formula 1"
B3      = 1+B2
C3      = 1+C2
D3      = 1+D2
E3      = 1+E2
F3      = 1+F2
A4      = "Formula 2"
B4      = B3*.65
C4      = C3*.65
D4      = D3*.65
More... ('return' to continue or CTRL-Z to stop)

```

THE OUTPUT COMMAND (Cont.)

The contents report gives you a list of block contents. The contents may be quite different from what you see on the worksheet, because of display formatting. You are familiar with the idea of block contents, because the contents of the Active Block regularly display on the status line.

OUTPUTTING TO DISK

There is one other option, "D" for disk. In some ways, it is similar to the SAVE command. It also copies the screen to a disk, but the resulting disk file is different. You cannot use the LOAD command and reload an OUTPUT file to the PeachCalc program. The files created with this OUTPUT option automatically receive a special filename extension ".PRN".

".PRN" files can be very useful. Other system programs can print or edit these files. Therefore, you can make copies of your worksheet information to be printed later. Then you, or someone else, can use an editor program to add information and notes or to reformat the reports. You can include your worksheets inside some other report that is being edited. These edited reports can then be printed.

REVIEW

What have you learned in this lesson?

- How to send "output" to the printer, console, or disk.
- The difference between "display" and "contents" reports, and how to specify either one.
- That these reports, when sent to the disk, can be edited and printed later by other programs.

AN OVERVIEW OF THREE PEACHCALC EXAMPLES

The next three lessons present simplified but realistic sample PeachCalc worksheets. The worksheet files are on your PeachCalc disk. They let you see how the things that you have learned as separate PeachCalc capabilities can be combined in useful ways.

By now, you know enough about PeachCalc to be able to use it without step-by-step instructions. With these example lessons, we will give you some general guidance and let you put what you have learned to work.

Experiment with the sample worksheets. Make changes and see their effects. You will find that some changes to formula values will have only minor effects on the rest of the worksheet, but others will have major effects. It can be surprising to see how even a slight change in a percent figure in one formula can make a great difference in the final total.

These examples deal with different subjects. One is a balance sheet projection, one calculates the breakeven point for a project, and one does engineering calculations to specify requirements for an "air curtain." (An air curtain can be used to separate two locations of different temperatures, such as separating a walk-in freezer from the rest of a room. Since you can walk right through the air curtain, you don't have to worry about anyone leaving the door open.)

Experiment with all the examples, even if the subject matter is outside your area of interest. The techniques used in the samples are general techniques and you can transfer them easily to your own work. In fact, you may be able to use one or more of the sample worksheets as a model for your own.

LESSON TEN

A Projected Balance Sheet

This example illustrates how PeachCalc can be used as a balance sheet. The sample worksheet is named BALANCE. It will look familiar because you used it in the last chapter.

RECOGNIZING WORKSHEET FEATURES

Exercise:

1. Load **BALANCE** now and let's take a closer look at it. It has a split window, of course. That's why it was used earlier. What else can you find out about it? How far does the information extend? Is there a title lock present? Is scrolling synchronized or unsynchronized?
2. Play around with it. See what you can find out on your own before reading any further.

The left window has information extending to column N. Both windows have information down to row 26. Scrolling is not synchronized now, but you will probably find it more convenient to synchronize the scrolling. There are two locked portions in the left window: column A and rows 1-3.

What about the worksheet's contents? This seems to be a balance sheet for some project within a larger enterprise—notice "Department Allowance" on row 20.

As you scrolled around, you may have found that most of the figures are formulas.

C	D		<	>
1 This is a Sample PeachCalc Work			2	
2			3	Feb
3	Jan		4	Mar
4 ASSETS			5	
5 Accts Receivable	1000		6	1.05*B5
6 Cash	300		7	0.5*B5
7 Unsold Goods	0.25*B5		8	0.5*C5
8			9	0.25*C5
9 Total Assets	SUM(B5:B7)		10	0.25*C7
10			11	
11 LIABILITIES			12	
12 Accts Payable	1000		13	B12—(B12/12)
13 Storage Costs	50		14	C12—(C12/12)
14 Labor	100		15	50
15 Materials	50		16	1.05*B14
16			17	1.05*C14
17 Total Liabilities	SUM(B12:B15)		18	1.05*B15
18			19	1.05*C15
19 NIBT	B9—B17		20	1200/12
20 Dep. Allowance	1200/12		v C1	1200/12
Width: 12 Memory: 23 Last Col/Row:025 ? for HELP				
1>				

WORKSHEET FEATURES (Cont.)

3. Set the formula display for the left window, if you haven't already done so, and notice that all figures for the months of February through December are either formulas that depend on prior months or are constants repeated from the January column. The totals column in the right window consists only of formulas.

The balance sheet is a projection based on the January figures. Assets, liabilities, and net income are projected. For example, in row 5 you see the assumption that accounts receivable will grow steadily at 5% a month. In row 12 you see that storage costs (accrued and paid monthly) are constant. Taxes (row 22) are a constant 30%.

4. What happens if you change some of these assumptions? Try it. They can be changed easily.

You can change constant figures in the January column and REPEAT them across the row for February through December. You can change the February value for formulas, and then REPEAT across March through December (without options, so that the PeachCalc program adjusts automatically).

RAISING OR LOWERING CONSTANT VALUES

You will notice that slightly raising or lowering constant values such as accrued storage costs (row 12), or constant relationships such as taxes (row 22), has a fairly predictable effect. But slightly changing the expected percentage of increase in accounts receivable (row 5) can have a more marked effect. There are other places where a slight change in a value will have a significant effect because it causes a change in trend. (For example, rows 5, 6, 7, 13, and 14.)

Exercise:

1. What is the effect of a decline in accounts receivable (row 5)?
Try it.
2. An increased rise in accrued salaries? Try it.

As we said, this example is simplified. You may wish to use the Profit and Loss Analysis in the Appendices for projections of your own; however, this worksheet gives you some insight into certain PeachCalc features.

RAISING OR LOWERING SEASONAL CHANGES

For many applications, it would be more realistic to assume seasonal changes than to assume constant changes (like the accounts receivable growth). You might see what happens if you make accounts receivable and their associated values rise in summer and fall in winter, or some similar pattern.

In a more realistic forecast, other values might change at intervals. Accrued storage costs might increase once in the middle of the year. Taxes might rise when accounts receivable increased beyond a certain amount.

You can use the PeachCalc condition function (IF) to test a total value and increase the tax rate when the total exceeds a certain amount. One way to do that is to test the taxable income figure for each column (row 20).

Exercise:

1. Try this experiment. Let's say that if the taxable income is greater than \$1800, the tax rate rises from 30% to 32%. Insert a row at 21, and put the title Tax Rate at A21.

SEASONAL CHANGES (Cont.)

2. Now put the following formula in B24: **IF(B20<=1800,.3,.32)**. REPEAT the formula, without options, across the row from February through December.

Now the tax rate will be 30% when the taxable income is \$1800 or less, and 32% when it is greater. In what month does the rate increase?

3. Now change taxes (row 22). Change B22 from **.3*B20** to **B21*B20**. REPEAT this change, without options, across row 22 from February through December.

LESSON ELEVEN

Break-Even Analysis

The idea behind a break-even analysis is a simple one. When you market a product, you have two kinds of costs. There are fixed costs such as overhead, and there are variable costs associated with making the product, such as parts and labor. When you sell the product, you want to price it in such a way that you recover your fixed costs, your incremental (or variable) costs, and also make a profit. The break-even point is the point at which loss turns into profit.

RECOGNIZING WORKSHEET FEATURES

Exercise:

This example is called BRKEVN. Load it now and see what it looks like. The setup is basically simple. Let's step through an example. (You will probably want to set recalculation to manual mode until you have plugged in all the variables you want to provide.)

	A	B	C	D	E
	Break Even Analysis		Units Sold	Profit or Loss	
1	Product Name		100	.00	
2	Retail Price	.00	200	.00	
3			300	.00	
4			400	.00	
5	Fixed Costs	(Totals)	500	.00	
6	Development	.00	600	.00	
7	Marketing	.00	700	.00	
8	Other	.00	800	.00	
9	TOTAL Fixed Cost	.00	900	.00	
10			1000	.00	
11	Variable Costs	<(Per Unit)>	1100	.00	
12	Labor	.00	1200	.00	
13	Materials	.00	1300	.00	
14	Packaging	.00	1400	.00	
15	Other	.00	1500	.00	
16	TOTAL Variable Cost	.00	1600	.00	
17			1700	.00	
18	Quantity Increment	100	1800	.00	
19	Discount Rate (%)	50	1900	.00	
20					

v B11 Text=" (Per Unit)
Width: 12 Memory:24 Last Col/Row:D32 ? for HELP
1 >

We set the retail price in B3 and the discount rate in B19. (We could have directly specified a wholesale price, but specifying price in terms of retail price and a discount from that allows us to experiment with variations in pricing policy for the public and for the people who will wholesale this product for us.)

In B18, we set the quantity increment such as 50, 100, or 1000, whatever is suitable for the particular product. Then we provide our fixed and variable costs.

At this point, we can calculate the results with ! and see the break-even point. Maybe we will see how the profits can mount up and make us rich (if we chose right)—or how miserable our prospects are (if we chose wrong).

USING AUTOMATIC RECALCULATION

Now let's play with figures a bit and see what happens. You may want to set automatic recalculation at this point.

Exercise:

1. Try changing some of the fixed costs, then some of the variable ones.

You will notice, for example, that increasing fixed costs delays the point where you break even, but does not have a great effect on your eventual profits. But changing variable costs has a continuing effect.

2. Try pricing and discount changes. Were you surprised at the results?

BUILDING VALUES ON THE WORKSHEET

Now let's look at how the worksheet is built. Set formula display.

Exercise:

1. Take a look at column C, Units Sold. C2 starts with B18, which is the quantity increment. C3 is C2 plus quantity increment, and so on down the column. The formula for each value consists of the value above plus the increment.

Can you think of an easy way to build a column of values like that? Yes. You would put the values shown in blocks C2 and C3. Then you would repeat C3 down the column, using the Ask option. You would tell Peach-Calc to adjust the first value and not adjust B18.

	A	B	C	D	E
1 < Break Even Analysis>					
2 Product Name		B18	C2+B3*(01*100—B19)		
3 Retail Price	0	C2+B18	C3+B3*(01*100—B19)		
4		C3+B18	C4+B3*(01*100—B19)		
5 Fixed Costs	(Totals)	C4+B18	C5+B3*(01*100—B19)		
6 Development	0	C5+B18	C6+B3*(01*100—B19)		
7 Marketing	0	C6+B18	C7+B3*(01*100—B19)		
8 Other	0	C7+B18	C8+B3*(01*100—B19)		
9 TOTAL Fixed Cost	SUM(B6:B8)	C8+B18	C9+B3*(01*100—B19)		
10		C9+B18	C10+B3*(01*100—B19)		
11 Variable Costs	(Per Unit)	C10+B18	C11+B3*(01*100—B19)		
12 Labor	0	C11+B18	C12+B3*(01*100—B19)		
13 Materials	0	C12+B18	C13+B3*(01*100—B19)		
14 Packaging	0	C13+B18	C14+B3*(01*100—B19)		
15 Other	0	C14+B18	C15+B3*(01*100—B19)		
16 TOTAL Variable Cost	SUM(B12:B15)	C15+B18	C16+B3*(01*100—B19)		
17		C16+B18	C17+B3*(01*100—B19)		
18 Quantity Increment	100	C17+B18	C18+B3*(01*100—B19)		
19 Discount Rate (%)	50	C18+B18	C19+B3*(01*100—B19)		
20		C19+B18	C20+B3*(01*100—B19)		
v A1		P Text=" Break Even Analysis			
		Width: 24 Memory:24 Last Col/Row:D32 ? for HELP			
1 >					

BUILDING VALUES (Cont.)

2. Now look at column D, Profit or Loss. These formulas may look rather complicated, but once you have figured them out, you will see that the calculation is straightforward.

Let's start with a look at D2. This shows as:

$$C2*B3*(.01*(100-B19))-(B9+(B16*C2))$$

Going down the column, you see that the other formulas are similar. In D3, the formula has C3 in place of C2, but all other values are the same. This pattern continues. For each entry in column D, the column C references refer to the adjoining Units Sold value.

So the formula in D2 starts out with Units Sold times Retail Price (that is, C2*B3).

The $.01(100-B19)$ simply subtracts the discount rate (B19) from 100 and makes it a percent. If B19 contains 40, then $.01*(100-B19)$ is equal to 60. In other words, this expression is the percentage of our retail price that we get to keep. It is our wholesale price.

What about $-(B19+(B16*C2))$? B9 is the sum of our fixed costs. B16 is the sum of our variable costs. B16*C2 is the variable cost (B16) times the units sold for this particular row (C2).

So the formula in D2 turns out to be quite straightforward: It is Units Sold times Price minus Cost.

	D	E	F	G	H	I	J	K
1	Profit or Loss	<	>					
2	C2*B3*(.01*(100-B19))-(B9+(B16*C2))							
3	C3*B3*(.01*(100-B19))-(B9+(B16*C3))							
4	C4*B3*(.01*(100-B19))-(B9+(B16*C4))							
5	C5*B3*(.01*(100-B19))-(B9+(B16*C5))							
6	C6*B3*(.01*(100-B19))-(B9+(B16*C6))							
7	C7*B3*(.01*(100-B19))-(B9+(B16*C7))							
8	C8*B3*(.01*(100-B19))-(B9+(B16*C8))							
9	C9*B3*(.01*(100-B19))-(B9+(B16*C9))							
10	C10*B3*(.01*(100-B19))-(B9+(B16*C10))							
11	C11*B3*(.01*(100-B19))-(B9+(B16*C11))							
12	C12*B3*(.01*(100-B19))-(B9+(B16*C12))							
13	C13*B3*(.01*(100-B19))-(B9+(B16*C13))							
14	C14*B3*(.01*(100-B19))-(B9+(B16*C14))							
15	C15*B3*(.01*(100-B19))-(B9+(B16*C15))							
16	C16*B3*(.01*(100-B19))-(B9+(B16*C16))							
17	C17*B3*(.01*(100-B19))-(B9+(B16*C17))							
18	C18*B3*(.01*(100-B19))-(B9+(B16*C18))							
19	C19*B3*(.01*(100-B19))-(B9+(B16*C19))							
20	C20*B3*(.01*(100-B19))-(B9+(B16*C20))							

v F1 Width: 9 Memory:24 Last Col/Row:D32 ? for HELP

1>

ADAPTING THIS WORKSHEET

Like the other examples, this worksheet is realistic but simplified. You can use it "as is" in order to get a general idea of the effects of pricing policy on a product or to do short-term forecasting. But in actual marketing, costs and prices change.

There are two ways you might adapt this worksheet to show the effect of changes in prices and costs.

- One way is to put changes at intervals in the worksheet. For example, break it into intervals representing six months of production. Change your costs, prices, and even your incremental values for production (you are producing more efficiently).
- A second way is to use conditional expressions as described in the prior lesson on the Projected Balance Sheet. You could test the number of units produced. Based on that test, you could specify adjustment factors for prices and costs. Then, multiply your price and cost information by the adjustment factors and refer to the adjusted figures in other formulas.

LESSON TWELVE

Air-Barrier Engineering Worksheet

This worksheet is called BARRIER. Although it is based on actual engineering practice, you do not need to know anything about engineering to do this lesson. We use the example to demonstrate a key PeachCalc feature, the Look-up function, which can be of great value to you in your own work.

The BARRIER example represents only part of a larger worksheet for specifying air-conditioning equipment. It is not complete in itself. BARRIER lets you change five of the values used in determining installation requirements for equipment that generates an air barrier or "air curtain". (An air barrier is a stream of moving air that separates two areas of differing temperatures, such as a barrier between a walk-in freezer and an ordinary room.)

RECOGNIZING WORKSHEET FEATURES

Exercise:

Load BARRIER from your Peach-Calc disk. Take a look at it.

These are the five values you can change:

- D5 Cold-storage room temperature
 - D6 The air-barrier temperature
 - D8 Door height
 - D9 Door width
 - D21 Velocity

When you specify these values, the values change for the following blocks in column D: D7, D10, D23, and D24.

As you will see, the worksheet is set for manual recalculation. Can you explain why? (Because there is no point in calculating until all the values have been entered.)

