iNDUS GT™

GT Albert E. Spread Sheet
for Atari

GT ALBERT E. SPREADSHEET

Copyright 1983, 1983

by David H. Hewit

A Product of

SIM COMPUTER PRODUCTS, INC.

Table of Contents

INTRODUCTION

OVERVIEW

The GT Albert E. Spreadsheet is an easy to use "Electronic Spreadsheet" which you can use to create mathematical models on your Atari personal computer. You don't need programming experience to use the GT Albert E. Spreadsheet, which is ideal for designing home budgets, balance sheets, math homework, statistical models and various other "What If?" models. A convenient menu of commands is always present at the top of the screen and the program design is such that models are easy to set up.

To set up a worksheet, you first determine its size by selecting the number of rows by the number of columns. Next a model may be developed by entering labels, numbers and formulas into the cells of the worksheet. The math functions which are available to you include: addition, subtraction, multiplication, division, exponentiation, and the summing of a group (row, column, or block) of cells. Because most spreadsheet models will be larger than the display screen, you view the worksheet through a "window". This viewing "window" may be moved around the worksheet using the arrow keys and the GOTO command.

An easy to follow example is used to help introduce you to some of the intricacies of the GT Albert E. Spreadsheet. The program is extremely user friendly and will recover from data entry errors by returning to the command screen. You will find that the GT Albert E. Spreadsheet is geared more towards personal and business applications than it is towards scientific applications. You will soon find that the GT Albert E. Spreadsheet is saving you not only paper, but valuable time.

3

REQUIRED ACCESSORIES

      Minimum 48K RAM Memory
      Atari BASIC Language Cartridge
      Indus Systems GT Disk Drive for Atari, or equivalent

OPTIONAL ACCESSORIES

      Atari 1027, 1025 or compatible direct connect serial printer
      Atari 850 or compatible parallel interface module and compatible parallel
      printer

SETTING UP

1. Insert the Atari BASIC Language Cartridge in the left cartridge slot of your 800 or 400 computer, or in the only cartridge slot of your 1200 computer. The 600XL and 800XL models have the Atari BASIC Language already built in to the computer.

2. Turn on your disk drive.

3. When the BUSY light goes out, open the disk drive door and insert the GT Albert E. Spreadsheet diskette following the instructions included with your disk drive. Insert the diskette in drive number one if you have more than one disk drive.

4. If you are planning to use your printer, turn it and the Atari 850 interface module or equivalent on if required for your printer to function.

5. Turn on your computer and your TV set or monitor. The GT Albert E. Spreadsheet will now load, run, and then display the initial "Title Screen".

USING THE GT ALBERT E. SPREADSHEET

CHOOSING THE WORKSHEET SIZE

After the GT Albert E. Spreadsheet has been loaded into the computer, you will see
the initial "Title Screen". The GT Albert E. Spreadsheet program has checked to see
how much free memory is available (free RAM) in your Atari and then determined the
maximum number of cells you will be allowed in your worksheet.   The number of cells
in a worksheet is equal to the number of COLUMNS multiplied by the number of ROWS.
Consequently, you must do some math prior to answering how many COLUMNS by ROWS you
would like your worksheet to be.   The "Title Screen" should look something like
this:

GT Albert E. Spreadsheet

Rev. 2.2

SIM COMPUTER PRODUCTS, INC.

Copyright 1982, 1983 David H. Hewit

YOU MAY HAVE A MAXIMUM OF 112 CELLS
(TOTAL CELLS = ROWS * COLUMNS)

ENTER # OF COLUMNS (MIN. 4/MAX. 26) : ?

First type in the number of COLUMNS you would like on your worksheet, keeping in

mind that you must have at least 4 and no more than 26.   When you hit <RETURN> the
GT Albert E. Spreadsheet will prompt you with:

                    ENTER # OF ROWS (MIN. 18/MAX. 99) :?

