Programmable TI 58/59

Real Estate/ Investment

Quick Reference Guide

CONTENTS

CALCULATING NOTES

Low Battery Indication

If the display flashes erratically, fades out, gives incorrect results or is inconsistent in any way, recharge the battery. Calculator operation can be resumed after several minutes of recharging.

Algebraic Hierarchy

Operations and functions are performed automatically in following order.

1. Math Functions (x^2, cos, etc.)
2. Exponentiation (y^x) and Roots ($\sqrt[x]{y}$)
3. Multiplication, Division
4. Addition, Subtraction
5. Equals

Order applies to each set of parentheses. You can use up to 8 pending operations and 9 open parentheses, except where noted.

Flashing Display

A display flashing off and on indicates that an invalid key sequence has taken place or that the limits of the display have been exceeded. See Appendix B in *Personal Programming* for possible causes.

CONVERSIONS

Angle Formats

[2nd] [D.MS] — DEGREES, MINUTES, SECONDS TO DECIMAL DEGREES — Converts an angle measured in degrees, minutes and seconds to its decimal degrees equivalent. [INV] [2nd] [D.MS] reverses this conversion. Also used for time conversions. **Operates on display value only.** Submit 2 digits each for minutes and seconds. Entry and display format is DD.MMSSsss where DD is degrees, MM is minutes, SS is whole seconds and sss is fractional seconds.

Polar to Rectangular

R [x:t] Θ [2nd] [P→R] → y; [x:t] → x

Rectangular to Polar

x [x:t] y [INV] [2nd] [P→R] → Θ; [x:t] R

Only 4 pending operations are available for other uses when using D.MS or Polar/Rectangular conversions.

Angular Conversions

FROM \ TO	Degrees	Radians	Grads
Degrees		$\times \frac{\pi}{180}$	$\div 0.9$
Radians	$\times \frac{180}{\pi}$		$\times \frac{200}{\pi}$
Grads	$\times 0.9$	$\times \frac{\pi}{200}$	

STATISTICS

Initialize: [2nd] [Pgm] 1 [SBR] [CLR]
Data Entry: x_i [x:t] y_i [2nd] [Σ+]
Data Entry Removal: x_i [x:t] y_i [INV] [2nd] [Σ+]
Trendline Data Entry: x_1 [x:t], y_1 [2nd] [Σ+], y_2 [2nd] [Σ+], etc.
Trendline Point Removal: [x:t] [−] 1 [=] [x:t] y_i [INV] [2nd] [Σ+]

Calculations	Key Sequence
Mean of y-array	[2nd] [$\bar{x}$]
then x-array	[x:t]
Standard Deviation	
(N − 1 Weighting) of y-array	[INV] [2nd] [$\bar{x}$]
then x-array	[x:t]
(N Weighting) of y-array	[INV] [2nd] [Op] 11 [$\sqrt{x}$]
then x-array	[x:t] [$\sqrt{x}$]
Variance	
(N Weighting) of y-array	[2nd] [Op] 11
then x-array	[x:t]
(N − 1 Weighting) of y-array	[2nd] [$\bar{x}$] [x^2]
then x-array	[x:t] [x^2]
Y-Intercept	[2nd] [Op] 12
Slope after y-intercept	[x:t]
Correlation Coefficient	[2nd] [Op] 13
y' for new x	[2nd] [Op] 14
x' for new y	[2nd] [Op] 15

SPECIAL CONTROL OPERATIONS

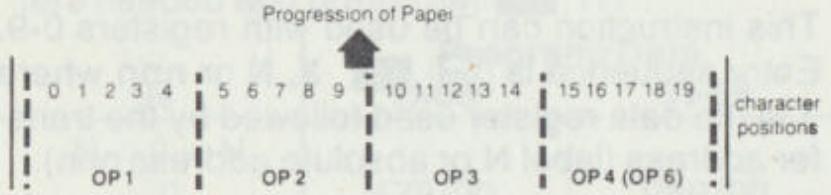
Each special control operation is called by pressing [2nd] [Op] **nn** where **nn** is the 2-digit code assigned to each operation (short form addressing can be used here). These operations use up to 4 pending operations and 1 subroutine level.