	A	B	C	D	E	F	G
>	Air-Barrier Engineering Worksheet						
1 <	Parameter	Symbol	Value	Units			
2							
3							
4							
5 Cold Storage Room Temp.	Tr	-50F					
6 Entry Design Temp.	Te	50F					
7 Temperature Difference	dT	100F					
8 Door Height, inside	Hd	10 ft					
9 Door Width, inside	Wd	10 ft					
10 Air Density in Room	Pr	0.96lb/ft**3					
11 Air Density at Entry	Pe	0.768lb/ft**3					
12 Buoyancy Velocity	Vb	554.6891021ft/min					
13 Discharge Velocity	Vd	3175.855813ft/min					
14 Average Velocity	Va	1641.619038ft/min					
15 Slot Width	Ws	3.25inches					
16 Slot Area	As	2.706333333ft**2					
17 Air Quality	Q	8601.276161cfm					
18 Discharge Angle	Theta	19.74846418degrees					
19 Deflection in 10 inches	D	12.57336669inches					
20 Center of Buoyancy	B	4.423963134inches					
A1	P Text=						
Width: 25	Memory:24 Last Col/Row:J24	? for HELP					
1>							

USING THE WORKSHEET

Here is one way this worksheet—or one similar to it but more complete—might be used. A salesperson could enter the customer's installation requirements in D5, D8, and D9, and put trial entries in D6 and D21 for different available equipment. Looking at the results in D23 and D24, the salesperson could immediately determine which equipment could do the job.

Moreover, the salesperson could vary some of the requirements and see how much of a margin is left in the specification. For example, if the temperature differential is increased by 5 degrees, could the equipment still handle the job?

The OUTPUT command could be used to print several variations of the worksheet to show the customer.

Exercise:

Try making some changes and see their effects. Remember to press the "!" for recalculation.

THE LOOKUP FUNCTION

Earlier, we said this worksheet demonstrates the look-up function. Now let's see how LOOKUP works. It is at D15. Depending on the value you enter in D9, this function will look up a value from the table in columns H and I. That is, given the door width in feet (D9), LOOKUP provides a slot width in inches.

Exercise:

1. To take a closer look at this, you will need to remove the title lock from columns A and B.
2. After you have done that, use the GOTO command to put D1 in the upper left corner of your screen. You will see the table in column H and the associated values in column I.
3. Try entering different values at D9. See what happens at D15. Remember you will have to use "!" or change to automatic calculation.

	D	E	F	G	H	I	J	K
1	rier Engineering Worksheet		<	>				
2								
3	Value	Units			Slot Width Table			
4								
5	—50F				2	1.5		
6	50F				3	1.75		
7	100F				4	2		
8	10 ft				5	2.2		
9	10 ft				6	2.5		
10	.0968lb/ft**3				7	2.65		
11	.0768lb/ft**3				8	2.85		
12	554.6891021ft/min				9	3.1		
13	3175.855813ft/min				10	3.25		
14	1641.619038ft/min				11	3.4		
15	3.25inches				12	3.55		
16	2.70833333ft**2				13	3.7		
17	8601.276161cfm				14	3.8		
18	19.74846418degrees				15	3.9		
19	12.57336669inches				16	4.05		
20	4.423963134inches				17	4.15		
v G1								
Width: 9 Memory:24 Last Col/Row:J24 ? for HELP 1>								

LOOKUP (Cont.)

As you see, if D9 has a value equal to one of the values in column H, PeachCalc puts the associated value from column I into D15. For example, entering 7 into D9 gets you 2.65 in D15. Entering 8 gets you 2.85.

4. What about intermediate values? Try entering 7.5. As you see, you get the next higher associated value, 2.85 in this case.

TRIGONOMETRIC FUNCTIONS

This worksheet also includes examples of trigonometric functions, the square root function, and using \wedge to raise a value. These are all in column D. In order to see them:

Exercise:

Set formula display and widen column D to 35. You will see a SQRT at D12, trigonometric functions at D18 and D19, and the use of \wedge at D23 and D24.

If you are interested in engineering or mathematics, you will enjoy seeing how the worksheet is calculated and how values interrelate. You may wish to print the contents of this worksheet.

	D	E	F	G	H	I
6	50	F			3	
7	D6-D5	F			4	
8	10	ft			5	
9	10	ft			6	
10	-,.0002*D5+.0868	lb/ft**3			7	
11	-,.0002*D6+.0868	lb/ft**3			8	
12	4000*SQRT(.1923*(D10-D11)*(D8/2))	ft/min			9	
13	(3.435+32721*(D8-3)) *D12	ft/min			10	
14	(2.625+.04779*(D8-3)) *D12	ft/min			11	
15	LOOKUP(D9,H5:H23)	inches			12	
16	D9*(D15/12)	ft**2			13	
17	D13*D16	cfm			14	
18	ASIN(D12/D14)*(180/PI)	degrees			15	
19	10*TAN(D18)	inches			16	
20	D8/(D10/D11)+1.0)	inches			17	
21	100	ft/min			18	
22		Blower Pressure			19	
23	4*(D14*(D21/4000) 2)	In. W.G.			20	
24	3.3*(D14*(D21/4000) 2)	In. W.G.				
25	< v D25	>				

Width: 35 Memory: 26 Last Col/Row:J24 ? for HELP
1 >

OVERVIEW OF THE PEACHCALC WORKSHEET

The primary tool of PeachCalc is the large worksheet which is organized in a grid. You use this worksheet to enter and modify data and prepare reports.

The Grid

Columns are designated by letters of the alphabet and rows are designated by numbers. Specific locations on the worksheet are called **blocks** and are named for the column and row in which they appear. For example, the block in the upper left-hand corner of the worksheet is block A1.

The Worksheet Cursor and the Active Block

An indicator on your screen tells you where the next character entered will appear. The active block is indicated on the screen by the worksheet cursor, which can be a blinking box, an underscore, a light bar, reverse video, or the symbols (< >).

Cursor Movement Keys

The cursor is moved with the arrow keys or with the alternate movement keys on the terminal keyboard. Alternate movement keys are used by holding down the CONTROL key while simultaneously pressing the appropriate movement key.

Movement keys function differently when in the command or edit mode, as shown below:

KEY	COMMAND MODE	EDIT MODE
↑ or CTRL/E	Scrolls up	Inserts one blank character
↓ or CTRL/X	Scrolls down	Deletes one character
← or CTRL/S	Scrolls left	Backspaces one character
→ or CTRL/D	Scrolls right	Moves right one character
=	Jumps directly to a block	

NOTE: Some terminals can be modified through the INSTALL program to use alternate movement keys other than E, X, S, and D. If your terminal has been so modified, note the keys you use on the above table and on your Quick Reference Card.

OVERVIEW OF THE PEACHCALC WORKSHEET (Cont.)

The Window	Since the worksheet is too large to display all at once, you can look through your window (video screen) at part(s) of it. PeachCalc moves (scrolls) the window over the worksheet in any direction to keep the Active Block in view. You can lock the titles of some columns or rows so they remain still even if the rest of the window scrolls. You can split the window into two parts, either horizontally or vertically, with the WINDOW command. By typing ";", you can move between split windows. You can also scroll one or both windows at a time.
The Status Line	The Status Line provides information about the Active Block. It is the first of the three lines displayed at the bottom of the screen. The information on this line includes: <ul style="list-style-type: none">• the current direction of movement of the worksheet cursor• the Active Block location• format• protection• the contents of the Active Block Error messages and information messages will also display on this line.
The Prompt Line	The Prompt Line tells you: <ul style="list-style-type: none">• the current block width• memory available• the last block used for the current application• options available at any given time The command entered determines the prompts displayed.
The Entry Line	The Entry Line displays information entered at the keyboard. This is your scratch pad. You can check and edit information before it is committed to the worksheet. As characters are entered, the cursor moves to indicate the location of the next character. The number shown at the beginning of the line, (such as 1>), changes as the cursor moves to indicate how many characters have been typed.

OVERVIEW OF THE PEACHCALC WORKSHEET (Cont.)

- Commands** In order to manipulate the worksheet efficiently, PeachCalc uses commands. You enter a slash (/) and the first letter of the command on the Entry Line, and the program completes the prompt. (This is called "interpretive prompting".) There are many commands which execute specific functions of the PeachCalc system. See the PeachCalc reference card or the Commands section of this manual for detailed information.
- Formulas** When you enter numerics, block references or functions separated by operators and parentheses, the Status Line will read "Form= ". These entries are formulas. Non-numeric data is called text. The Entry Line, like the worksheet, acts as a scratch pad. PeachCalc takes the formula and calculates it and displays the result in the pertinent block(s). See the PeachCalc reference card or the Formulas section of this manual for further details.

DETAILED PEACHCALC SCREEN EXPLANATION

Each number and explanation below corresponds to the numbers on the sample PeachCalc worksheet illustrated on page 96.

Features of
the PeachCalc
Worksheet

- ① [TEXT="This is a Sample PeachCalc Worksheet]
The contents of the Active block are displayed as entered. When the screen displays the worksheet in a specified format (graphic, scientific notation, etc.), you can see block contents as originally entered.
- ② [P] The block is protected.
This feature protects the block from accidental entry or alteration.
- ③ [TL] Active Block format display.
All format characteristics of the Active Block are available at a glance if the block is individually formatted.
- ④ [Al] Active Block location.
Even if worksheet borders are not being displayed, you can check the status line for the location of the Active Block.
- ⑤ [<] Current cursor direction.
The first character of the status line is an arrow (^, v, >, <). It indicates which way the cursor will automatically move when you press RETURN.
- ⑥ [Width:20] Width of the column. (You decide.)
Each column can be a different width. This provides flexibility in formatting reports.
- ⑦ [N>"This is a Sample PeachCalc Worksheet] Your command is displayed as you type it in.
You can edit as you go. The number preceding the text tells you how many characters you have already entered into the block.
- ⑧ [Memory:24] Current memory available.

DETAILED PEACHCALC SCREEN EXPLANATION (Cont.)

Features (Cont.)

- 9 [Last Col/Row:025] The bottom of your worksheet

This message tells you the exact location of the bottom-most and far-right corner of your worksheet in relation to the entire sheet.

- 10 Two windows at once.

You can have two separate windows on the screen or view several separate areas at the same time. The possibilities are endless.

- 11 [Text]

PeachCalc allows the display of your text to spill over to adjacent block(s).

- 12 [Block] Any square on the grid is yours to manipulate.

The worksheet contains 63 columns, 254 rows, and 16,002 blocks in which to enter data. You can move the cursor to any block at any time.

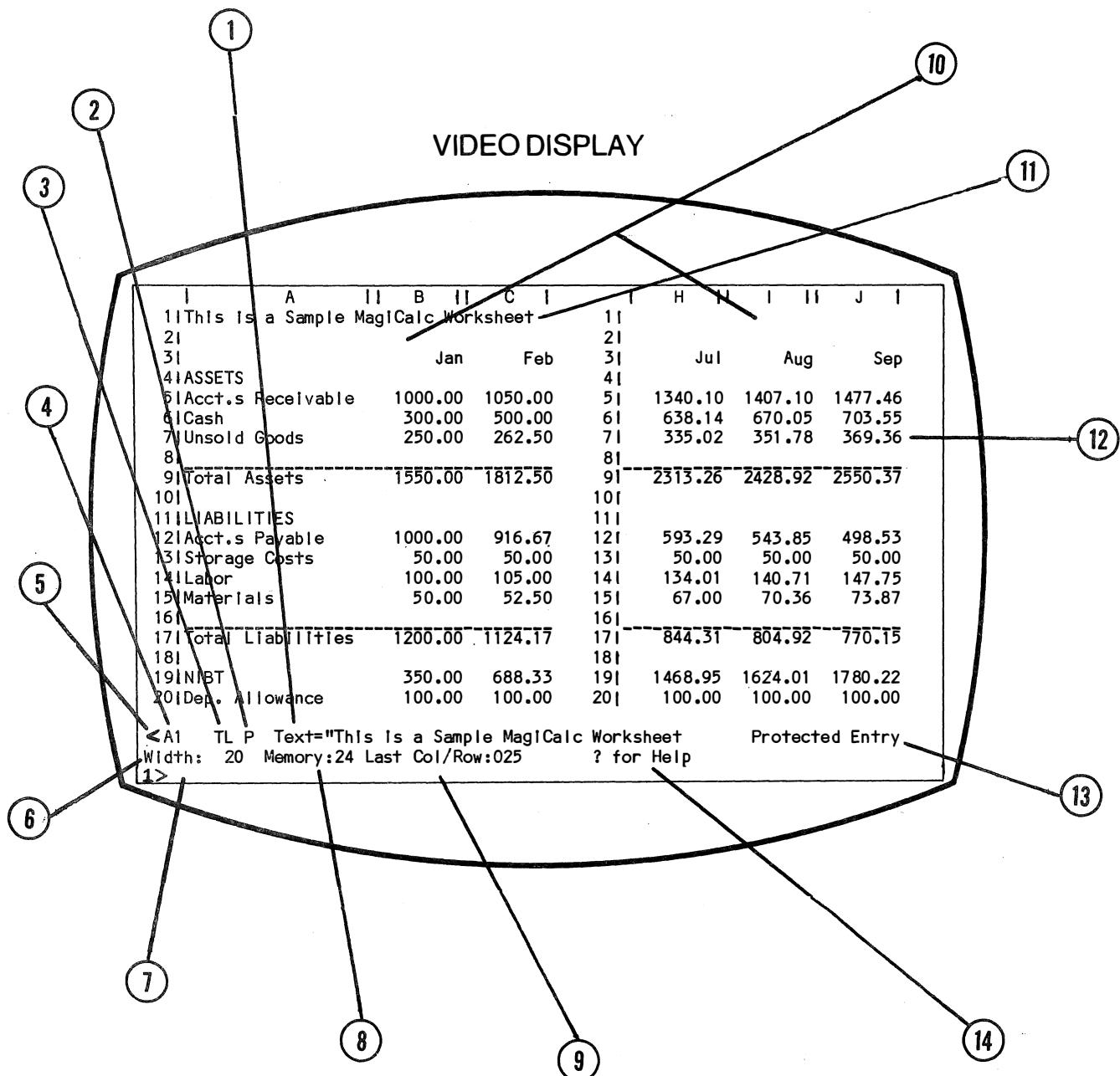
- 13 [Protected Entry] English-language error/information messages.

PeachCalc tells you what the problem is so you can correct it quickly and easily.

- 14 [?] The HELP Key

Simply press the question mark key to receive help. An explanatory text will display to guide you.

DETAILED PEACHCALC SCREEN EXPLANATION (Cont.)



MOVING AROUND THE WORKSHEET

Since the worksheet is like a large map and cannot be seen on the display screen in its entirety, you must be able to "move" around the worksheet to the part you wish to see.

Worksheet Cursor

The "worksheet cursor" is the method PeachCalc uses to locate the area of the worksheet currently being used. The appearance of the worksheet cursor will depend on the type of terminal you have. It might be any one of the following:

- a horizontal bar of light
- reverse video
- the symbol < >

Placing the Worksheet Cursor on the Active Block

There are several ways to move the worksheet cursor to a new Active Block.

- You can use the four arrow keys.
- Similarly, you can use the alternate movement keys. Hold down the Control key while you press the s, d, e, or x key to move left, right, up, or down.)

The GOTO Command (=)

The GOTO, or "address" command, is a quick method of placing the worksheet cursor at a particular location on the worksheet without having to scroll throughout the sheet manually.

The GOTO command is given on the entry line by typing: =

PeachCalc will ask for the block address. When you enter it, the display on your screen will change. If the designated block is already on the display, it will show as the Active Block. If not, the window will move to show the new Active Block at the upper left corner.

There is a special case. If you enter only =RETURN, the window will be adjusted to show the current Active Block at the upper left.

THE CURRENT-BLOCK REFERENCE KEY (ESCAPE)

The current-block key is the ESC (escape) key. When you press it, the PeachCalc program puts the location of the Active Block onto the entry line for you to use in a command or expression.

What happens when I use the ESCAPE key? After you press the current-block key, the arrow and alternate movement keys control the worksheet cursor. If you move the worksheet cursor, the Active Block address on the entry line changes dynamically to reflect the new location. When you press ESC again, the address stops changing, and the arrow and alternate movement keys can again be used for editing.

The : entry Pressing ":" after the Active Block address is a special case. The PeachCalc program places another Active Block address after the colon. The address before the ":" is fixed; the address after the ":" can still be dynamically changed.