Respond with the number of ROWS desired for your worksheet, keeping in mind the
maximum number of cells allowed.   If you should make any errors, the GT Albert E.
Spreadsheet will simply bounce back to the initial screen and give you another
chance.   After you have entered the size of your worksheet and pressed <RETURN> the
message "ONE MOMENT PLEASE" will appear for a few seconds and then the screen window
and command menu will appear.

THE SCREEN WINDOW

Now that you have entered the size of your worksheet, your screen should look
something like this:

```
                        COMMANDS        C8 * R19
            ESC (CELL ENTRY)               G (GOTO)
      C (RECALC)    R (REPLICATE)          P (PRINT)
      S (SAVE)  L (LOAD)    N (NEW)        Q (QUIT)
        ----A----!----B----!----C----!----D----
      1-
      2-
      3-
      4-
      5-
```

At the top of your screen is the command menu. When choosing a command you simply
hit the single letter corresponding to your command. The letter should appear in
inverse video on the display screen.

In order to use the arrow keys to move the display window, you must hold down the
<CTRL> key while pressing the arrow key at the same time. If you look at the upper
right-hand corner of your screen you will see that the size of your worksheet is
displayed as "Cx * Ry", where "x" is the number of COLUMNS you have chosen and "y"
is the number of ROWS you have chosen.

Below the Command Menu is your "Screen Window", which you will use to view the
information which has been entered into your worksheet. The four COLUMNS which are
being displayed are labeled across the top as letters (A – D when first
initialized). The 18 ROWS which are being displayed are labeled down the left side

8

as numbers (1 - 18 when first initialized). Each individual cell in your worksheet is addressed by its COLUMN letter (A - Z) and its ROW number (1 - 99). For example cell A1, cell D3, etc. The section of your worksheet which is being displayed on the screen window at any time may be changed by using the arrow keys or the GOTO command. These commands will be discussed in greater detail in the next section.

CELL ENTRY

When entering information into a cell of your GT Albert E. Spreadsheet worksheet, you should follow this simple four step process:

STEP 1:   From the command menu press the <ESC> key on your Atari keyboard.   The GT
           Albert E. Spreadsheet will respond with the following prompt:

                ENTER
                CELL: ?---

STEP 2:   Choose the cell into which you would like to enter your data and type the
           COLUMN letter followed by the ROW number; then hit <RETURN>. For example,
           A1 <RETURN> or D3 <RETURN>.   The letters must be in capitals, but your
           chosen cell does not necessarily need to be visible on the screen window.
           Your screen should now look something like this:

                ENTER   PRIOR ENTRY:
                CELL:?D3-
                ENTRY:---------------

STEP 3:   Now examine the "PRIOR ENTRY" if there is one. If you would like to leave
           the cell as it was, simply press <RETURN> without entering any data and
           ignore STEP 4.

STEP 4:   Finally, type in your cell entry. There are three types of entries which
           we will discuss on the next few pages (LABELS, VALUES and FORMULAS).
           After you press <RETURN>, the result of your entry will appear in the
           appropriate cell (if it is presently on the display window).

If you make an error feel free to use the backspace key. The GT Albert E.

10

Spreadsheet will not allow you to enter characters in inverse video nor most graphic characters. Try it and see how the program responds. Most other types of entry errors will cause the buzzer to sound, an error message to appear, and then return you to the Command Menu.

Entering a LABEL

When you would like to enter a LABEL into a cell, first follow the four step process
described above, at which point your screen should look like this:

```
ENTER      PRIOR ENTRY:
CELL:?D3-       ENTRY:--------------
```

After STEP 3 you should be ready to enter your LABEL. You must start all your LABEL
entries by typing a quotation mark. Following the " you may enter your LABEL as you
would like it to appear on the screen. Although you may type in up to 15 characters
per entry, only eight will display to the screen or print to a printer. Please note
that the program will reject characters in inverse video and most graphic
characters.   This is an example of what a LABEL entry might look like before the
final <RETURN> is pressed:

```
ENTER      PRIOR ENTRY:
CELL:?D3-       ENTRY:"Expense:------
```