Code nn	Function
00*	Initialize print register
01*	Alphanumerics for far left quarter of print column
02*	Alphanumerics for inside left quarter of print column
03*	Alphanumerics for inside right quarter of print column
04*	Alphanumerics for far right quarter of print column
05*	Print the contents of the print register
06*	Print last 4 characters of OP 04 with current display
07*	Plot ÷ in column 0-19 as specified by the display
08*	List the labels currently used in program memory
09	Bring specified library program into program memory
10	Apply signum function to display register value
11	Calculate variances
12	Calculate slope and intercept
13	Calculate correlation coefficient
14	Calculate new y prime (y') for an x in the display
15	Calculate new x prime (x') for a y in the display
16	Display current partition of memory storage area
17	Repartition memory storage area
18	If no error condition exists in a program, set flag 7
19	If an error condition exists in a program, set flag 7
20-29	Increment a data register 0-9 by 1
30-39	Decrement a data register 0-9 by 1

*Designed specifically for use with optional PC-100A Print Cradle

ALPHANUMERIC PRINT CODES

The first seven control operations allow you to create and print out alphanumeric messages. Twenty characters can be printed on each line. They are assembled and stored in groups of 5 characters at a time as shown below.



Each printed character is represented by a two-digit, row-column address code according to the following table:

For instance, A is code 13 and + is code 47

PROGRAMMING NOTES

Labels

Any key on the keyboard can be used as a label except [2nd], [LRN], [Ins], [Del], [SST], [BST], [Ind] and the numbers 0-9.

DSZ

This instruction can be used with registers 0-9. Entry sequence is [2nd] [Dsz] **X, N** or **nnn** where X is the data register used followed by the transfer address (label N or absolute address nnn).

Flags

Ten flags are available (0-9). Entry sequence for setting, resetting or testing flags is the flag instruction, flag number, then transfer address (testing only).

MEMORY PARTITIONING

Memory area is partitioned in sets of 10 registers where each register can hold a data value or 8 program instructions. To check placement of current partition, press [2nd] [Op] **16.** To repartition, enter number of sets (N) of 10 data registers needed and press [2nd] [Op] **17.**

N	Program/Data TI-58	Program/Data TI-59
N < 0 = N		
0	479/00	959/00
1	399/09	879/09
2	319/19	799/19
3	**239/29***	719/29
4	159/39	639/39
5	079/49	559/49
6	000/59	**479/59***
7	Flashing	399/69
8	Flashing	319/79
9	Flashing	239/89
10	Flashing	159/99
N > 10	Flashing	159/99

*Partition when calculator is turned on.

PROGRAM KEY CODES

Key Code	Key	Key Code	Key	Key Code	Key
00	0	39	cos	72*	STO Ind
↓	↓	40	Ind	73*	RCL Ind
09	9	42	STO	74*	SUM Ind
10	E'	43	RCL	75	−
11	A	44	SUM	76	Lbl
12	B	45	y^x	77	x=t
13	C	47	CMs	78	Σ+
14	D	48	Exc	79	$\bar{x}$
15	E	49	Prd	80	Grad
16	A'	50	|x|	81	RST
17	B'	52	EE	83*	GTO Ind
18	C'	53	(	84*	Op Ind
19	D'	54	)	85	+
20	CLR	55	÷	86	St flg
22	INV	57	Eng	87	If flg
23	lnx	58	Fix	88	D.MS
24	CE	59	Int	89	π
25	CLR	60	Deg	90	List
27	INV	61	GTO	91	R/S
28	log	62*	Pgm Ind	92*	INV SBR
29	CP	63*	Exc Ind	93	.
30	tan	64*	Prd Ind	94	+/−
32	x:t	65	×	95	=
33	x^2	66	Pause	96	Write
34	$\sqrt{x}$	67	x=t	97	Dsz
35	1/x	68	Nop	98	Adv
36	Pgm	69	Op	99	Prt
37	P→R	70	Rad		
38	sin	71	SBR		

*Merged codes

RECORDING MAGNETIC CARDS (TI-59 Only)

Display When Write Pressed, Card Entered	Calculator Response
1, 2, 3, 4	Writes a card side with this number from the bank of this number (program and/or data) and records current partition on card.
−1, −2, −3, −4	Writes and protects card side with this number from the bank with this number. Also records current partition on card.
Any other number	Card is passed but not recorded. Rightmost two integer digits of display are flashed.