The new Active Block location is temporary. When you press RETURN to enter the command or expression, the worksheet cursor will return to the prior active block location. If you are entering data into a block, it will go into that prior location.

STANDARD (OR DEFAULT) SETTINGS

PeachCalc uses standard settings for display and formatting and standard modes of reference. These are also called **default** settings or modes.

What is a
standard or
default
setting?

Standard (or default) settings are preset instructions to the PeachCalc system that tell it how to perform certain functions. The system will automatically look at these instructions until you change the instructions to other values.

Changing
default
settings

You can change these by choosing among available options described in the Reference Section. For convenience, here is a list of the standard settings and standard modes.

/Format

The following default settings can be changed by using the /F(ormat) command:

Column Width: 9

Numeric Display: Right-justified.

Standard numeric format. Blocks that contain formulas will have their values displayed. (If the number is too large to fit into the column, the number will be displayed in scientific notation.)

Text Display: Left-justified.

/Global

The following default settings can be changed by using the /G(lobal) command:

Border Display: Row (1-254) and Column designations (A-BK) are always displayed. (When the screen is split, the Row numbers and Column designations are shown for both windows.)

Calculation: Automatic calculation upon receiving new or altered data followed by a RETURN.

Order of Calculation: Calculation is performed by Rows, left to right and top to bottom.

Numeric Display: Standard numeric display. (Blocks that contain formulas will have their values displayed.)

STANDARD (OR DEFAULT) SETTINGS (Cont.)

/Global
(Cont.)

Tab Mode: Tab mode is inactive; that is, the cursor cannot jump to preset tabs, but advances only to the next block in the current cursor direction.

Automatic Cursor Advancing: Auto-advance mode is active; that is, the cursor will advance to the next block in the current cursor direction after data entry followed by a RETURN.

Additional standard operations: When you execute a /Copy or /Repeat command, formulas with references to other blocks are automatically adjusted to their new locations unless you choose one of the options provided for these commands.

PEACHCALC'S MEMORY -- CONCEPTS AND SUGGESTIONS

This section gives you some practical suggestions for using the PeachCalc system's memory efficiently. If you are interested in knowing the concepts behind the suggestions, we also provide you with a non-technical explanation. The practical suggestions are presented first. If your interest stops there, feel free to skip the explanations. But you may find that knowing how PeachCalc uses memory eliminates the need to memorize arbitrary rules.

Practical suggestions

1. Keep your work in the upper left of the worksheet grid.
2. Keep your work in a rectangular shape. Try to avoid having long columns or rows projecting outside the basic shape.
3. Do not blank blocks, protect blocks, or format blocks in the area below or to the right of the area that you actually need. Especially, do not put data below or to the right of the area you actually need.
4. When you have extra or interim work on the screen that you can get rid of, use the following procedure to free that space completely:
 - Delete or blank the material you do not need.
 - Move the rest of the work to the upper left of the grid, and adjust it as you wish it to display.
 - SAVE your work.
 - ZAP the screen.
 - Re-LOAD. You are now using the minimum space required for your worksheet.

Memory concepts

Two simple concepts underlie these suggestions:

- (1) the difference between an "empty" block and a "blank" block and a block with contents; and
- (2) the concept PeachCalc uses in managing your system's memory, the "memory use group".

These concepts are explained below in a non-technical manner. Here and there, a few technical terms creep in—for example, "byte", the memory unit which holds one letter or digit. We will explain the few such words as these; we use them only to save time and effort.

CONCEPTS AND SUGGESTIONS (Cont.)

Blank blocks,
blocks with
contents

When you start up PeachCalc, every block in the worksheet is empty. Empty blocks are merely potential locations that you can use. When you use a block, PeachCalc allocates memory space on two levels:

1. A "STUB" of two bytes. The stub is reserved for information about the block itself—for example, whether or not it is protected and what its format is. The system's memory retains this information even though you have blanked the block's value or content. Think of a ticket "stub", the part that is left when the ticket-taker has torn off the main part of the ticket. The basic information is still there—the time and place of the event. Even after you have seen the performance, you still have the ticket stub to say you have been there.
2. The "contents" space, which varies in size according to the number of digits or letters you enter.

The PeachCalc program automatically creates block stubs for any empty blocks to the left and above the PeachCalc worksheet area where you are entering data. In addition to the block stubs, it will reserve a minimum contents space for these blocks, if you are entering contents below or to the right.

When you blank a block, the contents portion is no longer needed. PeachCalc recycles the space so that it can be reused when needed for any general use. But the stub remains reserved for your use with that particular block. PeachCalc assumes you will eventually reuse the block.

In fact, if you blank a group of empty blocks, PeachCalc sets up a stub for each block. It gets ready to use those blocks.

Protecting blocks is always done in the stubs. If necessary, PeachCalc will create stubs. When you unprotect the blocks, those stubs remain.

When you put data in a block that was empty, both the stub and the contents are set up. At this point, you can format the block or protect it without using any more memory space because the stub is available for that purpose. In fact, the stub already has the standard or default information about the block, and when you format or protect the block, you just change that information.

In short, formatting or protecting a non-empty block is "free". No more space is required. But formatting or protecting an empty block takes space.

CONCEPTS AND SUGGESTIONS (Cont.)

The memory use rectangle PeachCalc makes the basic assumption that you will start at the upper left corner of the worksheet grid and work your way to the right and down. This assumption follows from our habit of reading and writing from the left to the right, and from the top to the bottom.

As you fill in data on the worksheet, PeachCalc works behind the scenes, keeping track of your work in the system memory. PeachCalc sets up a "memory use rectangle", which grows as you use it.

This rectangle is defined by block A1 at the upper left of the worksheet and a block diagonally opposite A1. This lower-right corner block represents both the rightmost column and "deepest" row you have used. For example, you may have material in A2-A4, B2-B9, and D1-D5. The memory use group in this case is defined by blocks A1 and D9.

Every block in this group will have a stub, and even if it appears blank, it will have a minimum "contents" space.

Adding material to the right of the group sets a new maximum column. Adding material below the group sets a new maximum row. Adding new material to the right and below sets a new maximum column and row.

It is a good idea to keep your work in the upper left area of the worksheet and to keep it basically rectangular.

An example of memory use

You might like to try this example of the memory use rectangle. It is exaggerated, but shows how the concept works.

Start with an empty worksheet. (Either load in PeachCalc fresh or ZAP the worksheet after saving anything you want to keep.) Make a note of the space available (shown as xxx on the alternate status line). The number stands for "kilobytes", which means 1024 bytes of space.

Remember that each block stub uses two bytes. Therefore, one kilobyte will hold 512 stubs.

Use the = command to go to P32. This block is 16 columns to the right of and 32 rows down from A1. If you use this block, you will define a "use group" of 512 blocks (16*32).

Now format the block; for example, set its format to "/Format, entry, \$.

CONCEPTS AND SUGGESTIONS (Cont.)

An example... (Cont.) You will see on the status line that you have one kilobyte less memory than you had before. What happened? By formatting that block, you defined a memory use rectangle that required one kilobyte of stubs.

Now enter the value in P32, such as 123. Notice the increase in space required. You now have a minimal contents space reserved for each block in the group.

Blank the group A1:P32. You release the minimal contents space but still have the stubs.

At this point, even if you delete column P or row 32, you will not regain space. The area from A1 to P32 now consists of block stubs; all the other blocks are empty.

Why should PeachCalc do such a thing? The reasoning is based on the assumption that you will find it convenient to work from the upper left (A1) to the lower right. Even though you started at P32, PeachCalc assumes that you just happened to start there and will be making use of the area to the left and above. It prepares that area for your use.

Facts you should know

Here are some facts about the memory use rectangle:

- The rectangle grows as needed. The lower right block defines its limits and therefore its minimum size. Adding material to the right or below (or both) expands the rectangle.
- Adding contents within the group or blanking blocks within the group will cause additional memory space to be used or released from use, but does not change the size of the group.
- Remember that the display width of a column has nothing to do with its actual contents. A blank column takes the same space, whatever its display width is. Squeezing down the display of a column with contents does not save any actual memory space.
- When you delete a column or row within the group, the portion of the column or row inside the group becomes blank blocks. The portion to the right and below the group still consists of empty blocks.

CONCEPTS AND SUGGESTIONS (Cont.)

Facts (Cont.)

- In some cases the memory use group will have an inside group at the upper left, in which each block has a stub and a minimum contents space, and the rest of the group will have stubs only. The maximum row and column with actual contents define the inside group; the rest of the group is left over from delete operations or the blanking of outside columns and rows.
- The only way to unburden the memory rectangle of unnecessary blank columns and rows is to save and reload. Move your work to the upper left, deleting or blanking unnecessary material below and to the right. Save the worksheet, zap the screen, and reload. When the sheet is saved, PeachCalc considers the blank columns to the right of your work, and blank rows below, empty. They are not saved.

ACTIVE BLOCK STATUS

The status line is the first of the three lines at the bottom of the PeachCalc screen. This line always displays information about the Active Block.

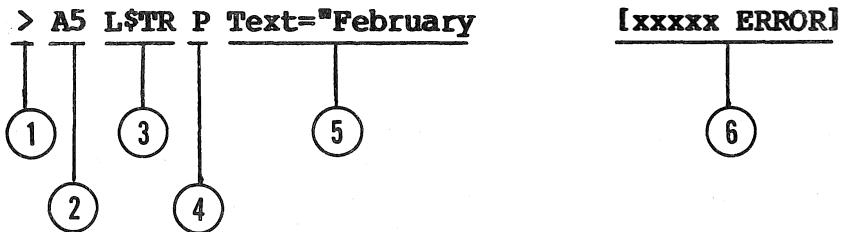
What does
this line
tell me?

The information displayed includes:

- The current direction that the cursor is moving
- the Active Block location
- the Active Block's specific format and protection status
- the textual contents of the Active Block.

Example

Here is an example of a status line:



Here is what it means:

- ① The current direction of the worksheet cursor, set by the last arrow key pressed. It may be ^, v, >, or <.
- ② The Active Block location. Data entered will go into this block. Commands that use the current column or row will go into the column or row containing that block; in this case, it would be column A and row 5.
- ③ Active Block format settings; in this case, numbers Left justified, \$ format, and Text Right justified. This information only displays when the /Format entry option has been selected for the block. The detailed reference for /Format gives full information on such settings.
- ④ Data protection. P if the Active Block is protected, blank if unprotected.
- ⑤ The contents of the Active Block; in this case, Text. Repeating text is indicated by "Rxtxt=". Numbers or formulas show as "Form". For example, "Form=73" or "Form=l2*B9".
- ⑥ PeachCalc also uses the status line to display error or informational messages. These messages disappear and the status information reappears as soon as you press any key.

PROMPT AND GLOBAL STATUS

The middle of the three information lines serves a dual purpose; while you are entering a command, this line "prompts" you by outlining the choice of possible entries you may make.

Example For example, after you have entered /Delete, the prompt line reads:

R(ow) or Column)

This indicates you must next tell the PeachCalc program whether you wish to delete a Row or a Column. If you then enter Row, the prompt line changes to:

Enter Row Number

This reminds you that a row is specified by a Number.

When in doubt,
ask! The HELP
reference (?)

When you are using PeachCalc and you need information about your current entry options, press the ? key. The display screen will change to show a list of entries that you may make depending on your present position within PeachCalc. This HELP function is available at any time and in any mode. Press any key to return to the previous display.

Global Status

When you have finished entering a command, the middle line reverts to its other function: global status. It then gives your worksheet's current status.

Example

An example of global status is:

Width:9 Memory:32 Last Block:J10 ? for HELP

1 2 3 4

This information tells you:

① Width:9

Column width. This is the display width of the column that contains the Active Block. The standard or default setting is 9, but you can specify a different width. You can set all columns to the same width or set different widths for different columns. In the event that you change the default setting, the status line will list the display width that you have selected.

PROMPT AND GLOBAL STATUS (Cont.)

Example
(Cont.)

② Memory:32

Available memory, in "kilobytes" (a kilobyte is the memory sufficient for 1024 characters or digits). This number changes as you add data to the worksheet.

③ Last Block:J10

This tells you the lower right-hand corner of an imaginary block that just contains all of your worksheet. In other words, J is the right-most column you have used, and 10 is the lowest row (biggest row number).

④ ? for HELP

This reminds you that typing "?" will always give you an explanation of the options you have at that moment. If you press "?", you will receive an explanation of your choices.

The / symbol

The / symbol precedes commands. If you press it, the prompt line will change to list possible entries and the "?" symbol. Pressing "?" will display an explanation of the choices listed on the prompt line.

As you proceed within commands, or make other possible entries, the prompt line will change to show the current choices. Whenever you press "?", a short but detailed explanation of options will be displayed on the screen.

DATA ENTRY AND DISPLAY

The entry line at the bottom of the worksheet is where you tell PeachCalc what to do by typing commands or data. This section provides some detailed information about the data you can put into blocks and the formats you can use to display that data.

Limits for data entry	Numbers	16 significant digits, plus optional decimal point and optional sign for ordinary numbers. 16 significant digits, plus decimal point and optional sign for exponential numbers (scientific notation). These 16 digits can be raised to the 63rd power of 10.
		Largest ordinary number: 9999999999999999 Smallest ordinary number: -9999999999999999
		Largest exponential number: 9.99999999999999e62 Smallest exponential number: -9.99999999999999e62
	Text	115 characters. Must be preceded by " or '.
		Examples: "Expenses, January
	Formulas	116 characters.
		Examples: 7+A5, 9+5*E7, SUM(B1:B9), MIN(A4, D4, G4)
Distinguishing between numbers, text, and formulas	Numbers	Numbers start with digits (0-9), +, -, or . (period). An entry that begins with a period is assumed to be a decimal entry beginning with zero and a decimal.
	Text	Text starts with quotation marks.
	Formulas	Formulas can start with the same characters as numbers—that is, 0-9, +, -, or period. They can also start with a (. You can put arithmetic expressions, relational operators, functions, and references to blocks within formulas.

DATA ENTRY AND DISPLAY (Cont.)

Data display	You will find more information about display options under "/Format" and "Global Options".
Numbers	Ordinarily right justified; optionally, left. The way in which numbers appear when displayed depends on the display format selected, not on the way they looked when entered into the block. The content of the block is not affected by the display format.
Display options	Display options allow numbers to be displayed in the following ways: <ul style="list-style-type: none">● General (ordinary numbers if they fit column display width; otherwise, exponential).● Exponential (scientific notation), rounded if necessary. Integer (integers only; if there is a decimal number, round up or down to make it an integer).● Dollar amounts, rounded to the nearest cent; ".00" is appended to whole numbers.● Graphic display, using asterisks (*) to show relative values in bar graph form.● For any display format, if the numeric display cannot fit into the column, then >>>> fills the column.● A column can be widened to display a number or text in full. Column width can be set from 1 to 126.● Text. Ordinarily left justified; optionally, right.● If text is too large for the column, the text display will continue into the adjoining blank block(s) to the right. If it cannot continue into adjoining columns, it is cut off at the right.● Formulas. Ordinarily the resulting value is displayed; optionally, the formula. On the status line, the formula is displayed. When the formula is displayed in a block, it can continue into adjoining blank blocks as text does.

EDITING AN ENTRY

Once you begin to type a command or data on the entry line, the four arrows (or the alternate movement keys) no longer move the worksheet cursor around the worksheet. Instead, they are used to edit information on the entry line.

How is this done?

There are several methods of correcting commands or data while they are on the entry line:

- ← or CTRL/S - To backspace one character
- or CTRL/D - To move right one character
- ↑ or CTRL/E - To insert one blank character
- ↓ or CTRL/X - To delete one character

There is also a way of correcting a command or data entry after it has been committed to the worksheet. This is the EDIT command.

The EDIT command

The EDIT command allows you to use the edit process and enter the altered contents into the Active Block after you have committed the entry to the worksheet.

Horizontal cursor movement

Left and right arrows (or CTRL/S and D) move the data-entry cursor non-destructively across the entry so the cursor can be positioned where the change is to be made. Because a block can contain 116 characters, which is longer than can be shown on the entry line, PeachCalc will scroll your entry during the edit process, allowing you to examine any portion of it.

Inserting or deleting characters

Wherever the cursor is, a new character can be entered to replace the old one. The cursor then moves right one position.