Entering a VALUE

Entering numeric values into your worksheet is really quite simple. After following
the four step process for CELL ENTRY, simply type in the number (no quotation or
commas please!) and press <RETURN>. You may enter both positive and negative
numbers, as well as decimal points. This is an example of what a VALUE entry might
look like prior to pressing <RETURN>:

```
ENTER      PRIOR ENTRY:
CELL:?D3-      ENTRY:714.89---------
```

The GT Albert E. Spreadsheet will not accept numbers with more than 9 digits, nor
will it accept numbers expressed in any type of exponential format. If you wish to
enter very large or very small numbers, please see the section on FORMULAS for an
appropriate method.

Entering a FORMULA & Functions Allowed

The real power of an electronic spreadsheet such as the GT Albert E. Spreadsheet comes from the ability to enter FORMULAS into a cell and thus use the values in one or more other cells to calculate its contents. Because the rules for FORMULAS are very stringent, we suggest that you study this section very carefully.

The functions allowed in a FORMULA are:

+	Addition
-	Subtraction
*	Multiplication
/	Division
^	Exponentiation

The five functions above will work with VALUES (eg. 13, 14.98, etc.), with cell variables (eg. A1, D3, etc.) or with a combination of the two.

In addition to these five functions, the GT Albert E. Spreadsheet has one more very powerful function:

:	Sum

The SUM function is used to total all the VALUES in a ROW, COLUMN, or BLOCK of cells. When you enter the SUM function into a cell it will total all the VALUES stored between the two cells specified. For example, the formula B1:B6 as shown below will add together the VALUES in cells B1, B2, B3, B4, B5 and B6.

```
ENTER       PRIOR ENTRY:
CELL:?B7-        ENTRY:B1:B6----------
```

You may also total the VALUES in a block of cells by entering a FORMULA such as B1:D3. This will total the cells, B1, B2, B3, C1, C2, C3, D1, D2, and D3.

CAUTION: If the SUM (:) function is to be used in a FORMULA with other functions, it must be the first function used. Also SUM will not give proper results if used with numeric VALUES instead of cell references.

When combining the above functions into a single FORMULA to be entered into a cell, there are three characteristics of the GT Albert E. Spreadsheet with which you should be familiar:

           1. All FORMULAS will calculate from left to right, disregarding the rules of mathematical hierarchy. For example:

                 5-4*20 will result in 20
                 -4*20+5 will result in -75

           2. Parentheses are not allowed.

           3. Negative numbers should not be used except as the first entry in a FORMULA. For example:

           Do not use: 5*-3   or 5*-B2
           Do use: -3*5   or -B2*5

           If this rule is not followed, the GT Albert E. Spreadsheet will not always catch the error and incorrect results may be displayed on your screen.

As mentioned in the previous section, very large or very small numeric VALUES (such as 1234567890, 3.4E+23, or 0.0000000015) cannot be entered directly, because the GT Albert E. Spreadsheet will not accept numbers which are more than 9 digits in length or in exponential format.   But, if you plan your FORMULAS carefully, you should be

able to force the desired results into your worksheet. The following are a number
of examples which show how this can be accomplished:

DESIRED RESULT	ENTER CELL	ENTER FORMULA	SCREEN RESULT
1234000000	A1	10^9*1.234	1.234E+10
0.0000000015	A1	1/10000	1E-4
	A2	1.5*A1/100000	1.5E-9
3.4E+23	A1	10^23*3.4	3.4E+23

CAUTION: If a VALUE in your Atari computer exceeds 9.99999999E97 or are less than
           9.99999999E-97, a Floating Point Error will result. If this should occur,
           the message "INPUT ERROR – REENTER" will display, the buzzer will sound,
           and the program will return to the Command Menu.

DIVISION BY ZERO: Whenever a FORMULA attempts to divide by ZERO, the VALUE 9 E97
                     will display in order to avoid causing an error in your
                     spreadsheet.