If the display is flashing any value when trying to read or record a card, the card is passed but not read or recorded and the rightmost two integers in the display are flashed.

The calculator should be in standard display format when reading or recording cards.

Only the integer portion of the display is recognized, i.e., 1.234 = 1.

READING MAGNETIC CARDS (TI-59 Only)

Display When Card Entered	Calculator Response
0	Reads information into bank number listed on card if current partition matches that on card. If partition incorrect, card is passed, but not read — display flashes card side passed.
1, 2, 3, 4	Expects card with this side number to be read — displays that side number. If another side is entered or if partition is incorrect, card is passed but not read — display flashes card side passed.
−1, −2, −3, −4	Forces side to be read into this bank number regardless of the partition or the number on the card. A protected program cannot be forced into any bank or alternate partition.
Any other number	Card is passed but not read — rightmost two integers in display flash.

LIBRARY USER INSTRUCTIONS

The remainder of this booklet contains the User Instructions for each program of the library.

REMOVING AND INSTALLING MODULES. The library module can easily be removed or replaced with another. It is a good idea to leave the module in place in the calculator except when replacing it with another module. Be sure to follow these instructions when you need to remove or replace a module

CAUTION

Be sure to touch some metal object before handling a module to prevent possible damage by static electricity.

1. Turn the calculator OFF. Loading or unloading the module with the calculator ON may cause the keyboard or display to lock out. Also, shorting the contacts can damage the module or calculator.
2. Slide out the small panel covering the module compartment at the bottom of the back of the calculator.
3. Remove the module. You may turn the calculator over and let the module fall out into your hand.
4. Insert the module, notched end first with the labeled side up into the compartment. The module should slip into place effortlessly.
5. Replace the cover panel, securing the module against the contacts.

R.E./INVESTMENT DIAGNOSTIC

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
	Diagnostic/Module Check			
A1	Select Program		[2nd] [Pgm] 01	
A2	Run Diagnostic		[SBR] [=]	3.[1,2]
	or			
A3	Library Module Check		[SBR] [2nd] [R/S]	3.[2]
	Initialize Linear Regression			
B1	Select Program		[2nd] [Pgm] 01	
B2	Initialize Linear Regression		[SBR] [CLR]	0.

NOTES: This output is obtained if the calculator is operating properly.

2. The number 3. indicates the R.E./Investment Library.

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select Program		[2nd] [Pgm] 02	
2	Initialize (This sets the value for the balloon payment to zero. Do *not* enter zero for the balloon payment, unless it is the unknown.)		[2nd] [E′]	0.
3	Determine the type of problem			
	a. Sinking fund (end of period payment)		[2nd] [A′]	0.
	b. Annuity due/FV (beginning of period payment)		[2nd] [B′]	0.
	c. Ordinary annuity (end of period payment)		[2nd] [C′]	0.
	d. Annuity due /PV (beginning of period payment)		[2nd] [D′]	0.
4	Enter the known variables in any order:			
	Number of payments	N	[A]	N†
	Interest rate	%I	[B]	%I†
	Payment per period	PMT	[C]	PMT†
	Present value *or* future value	PV or FV	[D]	PV or FV†
	Balloon payment (If balloon payment does not apply, do *not* enter zero. Go to the next step.)	Balloon	[E]	Balloon PMT†
5	To solve for the unknown, enter zero, then press the appropriate key.			
	N	0	[A]	N†
	%I	0	[B]	%I†*
	PMT	0	[C]	PMT†
	PV or FV	0	[D]	PV or FV†
	Balloon PMT	0	[E]	Balloon PMT†
6	To work a new problem:			
	(1) of the same type: go to Step 4			
	(2) of a different type: go to Step 2			
	(3) If the balloon payment was *not* zero in the previous problem, and *is* zero in the new problem: go to Step 2.			