Down arrow (CTRL/X) deletes a character each time it is pressed. The cursor stays in position.

The up arrow (CTRL/E) inserts a new space at the cursor location each time it is pressed. The cursor stays in place, and spaces fill out to the right of it. The space(s) can then be filled with additional characters.

Accepting data

Remember, what you see on the entry line is what gets entered into the Active Block. When you finish making your changes and enter the data or execute the command, PeachCalc takes everything on the entry line, not just the material to the left of the cursor.

PEACHCALC COMMANDS (/)

What is a PeachCalc command?

A PeachCalc command consists of the symbol / and a single letter. The letter stands for a specific instruction to the PeachCalc system. There are 18 commands which give PeachCalc instructions on data, worksheet adjustment, building data or the worksheet, protection, saving/restoring, display, and printing.

How do the commands work?

All of the commands are entered with / and the first letter of the command. The rest of the command is automatically filled on the entry line. For example, "B" appears as "Blank". The prompt line lists the choices available to you for that command. When you enter /, the prompt line shows the possible one-letter entries. When you choose one of these, the prompt line changes to show the choices available for that particular command. Whenever you wish further information about options, you can press the ? key.

Levels of entry

Some commands have several levels of entry; that is, there will be a sequence of prompts and entries before the command is executed. An example is the command to copy from one location to another. If you are entering one of these multi-level commands, it is possible to back out of your current entry by using the back (left) arrow. In fact, you can back entirely out of the command without executing it. You may also cancel any command by entering CTRL/Z (holding down the Control key while pressing Z).

Editing commands

Commands, like data, can be edited with the in-line editor. Remember that when you press the carriage return (RETURN), everything visible on the entry line will be executed—not just the part of the command to the left of the cursor.

Specifying the current block

A few commands use only the current block, column, or row. Most allow you to specify which block, column, or row in the command line. Column addresses may be entered as either capital or lower-case letters; PeachCalc will convert lower-case column entries to capitals. If you want to specify the current block, column, or row (as appropriate) in such commands, simply press "," (comma) to enter the current location into the command line.

PEACHCALC COMMANDS (Cont.)

The current
block key
(ESCAPE)

The current-block key (ESC) can also be used to enter the current block, column, or row into the command line. (If only the column or row is needed, the other part of the current block location is ignored.) Once you press the ESC key, you can move the Active Block temporarily to a new location. Its address changes on your entry line and can be used in your command. Pressing ":" allows you to develop two block addresses, such as B5:E5, which is convenient for many commands.

The carriage
return

The carriage return (RETURN) ends a command, causing it to be executed. In some cases, a comma (,) can also end a command because pressing the comma enters the last item of information needed in the command line. The command is complete, so the PeachCalc program executes it.

THE BLANK COMMAND (/B)

BLANK erases the contents and clears the format of a block, a partial or complete column or row, or a group. Blank clears the formatting of the block if it has been formatted by itself, that is, at the E level (see /Format) Formatting for a row or column is not affected, even if every block in it is blanked. Only the /Format command can change the format for a column or row. Protected blocks will be bypassed.

Prompt Enter Range

Examples /Blank, c7 (RETURN)
 /Blank, c7:c12(RETURN)
 /Blank, c7:h7(RETURN)
 /Blank, c7:h12(RETURN)

THE COPY COMMAND (/C)

COPY makes a one-to-one copy of a block, a partial column or row, or a group to a new location. Options give a choice of formula adjustment or copying values only.

Adjusting formulas

When you choose the Ask option, each formula that qualifies for possible adjustment is displayed on the entry line. Its source and destination address are shown on the prompt line. Peach-Calc positions the cursor at each block reference on the entry line, and you are asked to reply "Y" or "N". Y means, "Yes, automatically adjust". N means, "No adjustment, transfer as is".

Examples of entry

Copy block to block: /Copy, b9, c12(RETURN)

Copy partial column to partial column: /Copy, b9:b15, e9(RETURN)

Copy partial row to partial row: /Copy, b9:g9, h12(RETURN)

Copy group to group: /Copy, b9:g15, k20(RETURN)

Copy without adjustment: /Copy, b9, c12, N(RETURN)

Copy, ask for individual choice of adjustment: /Copy, b9, b15, e9, A(RETURN)

THE DELETE COMMAND (/D)

The DELETE command deletes a column or row.

Prompt **R(ow) or Column)**

If you reply R, the prompt becomes:

Enter Row Number

You may then enter a number from 1 to 254, or "," for the current row.

If you reply C, the prompt will be:

Enter Column Letter

You may enter a letter designation from A to BK, or "," for the current column.

Protected blocks This command causes the contents and formatting of the specified row or column to be deleted. The command will not execute if a protected block is in that row or column.

How the worksheet adjusts The rest of the worksheet adjusts as follows:

- Rows below the deleted row move up, and all row numbering adjusts. If row 4 is deleted, row 5 moves up and becomes the new row 4, and so on.
- Columns to the right of the deleted column move left. If column D is deleted, column E moves and becomes column D, and so on.

All formulas on the worksheet are automatically adjusted as necessary. The adjustments preserve references to block contents by giving their new location. For example:

Row 3 is deleted.

A prior reference was SUM(B2:B5). That reference becomes SUM(B2:B4). The contents that were in B5 are now in B4.

A reference to B3 itself would cause an error if column B or row 3 is deleted. This is because the contents vanish, and there can be no new reference to them. The PeachCalc program cannot assume that this is a special case, one where you want the old formula to refer to the new contents of block B3.

THE DELETE COMMAND (Cont.)

Worksheet
adjustments
(Cont.)

For example:

Block A6 has the formula `SUM(B3, F3, G3)`.

Column B is deleted.

Block A6 will now display "ERROR" because the contents of B3 have vanished. To correct the error, you must correct the reference to B3 in block A6.

Examples

`/Delete, R, 5, (RETURN)`

`/Delete, C, E, (RETURN)`

THE EDIT COMMAND (/E)

This command edits the contents of a specified block and places them in the Active Block. If the Active Block is protected, you cannot edit anything in it.

Prompt	From?
	Specify a block; "," means the current or Active Block. The block contents come to the entry line, replacing the command on the line.
How EDIT works	Editing is done with the in-line edit function. Use the arrow or alternate movement keys to move the cursor non-destructively left and right to characters you want to change. The character that will be altered is the one under the cursor. You can replace characters one-for-one simply by typing new characters over them. You can delete characters, including blanks, by pressing the down arrow (or CTRL/X). You can insert blanks by pressing the up arrow (or CTRL/E). Then, if you wish, you can replace the blanks by typing other characters over them.
Example	<p>The Active Block contains "Janauerry".</p> <p>/Edit and "," brings this to the entry line. Use the left arrow to move the cursor to the second "a", Janauerry. Type "ua". Move cursor right to one of the "r"s, Januarry. Press the down arrow to delete it, and press carriage return. (Remember, pressing RETURN puts the entire entry into the block no matter where the cursor is positioned).</p> <p>The Active Block now contains "January".</p>

THE FORMAT COMMAND (/F)

FORMAT specifies formatting for a block or group of blocks, a column, a row, or the entire worksheet.

Choices of formats (one or more)	Numeric display. Ordinary, scientific, both; dollar amounts; right or left justify.
	Text display. Right or left justify.
	Column width. Specify display width for one column or all columns.

Prompt **Enter Level: G(lobal), Column), R(ow), or E(ntry)**

Specifies the format for displaying numbers or text in the entire worksheet (G), in a column (C), a row (R), or a block or group of blocks (E). If you reply C or R, you are asked to specify the column or row; "," will specify the current column or row. If you reply E, you can specify a single block or a range of blocks; that is, a partial column or partial row. Using E to specify formatting at the block level gives the highest priority of formatting.

The next prompt message you receive depends on the level of formatting you specified.

A level of G or C has this prompt:

Define Formats: (I, G, E, \$, *, R, L, TR, TL, D, column width)

A level of R or E has the same prompt, except that "column width" is not included because it is not a valid choice.

You may enter as many of the formats as you wish.

Possible format choices

Here is a list of the possible format choices:

I - Display numbers as integers. Decimal fractions are rounded up or down to convert them to whole numbers.

E - Exponential. Display numbers in scientific notation, as a power of 10. For example, 1776 is 1.77e3. 1,000,000 is 1.0e6. Round if necessary.

G - General. Display the number as an ordinary number if it fits in the column width; otherwise, display it as an exponential number.

THE FORMAT COMMAND (Cont.)

Possible format choices (Cont.)	\$ - Dollar amount. Round to the nearest cent; append ".00" to whole numbers. No \$ is displayed. * - Graphic display for numbers. Use asterisks to show the relative sizes of numbers. Allows bar graph display. R,L - Right, Left Justify. For numbers. TR,TL - Text Right, Text Left Justify. For text. 0-126 - Column width, for the specified column or for the worksheet. D - Default. Reset to the next level of formatting. See note 2 below.
Contradictory entries	When your entries are contradictory, PeachCalc will act on the one entered last. For example, if you enter "R, L, I, G", then L and G will take effect and R and I will be ignored.
Notes	<ol style="list-style-type: none">1. FORMAT does not apply to data entry. The contents of a block are kept as entered; FORMAT specifies how the contents are displayed.2. Where formats differ, the order of precedence is first the block (E), then row (R), column (C), and finally worksheet or "global" (G). That is, block formatting overrides any format for the column or row where the block is. Where row and column intersect, row formatting overrides. Any of these override the global settings.
Default settings	When the program is started up, these global format settings are in effect: general numeric display (G), numeric right justify (R), text left justify (TL), and a column width of 9.
Examples	/Format, C, E, 12 (RETURN) /Format, R, TR, (RETURN) /Format, G, \$, 11, (RETURN) /Format, E, E, (RETURN)

THE GLOBAL COMMAND (/G)

The GLOBAL command sets worksheet options.

Prompt

F(ormat), N(ext), B(order), T(ab), R(ow), C(ol.), M(an.), A(uto).

If you respond to the prompt by pressing F, the display window will show the formulas contained in the blocks instead of the values that result from the formula calculations. If formulas are currently being displayed, pressing F will cause the values to be displayed.

If you respond to the prompt by pressing N, "auto-advance" of the cursor will occur (in the "current direction") after the data is entered into a block. If auto-advance of the cursor is already in effect, then pressing N causes no auto-advance of the cursor after the data is entered into a block.

If you respond by pressing B, the display of the worksheet border will be suppressed. If you already suppressed the border display, then pressing B will restore it. ("Border" refers to the column and row designations across the top and down the left side of your display window).

Response of T, activates Tab mode. If PeachCalc was already in Tab mode, then pressing T will deactivate the Tab mode. In Tab mode, advancing between blocks skips all empty or protected blocks. Therefore, a protected or an empty block can never be selected as the Active Block in this mode.

Options

Options "R", "C", "M", and "A" concern recalculation.

R means recalculate by rows, from the top down. (Rows are recalculated left to right.)

C means recalculate by columns, from the left across. (Columns are recalculated from the top down.)

If you reply A, then recalculation is automatic. If you reply M, recalculation is done on your request whenever you press the ! key.

THE INSERT COMMAND (/I)

INSERT inserts a new empty column or row.

Prompt **R(ow) or Column)?**

If you reply **R**, the new prompt is:

Enter Row Number

You may enter a number from 1 to 254, or "," for the current row.

If you reply **C**, the prompt is:

Enter Column Letter

You may enter a letter or letters from A to BK, or "," for the current column.

This inserts a new row or column of empty blocks between existing rows of columns. A new row appears above the specified row, a new column to the left of the specified column.

How the worksheet adjusts

The rest of the worksheet adjusts. Columns move right, rows move down. The contents of each column or row are preserved but have a new designation. The contents, if any, of the last row (254) or column (BK) are discarded. The command will not execute if that last row or column contains a protected block.

All formulas on the worksheet are automatically adjusted as necessary. The adjustments preserve references to block contents by giving their new location. For example:

Row 3 is inserted. A prior reference was **SUM(B2:B5)**; that reference becomes **SUM(B2:B6)**.

The contents that were at B5 are now at B6.

A prior reference to B3 itself will become a reference to B4 when a new 3 is inserted.

Example

/Insert R, 5(RETURN)

/Insert C, D(RETURN)

THE LOAD COMMAND (/L)

This command loads the worksheet contents and settings from a disk file. You may load all or part of a worksheet at a location you specify. Options give a choice of formula adjustment or loading values only.

Prompt **Enter File Name (or RETURN for directory)**

Enter the name of the file, with the drive designation if the disk is not on the system drive. The file name must have the extension ".CAL". This extension is assumed, and you do not have to enter it. Do not leave blank spaces in the file name.

For example: **SALESFEB(RETURN)**

B:SALESFEB(RETURN)

If you reply A, the entire worksheet is loaded in its original location as it was when saved. The load is finished.

If you reply P, then further questions appear on the prompt line:

From? (Enter Range)

Specify the position of the saved worksheet that you wish to load.

To? (Enter Range), then RETURN or "," for options.

Enter the block address at the upper left of your destination, which may be a new location for that portion of your worksheet. Press RETURN if you wish automatic adjustment of formulas for the new location; otherwise press "," for options. The options are: N(o Adust), A(sk for Adjust); V(alue). See /Copy for an explanation of these options.

If there are protected blocks in the destination area, they will remain unchanged.

Examples **/Load,QUARTER3 (RETURN)**

/Load,B:QUARTER3 (RETURN)

THE MOVE COMMAND (/M)

The MOVE command moves one column or row to a new location.

Prompt **R(ow) or Column?)**

If your reply is R, the prompt is:

Enter Row Number

You may enter a number from 1 to 254, or "," for the current row.

If you reply "C", the prompt is:

Enter Column Letter

You may enter a column designation from A to BK.

After you have specified a row or column, the PeachCalc program will ask the destination of the move. The prompt is:
To?

Reply with a row or column designation, whichever is appropriate. Pressing "," or the current-block key (ESC) will designate the current row or column.

How the worksheet adjusts

MOVE adjusts the worksheet without destroying any data or any formatting. It moves a specified column left or right and inserts it in a new location, or moves a specified row up or down and inserts it in a new location. The columns or rows in between move to fill the old location. They move in the opposite direction to the basic move.

All formulas on the worksheet are automatically adjusted as necessary. The adjustments preserve references to block contents by giving their new location. For example:

Row 3 is moved to row 5. The former rows 4 and 5 move up to become new rows 3 and 4. The former row 3 becomes row 5.

A prior reference was **SUM(B2:B5)**. That reference becomes **SUM(B2:B4)**. The contents of B5 are now at B4.

Example

/Move R, 5, 12(RETURN)

/Move C, E, A(RETURN)

THE OUTPUT COMMAND (/O)

OUTPUT writes part or all of the worksheet to the printer, the terminal, or a disk text file. You can write out a partial column, partial row, or block. If you write the report to a disk file, you can use your system text editor to add further information or modify formats before printing or to include the PeachCalc report within other text.

The worksheet information can be written out in the way it is displayed or as the actual block contents.

Prompts **D(isplay) or C(ontents) report?**

Enter **D** to generate a report in rows and columns as it currently appears on the display.

Enter **C** to list the actual contents (text or formula) instead of the current values of the blocks.

Enter Range

Enter the range of blocks to output in the format xx:xx; for example, A1:B2. This would include the information in all blocks from A1 to B2.

Enter Device: P(rinter), S(etup), C(onsole), or D(isk)

Enter **P** to print the report.

Enter **S** to print with special setup codes or page dimensions.

Enter **C** to preview the report on the screen.

Enter **D** to output the file to disk with a .PRN extension.

THE PROTECT COMMAND (/P)

This command protects a block, partial column, partial row, or block.

Prompt	Enter Range
	Protects block contents and formatting from change. Data cannot be entered into, or edited into, a protected block.
Commands affected	/BLANK, /FORMAT, /COPY, /REPEAT, and /LOAD will all bypass protected blocks. That is, the commands will operate on surrounding blocks but leave the protected blocks unchanged. /DELETE will not work if a protected block is in the specified row or column.
Exception	There is one exception: the /Zap command overrides protection.