16

MOVING THE SCREEN WINDOW

Using the Arrow Keys

The Atari computer provides arrow keys to help you move the screen "viewing window"
around the entire worksheet. When using the arrow keys you must hold down the
<CTRL> key also. When you use these with the GT Albert E. Spreadsheet, instead of
seeing a cursor move up and down or side to side as you move the arrows, you will
see the whole screen move in the direction of the arrow key selected.

Using the GOTO Command

The GOTO command will allow you to jump your screen window instantly to any location
of the worksheet for viewing. First press the "G" key to start the GOTO Command.
The GT Albert E. Spreadsheet will prompt you with this:

```
    GOTO                    SPECIFY UPPER LEFT CELL
    CELL---
```

Now type in the cell which you would like to see displayed in the upper left of your
screen window. When you press <RETURN> the viewing window will display the new
section of your worksheet.

RECALCULATING WORKSHEET FORMULAS

One of the more powerful features of the GT Albert E. Spreadsheet is the ability to RECALCULATE the FORMULAS of your worksheet, thus allowing you to play "What If?". If you first build a master template for a model, you can then use this "shell" to play "What If?". If you have entered new VALUES into cells which are addressed by the formulas in other cells, new results will be created when the RECALCULATE command is executed.

To execute the RECALCULATE Command, simply press the "C" key. This message should appear while you wait:

                    PLEASE WAIT - RECALCULATING

Because the GT Albert E. Spreadsheet does not automatically RECALCULATE after each cell entry, you will find this command to be very necessary when it is time to view or print your final results. The amount of time which the RECALCULATE Command takes to execute depends on the size of your worksheet. The time in which a small worksheet will RECALCULATE is less than 15 seconds, while a large worksheet may take a couple of minutes.

CAUTION: If any of the FORMULAS which are RECALCULATED should result in a numeric VALUE which exceeds 9.99999999E97 or is less than 9.99999999E-97 a Floating Point Error will result. If this should occur, the message "INPUT ERROR - REENTER" will display, the buzzer will sound, and the program will return to the Command Menu.

SOLUTION: A Floating Point Error which occurs during the execution of a RECALCULATE Command can be tedious to recover from because you must determine by which FORMULA and in which cell the Error was caused. Once you have found the guilty cell or cells (by trial and error or intuition) they must either be changed or blanked. Cells can be blanked by entering an empty LABEL (a single quotation mark).

18

REPLICATION

Another powerful feature of your GT Albert E. Spreadsheet is the ability to
REPLICATE the contents of one cell into another cell or block of cells. You will
quickly discover the value of this command in developing the initial template or
"shell" of worksheet models.

Replicating LABELS

The first step to perform when you want to REPLICATE a cell containing a LABEL is to
press the "R" key. The GT Albert E. Spreadsheet will respond with:

                              REPLICATE

              SOURCE
              CELL:?---

Now type in the cell containing the LABEL which you wish to duplicate and press
<RETURN>. The GT Albert E. Spreadsheet will now respond with:

                              REPLICATE

              SOURCE   FROM
              CELL:?A1-   CELL:?---

At this point you should enter the first cell of the group of cells into which you
wish to duplicate the "source" cell. This should also be the most upper left of
this group of "destination" cells.

After pressing <RETURN> your display should look like this:

REPLICATE

SOURCE	FROM	TO
CELL:?A1-	CELL:?A2-	CELL:?---

Finally, enter the cell which is farthest to the lower right of the group of "destination" cells. When you press <RETURN>, this message will appear on the screen while the REPLICATE command is executing:

REPLICATE
PLEASE WAIT - REPLICATING
FORMULAS WILL NOT RECALCULATE

After the execution of the command line has been completed, the viewing window will redisplay and you will see that the group of "destination" cells contain the same LABEL as the "source" cell. You will soon find that REPLICATE is especially helpful when underlining ("_____) a ROW of LABELS.