NOTES: † These values are printed if the PC-100A is connected.

* Relatively long calculating time for this step.

REMAINING BALANCE/ACCUMULATED INTEREST RE-03

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select Program		[2nd] [Pgm] 03	
2	Initialize		[2nd] [E′]	0.
3	Enter known variables in any order:			
	a. Number of payments	N	[A]	N†
	b. Interest rate	%I	[B]	%I†
	c. Payment per period	PMT	[C]	PMT†
	d. Present value	PV	[D]	PV†
4	Solve for unknown:			
	Enter zero, then press	0	[A]	N†
	appropriate key	0	[B]	%I†
		0	[C]	PMT†
		0	[D]	PV†
5	Enter number of payment immediately preceding balance	H	[E]	H†
6	Calculate remaining balance		[2nd] [A′]	Balance†
7	Enter first payment number in period for which you wish to calculate interest	G	[2nd] [B′]	G†
8	Calculate interest		[2nd] [C′]	Interest†
9	Steps 5 and 7 can be entered in any order			

NOTES:

1. For interest calculations, the number for the final payment must be greater than the number for the initial payment of the period.
2. For balance and interest calculations, the number entered must not exceed the term of the mortgage.

† These values are printed if the PC-100A is connected.

COMPOUND INTEREST

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 04	
2	Initialize		[2nd] [E′]	0.00
3	Enter three of the four variables in any order:			
	Number of periods	N	[A]	N†
	Interest rate	%I	[B]	%I†
	Present value	PV	[C]	PV†
	Future value	FV	[D]	FV†
4	Solve for the remaining variable. Remember to enter zero!			
	Number of periods	0	[A]	N†
	Interest rate	0	[B]	%†
	Present value	0	[C]	PV†
	Future value	0	[D]	FV†

NOTE: † These values are printed if the PC-100A is connected.

STRAIGHT LINE DEPRECIATION

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 05	
2	Enter the following in any order:			
	a. starting book value	SBV	[A]	SBV†
	b. salvage value	SAL	[B]	SAL†
	c. useful life	LIFE	[C]	LIFE†
3	Enter year (If initial year in the schedule is fractional, see Step 10.)	YEAR	[D]	YEAR†
4	Calculate depreciation for the year		[E]	DEP†
5	Calculate remaining depreciable value		[2nd] [A′]	RDV†
6	Calculate remaining book value		[2nd] [B′]	RBV†
7	Calculate depreciation to date		[2nd] [C′]	ACD†
8	To calculate values for next year (If next year is last year of useful life, *and* it is fractional, press [2nd] [D′])		[2nd] [E′]	Year + 1†
			[2nd] [D′]	Life†
9	For a new case, make necessary changes in Steps 2a, 2b, and 2c, then go to Step 3.			
10	If initial year in the schedule is fractional, enter number of months	MONTHS	[÷] 12 [=] [D]	Fraction†
11	Calculate depreciation to date		[2nd] [C′] [STO] 20	1st yr: DEP + ACD† Succeeding yrs: ACD†
12	Values of interest, repeat Steps 5-7.			
13	For depreciation during succeeding year		[2nd] [E′] [2nd] [C′] [STO] 21 [−] [RCL] 20 [=]	ACD† DEP
14	Repeat Steps 5-7, if desired			
15	For the following year		[2nd] [E′] [2nd] [C′] [STO] 20 [−] [RCL] 21 [=]	ACD† DEP
16	Repeat Steps 5-7, if desired			
17	For succeeding years, repeat Steps 13-16, alternating storage registers for ACD			

NOTES:

1. All dollar amounts will be displayed to 2 decimal places.
2. Error indications (flashing display):
   a. Starting book value, life, or year entered as less than, or equal to, zero.
   b. Salvage value entered as less than zero.
3. The value for life will flash in the display after the length of the life has been exceeded when using the "year + 1" operation.
4. The value for life *must* be entered *before* the value for year or months.