Examples	<code>/Protect,c3(RETURN)</code> <code>/Protect,c3:c9(RETURN)</code> <code>/Protect,c3:g3(RETURN)</code> <code>/Protect,c3:g9(RETURN)</code>

THE QUIT COMMAND (/Q)

QUIT allows you to exit from PeachCalc and return to the operating system.

Prompt **EXIT PeachCalc? Y(es) or N(o)**

If you reply Y, you return to the operating system. If you reply N, you return to the PeachCalc program. Any other reply is ignored.

If you have work that could be lost when you quit, PeachCalc gives you a chance to save the work before leaving the program.

THE REPEAT COMMAND (/R)

REPEAT makes a one-to-many copy of a block to a group of blocks, a partial column to a group of partial columns, or a partial row to a group of partial rows. Options give a choice of formula adjustment or repeating values only.

Prompt	From (Enter Range) Specify a block, partial column, or partial row, followed by a comma. The next prompt is: To? (Enter Range), then Return; or "," for options. Repeat makes a one-to-many copy of its source into a destination that is larger than the source: A block into a partial column or partial row. A partial column into a group of partial columns. The destination address is given as the left and right block addresses on the top row of the destination group. The partial column will be copied once for each block in that portion of the row. A partial row into a group of partial rows. The destination address is given as the upper and lower block addresses for the left column of the destination group. The partial row will be copied once for each block in that portion of the row. Specify the destination and press RETURN, or if you wish a choice of options for copying formulas, press "," (comma).
Options	The options are the same as those for /Copy. If you press RETURN, formulas are automatically adjusted. You may specify no adjustment at all, adjustment or not for each reference to another block address, or repetition of values only, without formulas. If you press "," to select options, PeachCalc will prompt: N(o) Adjustment, A(sk) for Adjust, V(alues) only N - Copies formulas exactly as they are. A - Allows you to choose for each reference to another block address within a formula whether to copy it as is or to have the PeachCalc program adjust it. V - Copies the values only, without formulas.

THE REPEAT COMMAND (Cont.)

Adjusting formulas

When you choose the Ask option, each formula that qualifies for possible adjustment is displayed on the entryline. Its source and destination address are shown on the prompt line. Peach-Calc positions the cursor at each block reference on the entry line, and you are asked to reply "Y" or "N". Y means, "Yes, automatically adjust". N means, "No adjustment, transfer as is".

Examples:

Repeat a block into a partial column: /Repeat,b12,e3:e8(RETURN)

Repeat a block into a partial row: /Repeat,b12,e3:j3(RETURN)

Repeat a partial column into a group of partial columns: /Repeat,b3:b7,d3:j3(RETURN)

In this example, the partial column is five blocks deep. The result will be a group of blocks repeating that partial column seven times. The top of that block is on row 3.

Repeat a partial row into a group of partial rows: /Repeat,b3:e3,g5:g7(RETURN)

The partial row here is four blocks across. The result will be a group of blocks repeating the partial row three times. The left side of that block is column G.

Repeat without adjustment: /Repeat,b12,e3:e8,N(RETURN)

Repeat, ask for individual choice of adjustment: /Repeat,b12,e3:j3,A(RETURN)

Note

/Copy and /Repeat

As a special case, /REPEAT can make a one-for-one copy just as /COPY does. /COPY cannot repeat (make multiple copies). /COPY can, however, do something that /REPEAT cannot do; it can copy a group.

THE SAVE COMMAND (/S)

This command saves the worksheet contents and all settings on a disk file. Options give a choice of saving all contents or values only.

Prompt **Enter File Name (or RETURN for directory)**

Enter the name you have chosen for saving your worksheet. Also enter the drive designation if you do not want to write it to the disk in the the drive currently in use. The PeachCalc program will automatically give the file the extension ".CAL". You do not need to enter it as part of the file name.

The next prompt is:

A(ll) or V(alue)s

"A" specifies that all block contents are to be saved; "V" that values will be saved without formulas. For either case, all of these are saved: format settings, global options, title locking, window splitting, and Active Block location.

NOTE: If you specify the name of a existing file, the program will display the following prompt:

File already exists: C(hange name), B(ackup) or O(verwrite)?

Examples **/Save,WORK5 (RETURN)**

/Save,B:WORK5 (RETURN)

THE TITLE COMMAND (/T)

TITLE locks columns, rows, or both into their places on the display window. Locked information will not scroll; other information on the screen can scroll. Title Lock uses the current row and column.

Prompt **H(oriz.), V(ert), B(oth), or C(lear)?**

H - locks the current row and all rows above it.

V - locks the current column and all columns to the left of it.

B - locks both the current row and column and all rows above and columns to the left.

C - removes the title lock

A new title lock replaces a prior one.

THE UNPROTECT COMMAND (/U)

UNPROTECT removes protection from block, partial row or group.

Prompt **Enter Range**

Allows block contents or format to be changed. (There is no error if you try to remove protection from something that is not protected.)

Examples

- /Unprotect,c3(RETURN)
- /Unprotect,c3:c9(RETURN)
- /Unprotect,c3:g3(RETURN)
- /Unprotect,c3:g9(RETURN)

THE WINDOW COMMAND (/W)

WINDOW splits the display window into two parts. Each portion can have separate format settings and options. Window uses the current row or column.

Prompt

H(oriz.), V(ert.), C(lear Split.), S(ynch.) or
U(nsynch.)

H - The screen is split horizontally, with the current row moving down to be replaced by a second border. The Active Block moves up one block in its column.

V - The Screen is split vertically, with the current column moving right to be replaced by a second border. The Active Block moves left one block in its row.

NOTE: In both these cases, there is an alternate Active Block in the original location. You can switch between the two Active Blocks by pressing ";". They move independently.

C - Clear the split screen. The portion that was above or to the left is the "primary" screen; it is now displayed in full.

S - Synchronize scrolling in the two portions.

U - Unsynchronize scrolling. The two portions will scroll independently.

Split options

Within the two portions of the screen, formatting and global options can be set independently. It is possible to show the same data with different formatting and options; for example, to show the same column as values and as formulas.

When the split is cleared, the options and formats for the primary screen remain. The primary screen is the portion above or to the left.

THE EXECUTE COMMAND (/X)

EXECUTE carries out the instructions contained in a command file. The character strings in the file represent the exact characters which are typed on the terminal keyboard when using PeachCalc.

Prompt

Enter filename (or <RETURN> for directory)

If you press RETURN, you will be told the disk drive and the name of the file with which you are currently working. You will also be given options for changing the disk drive, displaying a directory of files on the working disk, or a directory of PeachCalc format files only.

If you enter a filename, the PeachCalc program reads each of the commands in the specified file and executes them one character at a time. If the file is not in the proper format or a command is in error, a message is displayed on the Status line and the EXECUTE command is aborted. You can also terminate the command by pressing CNTRL-Z.

NOTE: The default extension for command files is .XQT. If your file has no extension, you must put a period at the end of the filename.

Command files

Command files can be created using a text editor or word processor such as PeachText™ or by using PeachCalc. Each line of the file contains the exact keys you would press to execute a specific command within the PeachCalc program.

Every operation available to you in PeachCalc is also available for use in an executable command file. This includes cursor movement (represented by ^, v, <, > for up, down, left, and right), and data entry. One exception to this is the EDIT command, which should only be used as the last command in a file.

You can also create a command file in PeachCalc. Each command line is entered as text, and then the file is saved. You should save PeachCalc files in two ways: (1) by using the OUTPUT command and creating a .PRN file that can be read by the EXECUTE command, and (2) by using the SAVE command to save the file for editing later. If you have not created a .CAL file, you cannot edit your command file using PeachCalc. .PRN files are not loadable by the PeachCalc program, but can be maintained with PeachText™.

NOTE: Before you create a .PRN file, remember to remove the borders, since the EXECUTE command cannot read a .PRN file which has them.

THE EXECUTE COMMAND (Cont.)

Example

```
/ZY  
/FCA,20  
/LB:BALANCE,A  
/GF/GM/FGD,$  
/IR23  
=A23  
"Tax Rate  
/P  
>IF(B21<=1800,.3,.32)  
/RB23,C23:N23  
=B24  
B23*B21  
/RB24,C24:N24  
/GF!/ODALL,C
```

/X(Execute),Filename or RETURN for directory,RETURN

NOTE: On line 4 commands have been combined to avoid unnecessary RETURNS, which would advance the worksheet cursor even though you wouldn't want it to do so.

THE ZAP COMMAND (/Z)

ZAP clears the contents and formatting from the entire worksheet.

Prompt **Entire Worksheet Y(es) to clear everything,
else N(o)**

All blocks become empty. All format settings and modes of operation revert to their standard settings. Everything starts fresh, as if you had just started up the PeachCalc program.

Comments **/ZAP** is the only command that can override protection of blocks.

Remember, when you ZAP the worksheet, nothing remains. You have not, however, destroyed the file on the disk if it was saved previously.

Example **/Zap,Y**

/Zap,N

PEACHCALC FORMULAS AND FUNCTIONS

Formulas specify calculations and comparisons. Formulas use values in other blocks (which may be themselves the result of formulas), constants, and built-in functions.

What type of formulas can I use?

These values are combined using arithmetic and relational operators:

+	addition
-	subtraction
*	multiplication
/	division
^	raising to a power
=	is equal to
◊	is not equal to
<	less than
<=	is less than or equal to
>	is greater than
>=	is greater than or equal to

Built-in functions

The functions that are built into PeachCalc are listed below:

ABS(value) - Absolute value.

AVERAGE(list) - Arithmetic mean of the non-blank values in the list.

COUNT(list) - The number of non-blank entries in the list.

ERROR, NA - Display "ERROR" or "NA" (not available) for the block having this function and for any block with a formula referring to this block.

EXP(value) - Raise "e" exponentially. Value is the exponent.

OR(expression 1, expression 2) - Results in "true" (value of 1) if either expression 1 or expression 2 are "true" (non-zero), otherwise results in "false" (value of 0).

AND(expression 1, expression 2) - Results in "true" (value of 1) if both expression 1 and expression 2 are "true" (non-zero), otherwise results in value of 0.

NOT(expression) - Results in "true" (value of 1) if expression is "false" (zero), otherwise results in "false" (value of 0).

FORMULAS AND FUNCTIONS (Cont.)

Built-in
functions
(Cont.)

IF(exp1,exp2,exp3) - If expression 1 is true, then use expression 2, otherwise use expression 3. Expression may be combined with AND, OR, NOT to form expression 1.

INT(value) - Integer portion of value. The value is not rounded. This is not to be confused with **I/Format**, which will round-off numerical entries.

LOOKUP(value,column/row range) - Search the range for the last value less than or equal to search value given. Return the adjacent value from the column to the right of the search column or the row below the search row. Assumes the search range is in ascending order of values.

LN(value), LOG10(value) - Natural log, log base 10, of the value.

MAX(list), MIN(list) - The maximum or minimum value in the list.

NPV(discount, column/row range) - Net present value of a group of cash returns at the given rate of discount. The cash amounts are assumed to be projected for equal time periods, such as every year; and the discount rate is for that interval. The first cash entry is discounted once, the second twice, and so forth, and added to form the total value.

PI - Pi to 16 significant digits.

SIN(value)

ASIN(value) Trigonometric calculation of the value. ASIN

COS(value) is arc sine, etc. Trigonometric results are

ACOS(value) given in radians.

TAN(value)

ATAN(value)

SQRT(value) - Square root of value.

SUM(list) - Sum of the values in the list.

Value

Value is a constant, the value of a block, or a combination of these values made by using the arithmetic operators.

Examples:

Constants: 12, 5.9, 3.4e3

Block values: A12, B19, BK54

Combinations: 12+5.9, B19-3,7, A12*B14, (9+E5)/4

FORMULAS AND FUNCTIONS (Cont.)

Expressions The combinations are also called "expressions". They are evaluated from left to right; * and / are evaluated before + and -. Use parentheses to group terms in your expressions so that Peach-Calc will evaluate them as you wish.

Examples:

5+4*3+1=18 (that is, 5+12+1)
(5+4)*3+1=28 (that is, 9*3+1)
5+4*(3+1)=21 (that is, 5+4*4)
(5+4)*(3+1)=36 (that is, 9*4)

Functions with values Here are some examples of functions with values:
`ABS(A12), SQRT(9.5*E7), LN(3.5e4), TAN(C5+E5)`

Range Range is simply a partial column or partial row, such as B4:B12 or B4:H4. Here are some examples of functions that use both a value and a range:

`LOOKUP(7,C5:J5)` `LOOKUP(A4,D3:D12),`
`NPV(.18,D12:H12)` `NPV(B4,G3:G8)`

List You can mix all of the above. A list can have values, expressions, and ranges. Here are some examples:

`SUM(A12,B9,D5)`
`SUM(C12:E12,H3:H7)`
`SUM(MAX(E3:B9),MAX(C12:E12))`
`COUNT(E3:E12,F8:J8)`
`AVERAGE(B7,B8:H8,C12:C20)`

FORMULA ADJUSTMENTS

Some commands cause formulas to be moved into new locations. It is usually desirable to have formulas adjusted for their new locations.

Example	For example, block D4 has the formula "+B4*C4". If the contents of blocks B4, C4, and D4 are moved to T7, T8, and T9, the formula in T9 should read "+T7*T8". The PeachCalc program ordinarily makes such adjustments automatically.
Effect of commands	For some commands, options allow you to move formulas without adjustment, or to be queried so that you can choose for each block reference of each formula whether or not it should be adjusted. Some commands also have an option to move values only; formulas are not transferred, only their values.
	Below is a list of commands that cause or allow formula adjustment.
Automatic adjustment	/Delete, /Insert, and /Move all cause automatic formula adjustment. They have no options. Deleting a column or row that contains a block upon which a formula outside the range of the deletion depends will cause an error.
Optional adjustment	/Copy and /Repeat allow formula adjustment. Adjustment is automatic, unless you specify otherwise by selecting one of the options. The options allow you to disable formula adjustment or to choose individually for each outside reference whether or not PeachCalc should adjust it.
The LOAD adjustment	/Load will adjust formulas if the material is being loaded into a worksheet location different from the one where it originated. In this case, you have the same options as in /Copy and /Repeat. (Naturally, there will be no adjustment if you are loading into the original worksheet area.)

GLOSSARY

Active Block	The block on the worksheet that is currently "active" and can receive data; sometimes called current block. It is indicated on your screen by the worksheet cursor. Data entered on the entry line goes into the Active Block. The EDIT command edits the contents of the Active Block. The location of the Active Block determines the current column and current row. The status line shows the location of the Active Block.
alternate movement keys	Control (CTRL) E, X, S, D. (Hold down the control key and simultaneously press one of these keys.) They have the same effect as arrow keys; that is, they can be used to move the worksheet cursor or for in-line editing. CTRL E, X, S, and D are, respectively, equivalent to up, down, left, and right.
arrow keys	The four arrow keys — up, down, left, and right — have the basic function of moving the worksheet cursor around the worksheet displayed on your screen, thereby specifying the Active Block. They have an additional function when doing in-line editing. There is another set of keys with the same functions as the arrow keys: the alternate movement keys — Control E, X, S, and D.
backup copy	An extra copy of a program or group of programs kept on a separate disk for reference in case the original is lost or destroyed.
blank block	A block without contents. Some minimal information about a blank block is kept in memory, so it is not the same as an empty block, which takes no memory space. See the section entitled "PeachCalc Memory Use—Hints and Concepts".
block	The basic unit of storage for the PeachCalc program. A block can contain a number, text, or a formula. Blocks are organized in a grid, called the worksheet. A block is empty until it is used in some way. Empty blocks take no storage space. See worksheet.
block address	Each block in the worksheet has a unique address at the intersection of its column and row. For example, the block located where column G and row 12 intersect is block G12.

GLOSSARY (Cont.)

byte	Storage space for one character; that is, a letter, digit, or special character such as \$ or %.
column	All blocks in a column, including empty blocks and blocks with contents. Columns are vertical. They are designated with letters; for example, column D. Valid column addresses are A-BK. See worksheet.