Replicating VALUES and FORMULAS

When you would like to REPLICATE a cell containing a VALUE (such as 45.9 or -1024), or a cell containing a FORMULA (such as A1+7.5-C3) you should follow the same procedure that is described above for LABELS. But there is one major difference! After the execution of the command has been completed and the screen has redisplayed, the newly duplicated "destination" cells will NOT display the same VALUE as the "source" cell. In fact, they will display either as zeros or as the previous VALUES from these cells.

The reason that this result occurs is that the GT Albert E. Spreadsheet does not automatically CALCULATE the entries which are REPLICATED to the "destination" cells.

This of course is a very simple problem to remedy. Simply press the "C" key to invoke the RECALCULATE command and all your newly duplicated VALUES or FORMULAS will be calculated and displayed in the viewing window. You may find that it is a good practice to follow most of your REPLICATE commands immediately with a RECALCULATE ("C") command so that the proper VALUES are displayed.

There is also another extremely important and very valuable feature of the REPLICATE command. If a FORMULA which addresses other cells (eg. A1+A2-5) is REPLICATED from a "source" cell into a group of "destination" cells, the FORMULA will be altered in a relative manner. For example, let's assume that the FORMULA B1+A3-44 is contained in the cell A1. If you REPLICATE cell A1 (source) into cells B2 to D4 (destination), the "destination" FORMULAS will be altered in the following manner:

		COLUMN		
ROW	(A)	(B)	(C)	(D)
(1)	B1+A3-44			
(2)		C2+B4-44	D2+C4-44	E2+D4-44
(3)		C3+B5-44	D3+C5-44	E3+D5-44
(4)		C4+B6-44	D4+C6-44	E4+D6-44

The importance of this feature will become apparent to you when you begin utilizing the REPLICATE command to build FORMULAS which total ROWS or COLUMNS of cells in a worksheet. Please note that FORMULAS will ALWAYS replicate in a relative manner; so if you need exact duplicates of FORMULAS, you must enter them individually.

DISK OPERATIONS

After building a GT Albert E. Spreadsheet model, you will usually want to save the template so that you can come back at a future point in time and work with it. By utilizing the SAVE and LOAD commands you can SAVE your worksheets to disk and later LOAD them back in, change entries, RECALCULATE, and display new results. In effect, you can use the same "master" worksheet over and over again to develop different "pages" (separate disk files) of the same model. For instance, each separate page or file might represent a new month of your personal budget.

The Disk Directory

Each time you decide to use one of the disk commands ("S" or "L"), the GT Albert E. Spreadsheet will respond immediately with:

WOULD YOU LIKE A DISK DIRECTORY? (Y/N)

At this point, if you press "N" or any other key except "Y", the program will continue directly into the SAVE or LOAD procedure. If you feel that information provided by a Disk Directory is necessary, such as file names or the amount of free space left on the disk, then press the "Y" key. The BUSY light on your disk drive (Drive 1 only) will light up and a directory of the files on the disk will appear on your screen as well as the number of Free Sectors. If you are not already familiar with this information, then refer to your DOS XL Operator's Guide. After you ask for a Disk Directory, your screen will look something like this:

DISK DIRECTORY

DOS	SYS	046	TEMP		001
BUDGET		087	*BUDGET	BAK	086
*FILE1	BC	037	FILE2	EXT	023

427 FREE SECTORS

CONTINUE SAVE/LOAD
REPEAT DIRECTORY
RETURN TO COMMAND LEVEL

At this point you have three choices.   First, you may continue with your previously
selected Disk Operation by pressing "S" or "L". Please note that no matter which of
the two you press (the "S" or the "L"), the GT Albert E. Spreadsheet will continue
with the command which you previously selected from the main Command Menu.   Your
second choice is to repeat the Disk Directory by pressing the "D" key.   This is
especially useful when you would like to check the Directory of a number of floppy
disks.   The third choice is to return directly to the main Command Menu and viewing
the screen by pressing the "C" key.