† These values are printed if the PC-100A is connected.

DECLINING BALANCE DEPRECIATION

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 06	
2	Enter the following in any order:			
	a. starting book value	SBV	[A]	SBV†
	b. depreciation factor	FACT	[B]	FACT†
	c. useful life	LIFE	[C]	LIFE†
3	Enter year (If initial year in the schedule is fractional, see Step 10.)	YEAR	[D]	YEAR†
4	Calculate depreciation for the year		[E]	DEP†
5	Calculate remaining depreciable value		[2nd] [A']	RDV†
6	Calculate remaining book value		[2nd] [B']	RBV†
7	Calculate depreciation to date		[2nd] [C']	ACD†
8	To calculate values for next year (If next year is last year of useful life, *and* it is fractional, press [2nd] [D'].)		[2nd] [E'] [2nd] [D']	Year + 1† Life†
9	For a new case, make the necessary changes in Steps 2a, 2b, and 2c, then go to Step 3.			
10	If initial year in the schedule is fractional, enter number of months	MONTHS	[÷] 12 [=] [D]	Fraction†

11	Calculate depreciation to date		[2nd] [C'] [STO] 20	1st yr: DEP + ACD† Succeeding yrs: ACD†
12	Values of interest, repeat Steps 5-7			
13	For depreciation during succeeding year		[2nd] [E'] [2nd] [C'] [STO] 21 [−] [RCL] 20 [=]	ACD† DEP
14	Repeat Steps 5-7, if desired			
15	For the following year		[2nd] [E'] [2nd] [C'] [STO] 20 [−] [RCL] 21 [=]	ACD† DEP
16	Repeat Steps 5-7, if desired			
17	For succeeding years, repeat Steps 13-16, alternating storage registers for ACD			

NOTES:

1. All dollar amounts will be displayed to 2 decimal places.
2. Error indications (flashing display):
   a. Starting book value, life, or year entered as less than, or equal to, zero.
   b. FACT ≤ 1 or FACT > 2
3. The value for life will flash in the display after the length of the life has been exceeded when using the "year + 1" operation.
4. The value for life *must* be entered *before* the value for year or months.

† These values are printed if the PC-100A is connected.

SUM-OF-THE-YEARS'-DIGITS DEPRECIATION

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 07	
2	Enter the following in any order:			
	a. starting book value	SBV	[A]	SBV†
	b. salvage value	SAL	[B]	SAL†
	c. useful life	LIFE	[C]	LIFE†
3	Enter year (If initial year in the schedule is fractional, see Step 10.)	YEAR	[D]	YEAR†
4	Calculate depreciation for the year		[E]	DEP†
5	Calculate remaining depreciable value		[2nd] [A']	RDV†
6	Calculate remaining book value		[2nd] [B']	RBV†
7	Calculate depreciation to date		[2nd] [C']	ACD†
8	To calculate values for next year (If next year is last year of useful life, *and* it is fractional, press [2nd] [D'].)		[2nd] [E']	Year + 1†
			[2nd] [D']	Life†
9	For a new case, make necessary changes in Steps 2a, 2b, and 2c, then go to Step 3.			
10	If initial year in the schedule is fractional, enter number of months	MONTHS	[.] 12 [=] [D]	Fraction†

11	Calculate depreciation to date		[2nd] [C'] [STO] 20	1st yr: DEP + ACD† Succeeding yrs: ACD†
12	Values of interest, repeat Steps 5-7.			
13	For depreciation during succeeding year		[2nd] [E'] [2nd] [C'] [STO] 21 [–] [RCL] 20 [=]	ACD† DEP
14	Repeat Steps 5-7, if desired			
15	For the following year		[2nd] [E'] [2nd] [C'] [STO] 20 [–] [RCL] 21 [=]	ACD† DEP
16	Repeat Steps 5-7, if desired			
17	For succeeding years, repeat Steps 13-16, alternating storage registers for ACD			

NOTES:

1. All dollar amounts will be displayed to 2 decimal places.
2. Error indications (flashing display):
   a. Starting book value, life, or year entered as less than, or equal to, zero.
   b. Salvage value entered as less than zero.
3. The value for life will flash in the display after the length of the life has been exceeded when using the "year + 1" operation.
4. The value for life *must* be entered *before* the value for year or months.