CP/M	Stands for Control Program for Microprocessors; an operating system developed and supplied by Digital Research Corporation, designed to perform tasks such as copying and reading diskettes, running programs.
current block	The block in the worksheet grid pointed to (or highlighted) by the worksheet cursor. See Active Block.
current-block key	ESCAPE. When this key is pressed, it places the current block address on the entry line to be used as desired in a command or expression. At the same time, pressing this key also activates the arrow keys for moving the worksheet cursor. If the worksheet cursor is moved, the current block address on the entry line changes to show the new location.
current column	The column containing the current or Active Block.
current direction	The direction in which the worksheet cursor is set to move. For example, if the current direction is "down" when you enter something into block B5, then B6 becomes the new Active Block. If the direction is "right", C5 becomes the new Active Block. The direction is specified as up, down, left, or right by pressing the corresponding arrow or alternate movement key. The direction remains set until you change it by pressing a different arrow key.
current row	The row containing the current or Active Block.

GLOSSARY (Cont.)

cursor	A blinking box on your video screen, taking one character's space. Usually the cursor is seen on the entry line and shows where the next character that you type will go. When doing in-line editing, the cursor passes over characters, highlighting them. In that mode, the character under the cursor can be deleted, inserted, or replaced.
data diskette	The diskette (storage medium) that contains data, i.e., documents, worksheets, etc., (as opposed to program diskette).
default	An entry assumption made by the system when no specific choice is given by the user.
disk drive	A piece of hardware (storage device) which keeps magnetized disks spinning so data can be read or written.
display	A visual representation of data such as a screen, console, or printed report.
empty block	When the PeachCalc program is started up, all blocks are empty. An empty block takes no memory space in the system. It is only a potential location for you to use as needed. An empty block is different from a blank block because the PeachCalc program keeps some minimal information about blank blocks. See the section entitled "PeachCalc Memory Use—Hints and Concepts".
entry line	The bottom line on your terminal screen. It is indicated by a number at the left margin. The entry line will display your commands and data as you work with PeachCalc.
ESC key	See current-block key.
file	A program on the disk, such as PC.COM.

GLOSSARY (Cont.)

global	Affecting the entire worksheet. Used in describing options; some options may have a local or neighborhood effect—one block, one column, one row. Global options affect the entire worksheet. The PeachCalc program has both a global command and a global option within the format command.
group	Rectangular area of blocks which can be thought of as a group of partial rows or partial columns. A block is defined by its upper left and lower right blocks; for example, B3:F5 is a block of fifteen blocks, five across and three down.
hardware	Physical equipment such as electronic, magnetic, and mechanical devices that make the computer run.
help	You may press ? at any time. The PeachCalc program will then change the display to show you more information about your current options. You can return to your worksheet by pressing any key.
in-line editor	The PeachCalc function which allows you to use the cursor to edit and correct information on the entry line before it is committed to the worksheet.
input	Information given to the computer. Input may be typed on the keyboard or copied from a diskette.
integer	A whole number. It is also one of the display options. If you specify "integer" display format, the PeachCalc program will round off decimal fractions and display the nearest whole number.
interpretive prompting	You give commands to the PeachCalc program with one or two keystrokes. It immediately fills in the rest of the word. For example, you type /B; the PeachCalc program immediately fills in /Blank. And the prompt line changes to ask you to specify what should be blanked.
kilobyte	Storage space for 1024 characters; that is, for 1024 letters, digits, or special characters such as \$ and %.

GLOSSARY (Cont.)

master disk	The disk containing the original programs.
memory	The storage facility of the computer where instructions and data reside.
memory capacity	The number of storage positions in the computer's memory.
operating system	An organized collection of programs that controls the physical operations of the computer and tells it what to do.
output	Data that has been entered and processed by the computer and given back to you, the user, (such as reports).
partial column	A contiguous group of blocks within a column; for example, "B3:B7" designates five blocks in column B. See column.
partial row	A contiguous group of blocks within a row; for example, "B3:F3" designates five blocks in row 3. See row.
program	A set of instructions that tells the computer how to perform a particular task. Programs are written in special languages to accomplish a specific purpose.
prompt, prompt line	The second of the three lines at the bottom of your terminal screen. This is where the PeachCalc program asks you what you want to do next. The line indicates your immediate options. You choose among them and put your response—command information or data—on the entry line.
protected entry	A block that is "locked in" by using the PROTECT command. Block contents cannot be changed or erased.
re-start	To resume the execution of a program. Each program will have instructions for restarting.

GLOSSARY (Cont.)

row	All blocks in a row, including empty blocks and blocks with contents. Rows are horizontal. They are designated with numbers; for example, row 3. Valid row addresses are 1-254. See worksheet.
scrolling	Moving a window across the screen to display different parts of the worksheet. This movement is known as scrolling and can be done in all directions (up, down, left, or right).
software	A set of prepared programs that controls and operates the computer.
split screen	Two separate parts of the worksheet displayed on the screen simultaneously.
status line	The first of three lines at the bottom of your screen is the status line. The PeachCalc program uses it to keep you informed about your worksheet and its display. It includes such things as cursor advance direction and the actual content of the Active Block—numeric value, formula, or text—which may look different on the worksheet display as a result of format choices you have made. Error messages are displayed at the right side of this line.
window, or display window	The video screen and its display. The screen can be split to display two windows simultaneously.
worksheet	The worksheet exists in your computer's memory. It is made up of blocks organized in a grid. The grid has vertical columns and horizontal rows. There are 63 columns and 254 rows. Blocks in the worksheet come into existence as they are used. Until then, they do not take up memory space in your computer; they are potential, not actual, blocks.
worksheet cursor	The worksheet cursor indicates the Active Block on your display screen. How the block is indicated will vary according to your terminal. The block may be underlined on the screen, put in reverse video, or indicated with < >. The location of the current block also shows on the status line. The arrow keys move the worksheet cursor.

ERROR MESSAGES

This section provides you with a detailed list of the error messages that display while you are using the PeachCalc system. They are discussed in alphabetical order. Included for each error message is a brief explanation of its cause and the solution to the condition.

Some of these errors come from your CP/M operating system rather than the PeachCalc program. They are included for your convenience.

MESSAGE...	EXPLANATION...	SOLUTION...
BDOS ERROR	<p>This is an error message from the CP/M operating system. It will appear on your screen as "BDOS ERROR ON D:error". The d: stands for a drive designation, such as A or B; the actual designation will appear on your screen. The error in our example stands for the detailed error message that will appear on your screen. For example:</p> <p>BAD SECTOR SELECT READ ONLY FILE R/C</p>	<p>CP/M uses a simple approach to handle errors:</p> <p>a. To retry the operation, press any key except CTRL/C.</p> <p>b. To quit, press CTRL/C. You will return to the CP/M operating system. You will have not have a chance to save your work in PeachCalc because cause CP/M will not return you to the program.</p>
		<p>For READ ONLY or FILE R/C, R/C, do not try to restart because the condition will not change.</p> <p>Consult your CP/M system documentation for information on BDOS errors. You should also see the documentation provided with your disk drives for information on recovering from BAD SECTOR OR SELECT messages.</p>

ERROR MESSAGES (Cont.)

MESSAGE...	EXPLANATION...	SOLUTION...
COLUMN ERROR	You named an incorrect column.	Specify a letter from A to Z or two letters from AA to BK. Use the in-line editor to correct the entry and re-enter the command, or cancel the command with CTRL/Z.
DISK FULL	The receiving disk does not have enough space.	PeachCalc will ask if you want to re-start the operation (Y) or (N). If you do, remove the disk, insert another one which has enough space, then press Y. If you press N, the operation is aborted, and you return to Peach-Calc.
DRIVE NOT READY	This is a system error message from the BIOS portion of your C/M operating system.	To restart or cancel the operation, see the procedure under BDOS ERROR above. It is possible that the drive will become ready and restarting will work. If you restart several times without success, consult your disk drive documentation.
FILE NOT ON DISK	This occurs with the LOAD command. The file name given is not found on the disk drive specified or implied in the entry.	<p>Check your command entry.</p> <ol style="list-style-type: none">1. Check the drive designation. If you did not specify one, PeachCalc assumes you mean the system drive.2. Check the spelling of the file name.

ERROR MESSAGES (Cont.)

MESSAGE...	EXPLANATION...	SOLUTION...
FILE NOT ON DISK (Cont.)	(See previous page.)	<p>3. Is the correct disk on the drive?</p> <p>For cases 1 and 2, use the in-line editor to correct the drive designation or the file name and re-enter the command.</p> <p>For case 3, either place the correct disk in the drive, or if this is not feasible, cancel the command with CTRL/Z.</p>
FORMULA ERROR	<p>There are two possible causes:</p> <p>1. You entered text without a leading ". The Peach-Calc program assumed you meant to enter a formula, and it does not recognize the entry as a formula.</p> <p>2. There is an error in the way you specified a formula. Check it for correct specification of function name, correct use of expressions, balanced parentheses, valid block names, etc. (See the section on "Formulas and Functions" in the Reference Guide for a list of valid expression and function names.)</p>	Use the in-line editor to correct your entry and re-enter, or cancel the entry with CTRL/Z.
MEMORY FULL	Too much content in the worksheet. (This is a different case from Worksheet Full, described below, where there are too many block stubs on the worksheet.)	Blank any spare contents. Move material to the upper left of the worksheet in a roughly rectangular shape. SAVE the worksheet, ZAP the screen and re-LOAD the worksheet.

ERROR MESSAGES (Cont.)

MESSAGE...	EXPLANATION...	SOLUTION...
MEMORY FULL (Cont.)	(See previous page.)	If this does not free enough space, then you must break the worksheet into convenient portions for future work. To do this, ZAP the screen and re-LOAD selected portions of the saved worksheet. Build two or more worksheets out of these portions, saving them as separate worksheets.
OVERLAY ERROR	<p>This is a serious error that prevents the PeachCalc program from being used. There are two possible causes:</p> <ol style="list-style-type: none">1. The PeachCalc program has not been "installed" or has been "installed" incorrectly. Installing PeachCalc means customizing it to your system. This involves specifying the terminal you are using, the drives and memory space available, and the version of CP/M that you use.2. The version of the CP/M operating system that you are using is incompatible with PeachCalc. Your version of CP/M may be an early or outmoded one, or it may have been installed wrong.	<ol style="list-style-type: none">1. If you are installing PeachCalc yourself, re-install it, checking the documentation carefully as you proceed. If you still receive the error, consult your dealer or Peachtree Software, Inc. If your dealer installed PeachCalc, have the dealer re-install it. <p>Consult your dealer or Peachtree Software, Inc. to determine if the CP/M system is incompatible. If it is, contact the supplier for information and assistance.</p>

ERROR MESSAGES (Cont.)

MESSAGE...	EXPLANATION...	SOLUTION...
PROTECTED ENTRY	This message may appear as the result of an error or as an informational note. If it is the result of an error, it will appear during data entry or the EDIT command when you attempt to enter data into an Active Block which is protected. You must remove the data from the entry line or cancel the EDIT command.	If you wish to put data in that block, use the UNPROTECT on that block and try the operation again. 1. This message appears as an informational note during BLANK, COPY, LOAD, or REPEAT commands. If there are protected blocks in the area being blanked or in the destination area of the command, the protected blocks in the area remain unchanged; other blocks in the area have been changed. If you meant to leave the protected blocks unchanged, all is well. If not, you may wish to unprotect them and re-start the command.
RANGE ERROR	Incorrect specification of a range. A range may be a single block, a partial column, or a partial row.	Use the in-line editor to correct the entry and re-enter the command, or cancel the command with CTRL/Z.
ROW ERROR	Incorrect specification for a row. Correct specification is a number from 1 to 254.	Use the in-line editor to correct the entry and re-enter the command, or cancel the command with CTRL/Z.

ERROR MESSAGES (Cont.)

MESSAGE...	EXPLANATION...	SOLUTION...
REPEAT DEFINITION ERROR	<p>The destination may be specified incorrectly, or the destination area may be too small.</p> <p>1. Specification error for the destination:</p> <ul style="list-style-type: none">a. If the source is a single block, the destination should be a partial column or partial row.b. If the source is a partial column, the destination should be specified as blocks on the upper row of the destination. This will look like a partial row.c. If the source is a partial row, the destination should be blocks in the column on the left of the destination. This will look like a partial column. <p>2. Destination area is too small (will not fit).</p> <ul style="list-style-type: none">a. Given the size of the source and the destination location, the result will not fit within the worksheet boundaries.	<p>Correct the specification with the in-line editor and re-enter the command or cancel the command with CTRL/Z.</p> <p>NOTE: PeachCalc caught the error before trying to execute the command.</p>

ERROR MESSAGES (Cont.)

MESSAGE... EXPLANATION... SOLUTION...

WINDOW PARAMETER ERROR

This occurs during the WINDOW command. You are trying to split the screen with the WINDOW command when the Active Block is at the left or right edge or the top or bottom row of the display screen. Because of the way the command works, the split cannot be made at the edges of the screen.

Either move the Active Block away from the edge of the display window or scroll the screen to provide an additional column or row between the edge and the location you desire for the split.

WORKSHEET FULL

The worksheet is too large in size; there are too many block stubs. (This is different from the case described above in Memory Full, where the worksheet has too much content.)

If possible, BLANK any unnecessary contents and move the other contents to the upper left, trying to keep a roughly rectangular shape. SAVE the worksheet, ZAP the screen, and then reLOAD.

The section entitled "Memory Use—Hints and Concepts", explains how it is possible to create (unintentionally) far more block stubs than you need. You may get a Worksheet Full message even though you have few contents and they are at the upper left. In such a case, SAVING, ZAPPING, and reLOADING will get rid of unnecessary block stubs.

OPERATOR'S TIPS

Here are some helpful hints for using PeachCalc. Some of this material is covered elsewhere but is repeated here briefly for convenience. Some is unique to this appendix.

Display	A Command, Text, or Formula too long for the Entry Line Information on the entry line will scroll left when it reaches the end of the line. You can enter a command, text, or a formula that is too long to display in its entirety. You can then use the in-line editor to examine any part of the entry by moving the cursor to the left or right. The information will scroll to show the hidden part of the line. When you want to enter the line, press RETURN. PeachCalc will take the entire entry, not just the portion to the left of the cursor.
Column width greater than screen width	You may sometimes want to make the width of a column greater than the width of your screen. In such cases, you can scroll to see all of the display. If you have a printer with a wide carriage, you can use the OUTPUT command to print the full width of the information. This can be useful for long text notes, explanations, or graphic display of numeric values.
To see same information in different formats	The WINDOW command lets you look at the same information in different formats simultaneously. Split the single display window into two smaller windows. After you have split the screen, you can move one window so it shows the same information as the other. Each part of the screen can have its own format settings for entries, rows, columns, or the entire worksheet. Each can have its own global options settings. By using this technique, you could display both values and formulas for the same block contents.
Building worksheets	When you set formats or global options for a split screen, remember that the portion above or to the left on your screen is "dominant". That is, when you cancel the split, the settings that were in effect for the upper or left window will remain in effect for the entire single display window.

OPERATOR'S TIPS (Cont.)

Building worksheets (Cont.)

When you have a fully developed worksheet with data, you can save it both with and without data. For example, you have developed a monthly report, which you SAVE. Then you BLANK all the variable contents of the report and SAVE only the information that will not change, such as titles, formatting, the general layout of the sheet, formulas, and any constant values. Next month you can LOAD this file, fill in the new information, and SAVE it as your current monthly report.

Using Protect to build new worksheets from old

The BLANK, COPY, LOAD, and REPEAT commands all bypass protected blocks, leaving their contents unchanged while changing the surrounding blocks. You can use this capability to combine information in detail, protecting key information and then surrounding it with new information by using LOAD, COPY, or REPEAT.

Summing a partial column or partial row

When developing a worksheet, you may often find yourself inserting new columns or rows within a range covered by a SUM formula. This can be awkward. Inserting or deleting at the top or bottom of an existing column or at the left or right of an existing row can mean reworking your formula. For example, you wish to insert a new row 12 and have to change the formula $\text{SUM}(\text{C2:C12})$ to $\text{SUM}(\text{C2:C13})$.

Here is a way to avoid this difficulty. Include a header or title at the top or left and an extra block at the bottom or right within your sum. For a column, the extra block could have "_____ as a total line.

For example:

As text, C1 and C10 have a zero value. Including them in the sum makes no difference. We can insert or delete rows from 2 through 9 and have the SUM formula adjust automatically to the new situation.

Security

Security involves protecting your work from accidental loss or change and protecting confidential information in your worksheet.

1. Save Your Work Often

It is important to save your work frequently while you are entering data or building worksheets. This insures against losing the time and effort you have invested. It protects against problems that are completely out of your control, such as power failures or hardware problems with the disk drive.