Using the SAVE Command

The first step to saving any files (worksheets), is to be sure that you have a blank
FORMATTED disk available. Because you must use your DOS XL to format disks, this
must be done BEFORE the GT Albert E. Spreadsheet is loaded into your computer

The next step in saving a GT Albert E. Spreadsheet worksheet is to press the "S"
key. When you are asked if you would like to see a Disk Directory, proceed as
described above.   When you are finished with the Directory option the following
prompt will appear on your screen:

                          FORMAT: D:filename.ext
                    ENTER FILE TO SAVE: _____

Respond with the name of the file you wish to save preceded by Dx: where "x" is the
Drive number to which you wish to have the file saved.   Filenames must not exceed
eight characters in length with an optional three character extender.   Please refer
to your DOS XL Operator's Guide for full details. When saving worksheets to disk be
sure that you are not writing over a previously saved file of the same name by
accident.   You should also be sure that there will be enough free space on the disk
to hold your worksheet.

If you make an error, such as forgetting the "D:" or overloading the disk, the GT
Albert E. Spreadsheet will respond with the message "INPUT ERROR - REENTER", sound
the buzzer, and return you to the Command Menu. If this occurs, simply try again.

Using the LOAD Command

The first step to loading a worksheet from disk into the GT Albert E. Spreadsheet is
to press the "L" key.   Next proceed with the Disk Directory option as described
above until the following prompt is displayed:

                        FORMAT: D:filename.ext
            ENTER FILE TO LOAD: _____

Now enter the name of the GT Albert E. Spreadsheet file to LOAD, following the same
syntax rules explained above for saving files.   After you press <RETURN>, the
specified file will be loaded into your worksheet, erasing any information entered
previously. But it may not LOAD in, under the conditions which are described below.

Actually the first step to loading in a file is not always to press the "L" key as
mentioned above!   In order for the GT Albert E. Spreadsheet to accept the file from
disk, the worksheet you are currently working in must be the same size as the one to
be loaded from disk.   In other words, you must have initialized the GT Albert E.
Spreadsheet (see the section on Choosing Worksheet Size) with the same number of
COLUMNS by the same number of ROWS as the worksheet on disk.   If you are not sure
what size the worksheet file on disk is, then attempt to LOAD it in anyway. The GT
Albert E. Spreadsheet will then inform you of its size like this:
                        WRONG SIZE DATA SHEET
            THIS WORKSHEET IS 5 COLUMNS BY 30 ROWS
            ATTEMPTED TO LOAD A 10 BY 37 WORKSHEET
                    HIT ANY KEY TO CONTINUE

Now that you know the dimensions of the worksheet you would like to LOAD in, hit any
key to return to the Command Menu, then press "Q" to QUIT and "Y" to confirm. This
will return you to the "Title Screen" and you can now initialize the GT Albert E.
Spreadsheet to the proper size for loading the desired file.   You may then repeat
the loading steps to bring the worksheet in from disk.

.

PRINTING (Optional)

If you own a printer for your Atari computer, you will be interested in learning how
to print out your worksheets for permanent records.   The GT Albert E.   Spreadsheet
will print on most 40 column or 80 column printers.   It will also print to some 132
column printers, although the GT Albert E. Spreadsheet will limit you to printing
eight COLUMNS across.   (Please note that the column printing capability of the
printer is not the same meaning as the "COLUMNS" referred to in the rest of this
document.)

The first step to printing a worksheet is of course to turn on the printer and
interface if applicable. Next press the "P" key to start the PRINT command. The GT
Albert E. Spreadsheet will respond with:

                SPECIFY RANGE TO PRINT:
        FROM
        CELL:?---
        UPPER LEFT   LOWER RIGHT

You must now choose the section of your worksheet which you would like to print.
The only limitation is that a maximum of eight COLUMNS can be printed at one time
(four COLUMNS on a 40 column printer).   Start by entering the upper left cell to be
printed and press <RETURN>. The display should now look like this:

                SPECIFY RANGE TO PRINT:
        FROM   TO
        CELL:?A1-   CELL:?---
        UPPER LEFT   LOWER RIGHT

Now specify the lower right cell to be printed and press <RETURN>.   If all is well
you will soon have a "hard copy" of your GT Albert E. Spreadsheet worksheet.