† These values are printed if the PC-100A is connected.

COMPONENT AND COMPOSITE DEPRECIATION

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 08	
2	Initialize		[2nd] [E']	0.
3	Enter values in following order:			
	a. Number of components	No. of comp	[R/S]	No. of components† (See Note 2)
	For each component:			
	b. Starting book value	SBV	[R/S]	SBV†
	c. Salvage value *or* declining balance factor	SAL or F	[R/S]	SAL or F†
	d. Life		[R/S]	LIFE†
	e. Method:			
	Straight line	1	[R/S]	1.†
	Declining balance	2	[R/S]	2.†
	Sum-of-the-years'-digits	3	[R/S]	3.†
4	Enter year (If the initial year in the schedule is fractional, see Step 13.)	YEAR	[B]	YEAR†
5	Calculate the depreciation for the year for individual component		[C]	PART DEP†
6	Calculate the accumulated depreciation for individual component		[D]	PART ACD†
7	Calculate the remaining depreciable value for individual component		[E]	PART RDV†
8	Repeat Steps 5-7, as desired, for each component			
9	Calculate the component (or composite) depreciation for the year		[2nd] [A']	YR TOTAL DEP†
10	Calculate the accumulated component (or composite) depreciation		[2nd] [B']	TOTAL DEP†
11	Compute the total remaining depreciable value		[2nd] [C']	TOTAL RDV†
12	Go to next year		[2nd] [D']	YEAR + 1†
13	For fractional initial year, all components must begin at the same time, observe the following procedure. Increase the number of available registers to 100 (60).	10 (6)	[2nd] [Fix] 9 [2nd] [Op] 17	159.99 (0.59)
14	Enter fractional part of first year	Fraction	[B]	Fraction†
15	Calculate ACD for first component, then store		[D] [STO] 84(52)	ACD, 1st†

16	Calculate ACD for the second component, then store		[D] [STO] 85(53)	ACD, 2nd†
17	Repeat for all components, incrementing storage register by one each time			
18	When you have completed the first year, go to the second year		[2nd] [D']	1 + Fraction†
19	Calculate ADC for the first component		[D]	ACD†
20	To determine depreciation for the year		[–] [2nd] [EXC] 84(52) [=]	DEP
21	For second component		[D] [–] [2nd] [EXC] 85(53) [=]	ACD† DEP
22	Repeat process for all components and all years			
23	Upon completion, return to original partition before proceeding to next program	6 (3)	[2nd] [Fix] 9 [2nd] [Op] 17	479.59 (239.29)
24	Steps 13 and 23 can be used to increase the capacity of the program from 9(2) components to 19(9) components			

25	To print schedule follow Steps 1-3 for all components		[A]	

NOTES:
1. Values in parentheses are for the TI Programmable 58.
2. Perform Step 13 if number of components is more than 2 for the TI Programmable 58 or more than 9 for the TI Programmable 59. See Step 24.
3. If there is no fractional year input, 10 and 20 components can be handled on the TI Programmable 58 and 59 respectively.

† These values are printed if the PC-100A is connected.