OPERATOR'S TIPS (Cont.)

Security (Cont.)

The Update option of the SAVE command is a convenient way to do this. Every time you save your work, use the same name; for example, "TRIALBAL". The first time you save your work, it is stored on the disk as TRIALBAL.CAL. The second time you save it, the PeachCalc program will tell you that there is a file of that name (TRIALBAL) and ask what to do. If you choose the Update option, your new worksheet will be saved as TRIALBAL.CAL, and the earlier one will become TRIALBAL.BAK, your backup file. Whenever you use the Update option again, PeachCalc will give you the two most recent files as FILENAME.CAL and FILENAME.BAK; it will erase any earlier files.

Having a backup file can be very convenient; you may want to use that file in case a change does not work out in actual operation. You can use CP/M operations to change the file names so that FILENAME.BAK becomes FILENAME.CAL. Or, you can directly LOAD the file by giving its full name including the .BAK extension.

2. Protecting Your Worksheets

The CP/M operating system allows you to specify files or entire disks as "read only". Designating worksheet files as Read Only allows others to examine them or print reports from them, but not change or erase them.

3. Protecting Information With "Values Only"

The PeachCalc option to save "Values Only" offers another protection. Your full worksheet may have important proprietary information within its formulas or lookup tables.

After you have saved a full copy for yourself, you can save a Values Only worksheet for others to use. In that worksheet, you may wish to remove lookup tables.

Similarly, you can use the OUTPUT command to put a Values Only copy of selected portions of your worksheet on a disk file for others to use. They can print that file or use the system text editor to include it in their own text file.

Memory management

Memory Hints:

These memory hints are given in "Memory Use—Hints and Concepts". They can be summarized as follows:

- Keep your work in the upper left corner of your worksheet, and
- Try to keep the pattern of your work in an approximate rectangle or square.

OPERATOR'S TIPS (Cont.)

Using a full column or row in Blank, Protect, Unprotect

It is possible to specify a full column or row in the BLANK, PROTECT, and UNPROTECT commands. For example, the command /B,3 will blank all blocks in row 3. This can use a great deal of memory unnecessarily, as explained in "Memory Use—Hints and Concepts." /B, 3 RETURN — followed by /B, D RETURN — would fill the entire worksheet with block frames even if you had done nothing else.

If you do want to use the full column or full row version of these commands for convenience, be sure to keep an eye on the available memory space. (Check the status information.) When space gets low, SAVE the worksheet, ZAP the screen to start fresh, and reload the worksheet. This eliminates unnecessary frames.

QUICK REFERENCE GUIDE TO THE / COMMANDS

- /Blank Blank the contents and clear the formatting of a block, partial column, partial row, or group.
- /Copy Make a one-to-one copy of a block, partial column, partial row, or group to a new location. Options give a choice of formula adjustment or copying values only.
- /Delete Delete a column or row; automatically adjusts the worksheet.
- /Edit Edit the contents of a specified block and place them in the Active Block.
- /Format Specify formatting for a block or group of blocks, a column, a row, or the entire worksheet. Choices (one or more):
- Numeric display:
- Integer notation (value rounded to integers).
 - Ordinary notation (if it will fit)
 - Scientific notation.
 - Dollar amount (rounded to nearest cent, ".00" appended to whole numbers).
 - Right or left justify, text or numerical values.
 - Graphic display, using *s to represent the number.
- Text display:
- Left or right justify.
- Column width:
- Specify number of characters for one or all columns.
- /Global Set worksheet options. These options are:
- Display/Suppress borders
 - Display actual formulas or current values of formulas
 - Recalculate automatically/on request
 - Tab over/through protected data
 - Set order of recalculation as columns across/rows down
 - Set or clear auto-advance in current direction

QUICK REFERENCE GUIDE TO THE / COMMANDS (Cont.)

/Insert	Insert a new empty column or row; automatically adjusts the rest of the worksheet.
/Load	Load the worksheet contents and settings from a disk file. You may load all or part of the worksheet at a location you specify. Options give a choice of formula adjustment or of loading values only.
/Move	Move a column or row to a new location; automatically adjusts the rest of the worksheet.
/Output	Write all or part of the worksheet to the printer, the terminal, or a disk test file. Options allow writing the displayed information or the block contents.
/Protect	Protect the contents and formatting of a block, partial column, partial row, or group from change.
/Quit	Optionally, exit from PeachCalc to the system or save the worksheet.
/Repeat	Make a one-to-many copy of a source to a larger destination. Examples: a block to a group of blocks, a partial column to a group of partial columns, or a partial row to group of partial rows. Options give a choice of formula adjustment or of repeating values only.
/Save	Save the worksheet contents and all settings on a disk file. Options give a choice of saving all contents or values only.
/Title	Lock columns and/or rows into their place on the display window. Other information will scroll while these remain fixed.
/Unprotect	Remove protection from the contents and formatting of a block, partial column, partial row, or group.
/Window	Split the display window into two portions, horizontally or vertically. Each portion can have separate format settings and options.
/eXecute	Execute the commands contained in a command file created with a text editor or with PeachCalc itself. Options exist to change the current disk drive, and to display directories of all files on the working disk or PeachCalc format files only.
/Zap	Set entire worksheet to empty blocks and clear all settings. (Overrides protected blocks.) Equivalent to a fresh start.

SAMPLE WORKSHEETS

On the next few pages, we have provided some sample worksheets that may be of assistance to you when you design your own worksheets.

The Files The four files containing these worksheets are on your Peach Calc diskette. They are:

- **SALES** - A sales analysis
- **PRODUCT** - A product sales analysis
- **INCOME** - An income statement projection
- **PERSONAL** - A personal budget

Illustrations Each worksheet is illustrated first in its formula format and then in its numerical format.

INCOME is illustrated in two sections so you can see the entire worksheet, as if it had been scrolled.

All worksheets were set for automatic recalculation with the command **/G,A**.

Comments A few comments are made for each worksheet regarding the commands used to produce certain features of the report.

SAMPLE WORKSHEETS (Cont.)

Name of file: **SALES**

Format: Formula

These were the actual formulas entered onto the worksheet.

Comments:

- The borders were suppressed in this worksheet, through the entry /G,B.
- The command to output this report was /O,D,A1:C29,P.

DYER & JONES INC
SALES ANALYSIS
YEAR ENDED DECEMBER 31, 1981

SALES PRODUCT A IN THOUSANDS OF DOLLARS

DECEMBER	112	$112*80/\text{MAX}(B7:B29)$
NOVEMBER	100	$100*80/\text{MAX}(B7:B29)$
OCTOBER	125	$125*80/\text{MAX}(B7:B29)$
SEPTEMBER	90	$90*80/\text{MAX}(B7:B29)$
AUGUST	50	$50*80/\text{MAX}(B7:B29)$
JULY	45	$45*80/\text{MAX}(B7:B29)$
JUNE	55	$55*80/\text{MAX}(B7:B29)$
MAY	75	$75*80/\text{MAX}(B7:B29)$
APRIL	80	$80*80/\text{MAX}(B7:B29)$
MARCH	65	$65*80/\text{MAX}(B7:B29)$
FEBRUARY	90	$90*80/\text{MAX}(B7:B29)$
JANUARY	85	$85*80/\text{MAX}(B7:B29)$

SAMPLE WORKSHEETS (Cont.)

Name of file: **SALES**

Format: Graphic

In this version of the same worksheet that you saw on the previous page, the sales analysis figures display graphically as representations of numbers.

Comments:

- Column C is 80 characters wide to allow room to show the largest number representation. The command entered to do this was **/F,Column,C,80**.

DYER & JONES INC SALES ANALYSIS YEAR ENDED DECEMBER 31, 1981	
SALES PRODUCT A IN THOUSANDS OF DOLLARS	
DECEMBER	112 *****
NOVEMBER	100 *****
OCTOBER	125 *****
SEPTEMBER	90 *****
AUGUST	50 *****
JULY	45 *****
JUNE	55 *****
MAY	75 *****
APRIL	80 *****
MARCH	65 *****
FEBRUARY	90 *****
JANUARY	85 *****

SAMPLE WORKSHEETS (Cont.)

Name of file: **PRODUCT**

Format: **Formula**

In this version of the worksheet, you can see the formulas used to analyze product sales.

Comments:

- The Integer command was used here to ensure representation of whole numbers.

	A	B	C	D
1			ROBERTS & JONES INC	
2			PRODUCT SALES ANALYSIS	
3			MONTH OF JANUARY 1982	
4	PRODUCT	SALES	PERCENT	
5				
6	PRODUCT 1	350000	B6/B21*1 C6	
7				
8	PRODUCT 2	120000	B8/B21*1 C8	
9				
10	PRODUCT 3	50000	B10/B21* C10	
11				
12	PRODUCT 4	80000	B12/B21* C12	
13				
14	PRODUCT 5	150000	B14/B21* C14	
15				
16	PRODUCT 6	20000	B16/B21* C16	
17				
18	PRODUCT 7	210000	B18/B21* C18	
19				
20		-----		
21	TOTAL		SUM(B6:B SUM(C6:C18)	
22				
23				
24				
25				

SAMPLE WORKSHEETS (Cont.)

Name of file: PRODUCT

Format: Numeric/Graphic

In this version of the worksheet, the product sales analysis is represented graphically, interpreting sales to percentage.

Comments:

- Column D has a width of 40 to accommodate the representation of the largest number.
- The command to show graphics is /F,C,D,*.
- The command to output this report is /O,D,A1:D25,P.

A	B	C	D
1		ROBERTS & JONES INC	
2		PRODUCT SALES ANALYSIS	
3		MONTH OF JANUARY 1982	
4	PRODUCT	SALES PERCENT	
5			
6	PRODUCT 1	350000	36 *****
7			
8	PRODUCT 2	120000	12 *****
9			
10	PRODUCT 3	50000	5 *****
11			
12	PRODUCT 4	80000	8 *****
13			
14	PRODUCT 5	150000	15 *****
15			
16	PRODUCT 6	20000	2 **
17			
18	PRODUCT 7	210000	21 *****
19			
20		-----	
21	TOTAL	980000	100
22			
23			
24			
25			

SAMPLE WORKSHEETS (Cont.)

Name of file: INCOME

Format: This version of the worksheet shows the formulas used in the income statement projection.

Comments:

- Notice the inset showing the entire formulas contained on Row 25.
- Column A is set to a width of 18 to allow input of longer text.
- The second illustration shows the portion of the income statement that would be seen if you scrolled down.

	A	B	C	D	E	F	G	H	I
1			ROBERTS & SHUSTER INC						
2			INCOME STATEMENT PROJECTION						
3			YEAR ENDED DEC. 31, 1982						
4			IN THOUSANDS OF DOLLARS						
5		1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	1982 TOTAL		1981	PERCENT INCREASE
6									
7	SALES								
8	PRODUCT A	600	800	1000	1000	SUM(B8:E8)	2200	(F8-H8)/H8*100	
9	PRODUCT B	300	300	300	500	SUM(B9:E9)	300	(F9-H9)/H9*100	
10	PRODUCT C	100	100	100	100	SUM(B10:E10)	250	(F10-H10)/H10*100	
11									
12	TOTAL SALES	B8+B9+B1	C8+C9+C1	D8+D9+D1	E8+E9+E1	F8+F9+F10		H8+H9+H1	(F12-H12)/H12*100
13	COST OF GOODS SOLD								
14	PRODUCT A	B8*.42	C8*.42	D8*.42	E8*.42	F8*.42	900	(F14-H14)/H14*100	
15	PRODUCT B	B9*.40	C9*.40	D9*.40	E9*.40	F9*.40	100	(F15-H15)/H15*100	
16	PRODUCT C	B10*.50	C10*.50	D10*.50	E10*.50	F10*.50	110	(F16-H16)/H16*100	
17									
18	TOTAL CGS	B14+B15+	C14+C15+	D14+D15+	E14+E15+	F14+F15+F16		H14+H15+	(F18-H18)/H18*100
19									
20	GROSS PROFIT	B12-B18	C12-C18	D12-D18	E12-E18	F12-F18		H12-H18	(F20-H20)/H20*100
21									
22	SELL, GEN & ADM								
23	ADV & PROM	20	B12*.02	C12*.02	D12*.02	SUM(B23:E23)	70	(F23-H23)/H23*100	
24	BAD DEBTS	B12*.03	C12*.03	D12*.03	E12*.03	SUM(B24:E24)	100	(F24-H24)/H24*100	
25	COMMISSIONS	IF(B12<1	IF(C12<1	IF(D12<1	IF(E12<1	SUM(B25:E25)	300	(F25-H25)/H25*100	
26	DEPR EXPENSE	10	11	12	14	SUM(B26:E26)	30	(F26-H26)/H26*100	
27	DUES & SUB	2	2	2	2	SUM(B27:E27)	5	(F27-H27)/H27*100	
28	FREIGHT OUT	B12*.02	C12*.02	D12*.02	E12*.02	SUM(B28:E28)	50	(F28-H28)/H28*100	
29	LEGAL & ACCOUNTING	8	8	8	8	SUM(B29:E29)	25	(F29-H29)/H29*100	

IF(B12<1250,B12*.08,B12*.10) IF(C12<1250,C12*.08,C12*.10) IF(D12<1250,D12*.08,D12*.10)

SAMPLE WORKSHEETS (Cont.)

Name of file: **INCOME** - Continuation of illustration

22 SELL, GEN & ADM							
23 ADV & PROM	20	B12*.02	C12*.02	D12*.02	SUM(B23:E23)	70	(F23-H23)/H23*100
24 BAD DEBTS	B12*.03	C12*.03	D12*.03	E12*.03	SUM(B24:E24)	100	(F24-H24)/H24*100
25 COMMISSIONS	IF(B12<1	IF(C12<1	IF(D12<1	IF(E12<1	SUM(B25:E25)	300	(F25-H25)/H25*100
26 DEPR EXPENSE	10	11	12	14	SUM(B26:E26)	30	(F26-H26)/H26*100
27 DUES & SUB	2	2	2	2	SUM(B27:E27)	5	(F27-H27)/H27*100
28 FREIGHT OUT	B12*.02	C12*.02	D12*.02	E12*.02	SUM(B28:E28)	50	(F28-H28)/H28*100
29 LEGAL & ACCOUNTING	8	8	8	8	SUM(B29:E29)	25	(F29-H29)/H29*100
30 OFFICE SUPPLIES	5	5	5	5	SUM(B30:E30)	30	(F30-H30)/H30*100
31 POSTAGE	1	1	1	1	SUM(B31:E31)	3	(F31-H31)/H31*100
32 PROP INSURANCE	1	1	1	1	SUM(B32:E32)	3	(F32-H32)/H32*100
33 REP & MAINT	2	2	2	2	SUM(B33:E33)	5	(F33-H33)/H33*100
34 SALARIES	175	200	200	250	SUM(B34:E34)	400	(F34-H34)/H34*100
35 SAL - FRINGES	B34*.25	C34*.25	D34*.25	E34*.25	SUM(B35:E35)	100	(F35-H35)/H35*100
36 TAXES & LIC	1	1	1	1	SUM(B36:E36)	3	(F36-H36)/H36*100
37 TEL & TEL	10	10	12	15	SUM(B37:E37)	30	(F37-H37)/H37*100
38 TRAVEL & ENT	15	15	20	20	SUM(B38:E38)	85	(F38-H38)/H38*100
39 OTHER EXPENSE	10	15	20	20	SUM(B39:E39)	50	(F39-H39)/H39*100
40							
41 TOTAL SG&A		SUM(B23:	SUM(C23:	SUM(D23:	SUM(E23:	SUM(F23:F39)	SUM(H23:
42		-----	-----	-----	-----	-----	(F41-H41)/H41*100
43 OPERATING INC	B20-B41	C20-C41	D20-D41	E20-E41	F20-F41	H20-H41	(F43-H43)/H43*100
44							
45 INTEREST EXPENSE	10	12	14	14	SUM(B45:E45)	40	(F45-H45)/H45*100
46							
47 EARN BEF INC TAX	B43-B45	C43-C45	D43-D45	E43-E45	F43-F45	H43-H45	(F47-H47)/H47*100
48							
49 INCOME TAXES	B47*.30	C47*.30	D47*.30	E47*.30	F47*.30	90	(F49-H49)/H49*100
50							
51 NET INCOME	B47-B49	C47-C49	D47-D49	E47-E49	F47-F49	H47-H49	(F51-H51)/H51*100
52							

SAMPLE WORKSHEETS (Cont.)