If your GT Albert E. Spreadsheet has any problems communicating with your printer,
the message "ERROR — CHECK PRINTER" will appear, the buzzer will sound, and the
program will return to the Command Menu.   If this occurs, check all your equipment
for power, proper cable, etc. and then try again.

CLEARING THE WORKSHEET (NEW)

If at any time during a GT Albert E. Spreadsheet session you would like to clear the
worksheet and erase all entries, you can use the NEW command. Simply press the "N"
key. Because this is a serious action, the GT Albert E. Spreadsheet will then ask
you to confirm your decision like this:

<div align="center">

ERASE WORKSHEET!
ARE YOU SURE? (Y/N)

</div>

If you are sure then press the "Y" key and the GT Albert E. Spreadsheet will clear
the worksheet and prepare a NEW page to work with. This NEW page will have the same
dimensions as the previous page (worksheet). If you change your mind, simply press
the "N" or any other key and you will be returned to the Command Screen with your
old worksheet still intact.

ENDING A GT ALBERT E. SPREADSHEET SESSION (QUIT)

If you wish to end the session with one worksheet and work on a different model you
may use the QUIT command. This command will erase all current entries and return
you to the "Title Screen" where you may choose a different size worksheet. To use
the QUIT command simply press the "Q" key. Because this also is a serious action,
the GT Albert E. Spreadsheet will then ask you to confirm your decision like this:

                    QUIT GT ALBERT E. SPREADSHEET
                         ARE YOU SURE? (Y/N)

If you are sure then press the "Y" key and the GT Albert E. Spreadsheet will clear
the worksheet and return you to the "Title Screen". If you change your mind simply
press the "N" or any other key and you will be returned to the Command Screen with
your old worksheet still intact.

When you are completely finished with a GT Albert E. Spreadsheet session and have
saved all worksheets you wish to maintain, you may end the session by removing the
diskette and turning off the system.

                              HAVE FUN!

SAMPLE WORKSHEETS

A sample family budget spreadsheet is included on your GT Albert E. Spreadsheet
diskette. This worksheet may be used to track the projected and actual amounts of
your income and expenses. The filename of this sample spreadsheet is "PERSBUD.DAT".
You may now load and alter this worksheet to fit your needs, enter your own VALUES,
RECALCULATE, and SAVE your new budget on disk. The following is what a printout of
"PERSBUD.DAT" would look like:

	JAN 83	JAN 83	JAN 83	JAN 83
	PROJECT	ACTUAL	DIFFER	% DIFF
INCOME				
Salary	1500	1500	0	0
Commiss	400	176	-224	-0.56
TOT INC:	1900	1676	-224	-0.11789
EXPENSES				
Rent	550	550	0	0
Food	200	223.58	23.58	0.1179
Auto	150	165	15	0.1
Medical	50	35	-15	-0.3
Loan 1	300	300	0	0
Electrc	60	78	18	0.3
Gas	45	47	2	0.044444
TOT EXP:	1355	1398.58	43.58	0.032162
DISP INC	545	277.42	-267.58	-0.49097

30

There is a second sample spreadsheet on your GT Albert E. Spreadsheet diskette, called "PROFLOSS". This is a profit and loss statement for a small business. By changing the VALUE in the January Sales category and then RECALCULATING, you can see how the monthly projections will change. The following is a representation of the printout of "PROFLOSS":

	JANUARY ********	FEBRUARY ********	MARCH ********	YTD TOTL ********
REVENUE				
Sales	10000	15000	22500	47500
C.G.S.	6000	9000	13500	28500
Margin	4000	6000	9000	19000
EXPENSES				
Payroll	3000	3300	3630	9930
Advert	1000	1100	1200	3300
Supply	500	600	720	1820
Deprec	150	150	150	450
Misc.	1000	1200	1440	3640
Tot Exp	5650	6350	7140	19140
PROFIT	-1650	-350	1860	-140