Name of file: **INCOME**

Format: This version of the worksheet shows the values of the formulas you saw on the previous worksheet.

Comments:

- The Integer format was used in this report so decimal amounts would not show.

	A	B	C	D	E	F	G	H	I
1	ROBERTS & SHUSTER INC								1
2	INCOME STATEMENT PROJECTION								2
3	YEAR ENDED DEC. 31, 1982								3
4	IN THOUSANDS OF DOLLARS								4
5		1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	1982 TOTAL	1981	PERCENT INCREASE	
7	SALES								
8	PRODUCT A	600	800	1000	1000	3400	2200	55	
9	PRODUCT B	300	300	300	500	1400	300	367	
10	PRODUCT C	100	100	100	100	400	250	60	
11		-----				-----			
12	TOTAL SALES	1000	1200	1400	1600	5200	2750	89	
13	COST OF GOODS SOLD								
14	PRODUCT A	252	336	420	420	1428	900	59	
15	PRODUCT B	120	120	120	200	560	100	460	
16	PRODUCT C	50	50	50	50	200	110	82	
17		-----				-----			
18	TOTAL CGS	422	506	590	670	2188	1110	97	
19		-----				-----			
20	GROSS PROFIT	578	694	810	930	3012	1640	84	
21									
22	SELL, GEN & ADM								
23	ADV & PROM	20	20	24	28	92	70	31	
24	BAD DEBTS	30	36	42	48	156	100	56	
25	COMMISSIONS	80	96	140	160	476	300	59	
26	DEPR EXPENSE	10	11	12	14	47	30	57	
27	DUES & SUB	2	2	2	2	8	5	60	
28	FREIGHT OUT	20	24	28	32	104	50	108	
29	LEGAL & ACCOUNTING	8	8	8	8	32	25	28	

SAMPLE WORKSHEETS (Cont.)

Name of file: INCOME — Continuation of illustration

22 SELL, GEN & ADM							
23 ADV & PROM	20	20	24	28	92	70	31
24 BAD DEBTS	30	36	42	48	156	100	56
25 COMMISSIONS	80	96	140	160	476	300	59
26 DEPR EXPENSE	10	11	12	14	47	30	57
27 DUES & SUB	2	2	2	2	8	5	60
28 FREIGHT OUT	20	24	28	32	104	50	108
29 LEGAL & ACCOUNTING	8	8	8	8	32	25	28
30 OFFICE SUPPLIES	5	5	5	5	20	30	-33
31 POSTAGE	1	1	1	1	4	3	33
32 PROP INSURANCE	1	1	1	1	4	3	33
33 REP & MAINT	2	2	2	2	8	5	60
34 SALARIES	175	200	200	250	825	400	106
35 SAL - FRINGES	43.75	50	50	62.5	206.25	100	106
36 TAXES & LIC	1	1	1	1	4	3	33
37 TEL & TEL	10	10	12	15	47	30	57
38 TRAVEL & ENT	15	15	20	20	70	85	-18
39 OTHER EXPENSE	10	15	20	20	65	50	30
40							
41 TOTAL SG&A	433.75	497	568	669.5	2168.25	1289	68
42							
43 OPERATING INC	144.25	197	242	260.5	843.75	351	140
44							
45 INTEREST EXPENSE	10	12	14	14	50	40	25
46							
47 EARN BEF INC TAX	134.25	185	228	246.5	793.75	311	155
48							
49 INCOME TAXES	40.275	55.5	68.4	73.95	238.125	90	165
50							
51 NET INCOME	93.975	129.5	159.6	172.55	555.625	221	151
52							

SAMPLE WORKSHEETS (Cont.)

Name of file: **PERSONAL**

Format: This version of a personal home budget contains the formulas used to set up the budget.

Comments:

- You may scroll the worksheet further to the right and down. The example on the next page is the bottom of the worksheet as it is scrolled down.

	A	B	C	D	E	F	G	H	I	J	K	L
1 PERSONAL FAMILY BUDGET												
2		JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV
3												
4 INCOME												
5 Husband	1043.51*2	B5	C5*1.12	D5	E5	F5	G5	H5	I5	J5	K5	
6 Wife	176.5*4	176.5*4	176.5*5	176.5*4	176.5*4	176.5*5	176.5*4	176.5*4	176.5*5	176.5*4	176.5*4	
7 Other	400	B7	C7+1000	C7	E7	F7	G7	H7	I7	J7	K7	
8												
9 TOTAL INCOME		UM(B5:B7)	UM(C5:C7)	UM(D5:D7)	UM(E5:E7)	UM(F5:F7)	UM(G5:G7)	UM(H5:H7)	UM(I5:I7)	UM(J5:J7)	UM(K5:K7)	UM(L5:L7)
10												
11 FIXED EXPENSES												
12 Mortgage	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	
13 2nd Mortgage	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	
14 Association Dues	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	
15												
16 TOTAL FIXED EXPENSES		(B12:B14)	(C12:C14)	(D12:D14)	(E12:E14)	(F12:F14)	(G12:G14)	(H12:H14)	(I12:I14)	(J12:J14)	(K12:K14)	(L12:L14)
17												
18 VARIABLE EXPENSES												
19 Telephone	80	80	80	80	80	80	80	80	80	80	80	
20 Electric	4.02*1.087.75*1.085.54*1.088.43*1.088.34*1.086.81*1.081.50*1.087.14*1.082.76*1.083.67*1.083.58*1.08											
21 VISA	55	55	55	55	55	55	55	55	55	55	55	
22 Rich's	34	34	34	34	34	34	34	34	34	34	34	
23 Sears	20	20	20	20	20	20	20	20	20	20	20	
24 Master Charge	36	36	36	36	36	36	36	36	36	36	36	
25 Speigel	20	20	20	20	20	20	20	20	20	20	20	
26 Doctor & Dentist	50	50	50	50	50	50	50	50	50	50	50	
27 Automobile Payments	563.27	B27	C27	D27	E27	F27	G27	H27	I27	J27	K27	
28 Auto Gas, Oil & Maint.	250	B28	C28	D28	E28	F28	G28	H28	I28	J28	K28	
29 Property Taxes												
30 Clothing	100	B30	C30	D30	E30	F30	G30	H30	I30	J30	K30	
31 Maid	20*4	20*4	20*5	20*4	20*4	20*5	20*4	20*4	20*5	20*4	20*4	
32 Child care	13*4	13*4	13*5	13*4	13*4	13*5	13*4	13*4	13*5	13*4	13*4	
33 Insurance	68+151.75			48.68	153.76		68+151.75			48.68	153.76	
34 Entertainment	125	B34	C34	D34	E34	F34	G34	H34	I34	J34	K34	
35 Education	224.45	224.4524.45+300		224.45	224.45			850	224.45	224.45	224.45	
36 Kid's Sports	37.5	25	15	57.5	25	25	25	25	25	25	25	

SAMPLE WORKSHEETS (Cont.)

Name of file: PERSONAL — Continuation of illustration

14 Association Dues	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00
15													
16 TOTAL FIXED EXPENSES	(B12:B14)	(C12:C14)	(D12:D14)	(E12:E14)	(F12:F14)	(G12:G14)	(H12:H14)	(I12:I14)	(J12:J14)	(K12:K14)	(L12:L14)		
17													
18 VARIABLE EXPENSES													
19 Telephone	80	80	80	80	80	80	80	80	80	80	80	80	80
20 Electric	4.02*1.087.75*1.085.54*1.088.43*1.088.34*1.086.81*1.081.50*1.087.14*1.082.76*1.083.67*1.083.58*1.08												
21 VISA	55	55	55	55	55	55	55	55	55	55	55	55	55
22 Rich's	34	34	34	34	34	34	34	34	34	34	34	34	34
23 Sears	20	20	20	20	20	20	20	20	20	20	20	20	20
24 Master Charge	36	36	36	36	36	36	36	36	36	36	36	36	36
25 Speigel	20	20	20	20	20	20	20	20	20	20	20	20	20
26 Doctor & Dentist	50	50	50	50	50	50	50	50	50	50	50	50	50
27 Automobile Payments	563.27	B27	C27	D27	E27	F27	G27	H27	I27	J27	K27	L27	M27
28 Auto Gas, Oil & Maint.	250	B28	C28	D28	E28	F28	G28	H28	I28	J28	K28	L28	M28
29 Property Taxes													
30 Clothing	100	B30	C30	D30	E30	F30	G30	H30	I30	J30	K30	L30	M30
31 Maid	20*4	20*4	20*5	20*4	20*4	20*5	20*4	20*4	20*5	20*4	20*4	20*4	20*4
32 Child care	13*4	13*4	13*5	13*4	13*4	13*5	13*4	13*4	13*5	13*4	13*4	13*4	13*4
33 Insurance	68+151.75				48.68	153.76	68+151.75			48.68	153.76		
34 Entertainment	125	B34	C34	D34	E34	F34	G34	H34	I34	J34	K34	L34	M34
35 Education	224.45	224.45	224.45	224.45	224.45	224.45				850	224.45	224.45	224.45
36 Kid's Sports	37.5	25	15	57.5	25	25	25	25	25	25	25	25	25
37 Food	400	400	400	400	400	400	400	400	400	400	400	400	500
38 School Lunches	2*5*.70*42*5*.70*42*5*.70*52*5*.70*42*5*.70*5									2*5*.70*42*5*.70*42*5*.70*4			
39 Miscellaneous	100	B39	C39	D39	E39	F39	G39	H39	I39	J39	K39	L39	M39
40													
41 TOTAL VARIABLE EXPENSE	(B19:B39)	(C19:C39)	(D19:D39)	(E19:E39)	(F19:F39)	(G19:G39)	(H19:H39)	(I19:I39)	(J19:J39)	(K19:K39)	(L19:L39)		
42													
43 TOTAL EXPENSES	B16+B41	C16+C41	D16+D41	E16+E41	F16+F41	G16+G41	H16+H41	I16+I41	J16+J41	K16+K41	L16+L41		
44 =====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
45 NET INCOME	B9-B43	C9-C43	D9-D43	E9-E43	F9-F43	G9-G43	H9-H43	I9-I43	J9-J43	K9-K43	L9-L43		
46													
47 DEPOSIT TO OR WITHDRAW													
48 FROM SAVINGS	>	B45	B48+C45	C48+D45	D48+E45	E48+F45	F48+G45	G48+H45	H48+I45	I48+J45	J48+K45	K48+L45	
49 SAVINGS AS % OF													
50 YEAR-TO-DATE INCOME	>	48/B9*1009:C9*1009:D9*1009:E9*1009:F9*1009:G9*1009:H9*1009:I9*1009:J9*1009:K9*1009:L9*100											

SAMPLE WORKSHEETS (Cont.)

Name of file: **PERSONAL**

Format: This version of the worksheet shows the values of the formulas set up in the example on the previous pages.

Comments:

- This example may also be scrolled to the right and down. The example on the opposite page shows the worksheet as it is scrolled to the far right and bottom.

PERSONAL FAMILY BUDGET												
	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	
INCOME												
Husband	2087.02	2087.02	2337.46	2337.46	2337.46	2337.46	2337.46	2337.46	2337.46	2337.46	2337.46	
Wife	706.00	706.00	882.50	706.00	706.00	882.50	706.00	706.00	882.50	706.00	706.00	
Other	400.00	400.00	1400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	
TOTAL INCOME	3193.02	3193.02	4619.96	3443.46	3443.46	3619.96	3443.46	3443.46	3619.96	3443.46	3443.46	
FIXED EXPENSES												
Mortgage	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	251.26	
2nd Mortgage	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	119.46	
Association Dues	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	
TOTAL FIXED EXPENSES	463.72											
VARIABLE EXPENSES												
Telephone	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	
Electric	187.94	127.17	113.98	73.90	127.81	180.15	260.82	191.31	100.18	79.56	122.67	
VISA	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	
Rich's	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	
Sears	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	
Master Charge	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	
Speigel	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	
Doctor & Dentist	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	
Automobile Payments	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	
Auto Gas, Oil & Maint.	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	
Property Taxes												
Clothing	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Maid	80.00	80.00	100.00	80.00	80.00	100.00	80.00	80.00	100.00	80.00	80.00	
Child care	52.00	52.00	65.00	52.00	52.00	65.00	52.00	52.00	65.00	52.00	52.00	
Insurance	200.43			48.68	153.76		200.43			48.68	153.76	
Entertainment	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	
Education	224.45	224.45	524.45	224.45	224.45			850.00	224.45	224.45	224.45	
Kid's Sports	37.50	25.00	15.00	57.50	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Food	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	500.00	

SAMPLE WORKSHEETS (Cont.)

Name of file: PERSONAL -- Continuation of illustration

93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	93.00	1116.00	3.08
463.72	463.72	463.72	463.72	463.72	463.72	463.72	463.72	463.72	463.72	463.72	463.72	463.72	5564.64	15.38
80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	960.00	2.65
187.94	127.17	113.98	73.90	127.81	180.15	260.82	191.31	100.18	79.56	122.67	160.73	1726.23	4.77	
55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	660.00	1.82
34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	34.00	408.00	1.13
20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	240.00	.66
36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	432.00	1.19
20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	240.00	.66
50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	600.00	1.66
563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	563.27	6759.24	18.68
250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	250.00	3000.00	8.29
100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1200.00	3.32
80.00	80.00	100.00	80.00	80.00	100.00	80.00	80.00	100.00	80.00	80.00	100.00	100.00	1040.00	2.87
52.00	52.00	65.00	52.00	52.00	65.00	52.00	52.00	65.00	52.00	52.00	65.00	65.00	676.00	1.87
200.43		48.68	153.76		200.43				48.68	153.76			805.74	2.23
125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	1500.00	4.15
224.45	224.45	524.45	224.45	224.45				850.00	224.45	224.45	224.45	224.45	3170.05	8.76
37.50	25.00	15.00	57.50	25.00	25.00	25.00	25.00		25.00	25.00	25.00	25.00	310.00	.86
400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	5000.00	13.82
28.00	28.00	35.00	28.00	35.00				28.00	28.00	28.00	28.00	28.00	266.00	.74
100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1200.00	3.32
2643.59	2369.89	2686.70	2397.80	2531.29	2203.42	2451.52	3031.58	2350.90	2370.96	2619.15	2961.45	30618.26	84.62	
3107.31	2833.61	3150.42	2861.52	2995.01	2667.14	2915.24	3495.30	2814.62	2834.68	3082.87	3425.17	36182.90		
85.71	359.41	1469.54	581.94	448.46	952.82	528.22	-51.84	805.34	608.78	360.60	194.80	6343.77		
85.71	445.12	1914.66	2496.60	2945.05	3897.87	4426.09	4374.25	5179.59	5788.37	6148.97	6343.77			
2.68	6.97	17.40	17.28	16.46	18.12	17.74	15.40	16.18	16.32	15.80	14.92			

CONFIGURING YOUR SYSTEM

PeachCalc runs on many types of systems. There is a simple PeachCalc program you need to run to configure the system for your particular computer.

1. At the (DRIVE)>, type **INSTALL**. **INSTALL** is the name of the configuration program.
2. The first prompt gives you the chance to exit and return to CP/M in the event you called **INSTALL** by mistake. Enter **Y** to continue and the next prompt will display.
3. Enter the name of the file you wish to configure, including the disk drive designation; for example, **A:PC**. The program assumes that **PC.COM** is the complete file name of the PeachCalc program.
4. Indicate the terminal you are using. (If the name of your terminal is not listed, ask your dealer which one of those listed is compatible with your system or ask for his assistance in configuring PeachCalc for your system.) If there are different models of the terminal, the program needs to know which model you are using; for example, Hazeltine 1400 or 1500 series.

You have two other options at this point. Option **Y** will write the configured PeachCalc program to your disk. Option **Z** allows you to edit, or change, printer and terminal data.

5. Another list of options is now displayed. Option **A** will save the PeachCalc program, including any changes. Option **B** returns you to the first menu. Option **X** allows you to quit the program. You may also get help by pressing the "?" key before choosing one of the options.
6. You may now save the PeachCalc program with all the changes, return to the menu, or quit the program. If you quit, the program will ask if you wish to exit without saving the program. If you have configured the system to your satisfaction, you should save the program. Quit only if you have not been able to accomplish what you set out to do.

If you encounter any difficulty in configuring your system, consult your dealer for assistance.

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NOTE: Page numbers in **boldface** type indicate Self-Instruction.

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PeachCalcTM

electronic spreadsheet

EPSON



User's Manual

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