EXCESS DEPRECIATION RECAPTURE

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 09	
2	Initialize		[2nd] [E′]	0.
3	Enter inputs in the following order:			
	a. depreciable basis	Amount	[R/S]	Depreciable Basis†
	b. useful life	Years	[R/S]	# Years†
	c. entire holding period	Years	[R/S]	# Years†
	d. holding period prior to 1964	Years	[R/S]	# Years†
	e. holding period prior to 1970	Years	[R/S]	# Years†
	f. holding period prior to 1976	Years	[R/S]	# Years†
	g. Type (1 – Residential)	1	[R/S]	1.†
	(0 – Commercial)	0		0.†
	h. depreciable factor (0 for sum of the digits)	Factor	[R/S]	Factor†
	i. Selling Costs	Amount	[R/S]	Selling costs†
	j. Selling Price	Amount	[R/S]	Selling price†
4	Calculate total depreciation %		[A]	Total depreciation %†
5	Calculate total depreciation amount		[R/S]	Amount total depreciation†
6	Calculate adjusted basis		[R/S]	Adjusted basis†
7	Calculate realized gain		[R/S]	Realized gain†
8	Calculate % ACD prior to 1964 accelerated method		[B]	% ACD prior to 1964 accelerated†
9	Calculate % ACD prior to 1964 straight line		[R/S]	% ACD prior to 1964 straight line†
10	Calculate % ACD, 1964-69, accelerated method		[C]	% ACD, 1964-69 accelerated†
11	Calculate % ACD, 1964-69, straight line		[R/S]	% ACD, 1964-69 straight line†
12	Calculate % ACD, 1970-75, accelerated method		[D]	% ACD, 1970-75 accelerated†
13	Calculate % ACD, 1970-75, straight line		[R/S]	% ACD, 1970-75 straight line†
14	Calculate excess depreciation prior to 1970		[E]	Excess depreciation prior to 1970†
15	Calculate excess depreciation 1970-75		[2nd] [A′]	Excess depreciation 1970-75†
16	Calculate excess depreciation after 1975		[2nd] [B′]	Excess depreciation after 1975†
17	Calculate ordinary income recapture prior to 1970		[2nd] [C′]	Ordinary income prior to 1970†

18	Calculate ordinary income recaptured 1970-75		[R/S]	Ordinary income 1970-75†
19	Calculate ordinary income recaptured after 1975		[R/S]	Ordinary income after 1975†
20	Calculate total ordinary income recaptured		[R/S]	Total ordinary income†
21	Calculate capital gain realized		[2nd] [D']	Capital gain realized†

NOTES:

1. This program is applicable only to *real* property. Personal property, which is covered by Section 1245 of the Internal Revenue Code, is treated differently in this context.
2. Low-income housing receives special treatment under these provisions, and consequently, this program is not strictly applicable.
3. Depreciation deducted in excess of the straight line method for property held less than one year is subject to full recapture as ordinary income.

† These values are printed if the PC-100A is connected.

CURVE FITS

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 10	
2	Initialize		[2nd] [E′]	0.
3	Choose the type of curve			
	a. Linear	x	[A]	x†
		y†	[R/S]	number of pairs
	b. Exponential	x	[B]	x†
		y†	[R/S]	number of pairs
	c. Logarithmic	x	[C]	x†
		y†	[R/S]	number of pairs
	d. Power	x	[R/S]	x†
		y†	[R/S]	number of pairs
	(Repeat Step 3 for all cases)			
4	Delete data			
	a. Enter x	x	[D]	x†
	b. Enter y	y	[R/S]	y†
5	Calculate coefficient of determination		[2nd] [C′]	r^2 †
6	Calculate coefficients before computing estimated points		[2nd] [A′] [2nd] [B′]	a (intercept)† b (slope)†

7	Compute estimated point for			
	x′ given y	y	[2nd] [D′]	x′†
	y′ given x	x	[E]	y′†

NOTES:

1. For the exponential, power, and logarithmic curves, the following conditions must be met for the independent (x) and dependent (y) variables or the display will flash:

exponential	$y > 0$
power	$y > 0, x > 0$
logarithmic	$x > 0$

† These values are printed if the PC-100A is connected.

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 11	
2	Initialize		[2nd] [E′]	0.
3	Enter x Enter y Repeat Step for all data pairs	x y†	[A] [B]	x† No. of pairs
4	Delete data x y		 [2nd] [D′] [R/S]	 x† y†
5	Determine best fit		[C]	1 = Linear† 2 = Exponential† 3 = Logarithmic† 4 = Power†
6	Calculate the coefficient of determination		[2nd] [A′]	r² †
7	Calculate coefficients		[D] [E]	a (intercept)† b (slope)†
8	Compute estimated value for: x′ given y y′ given x	 y x	 [2nd] [B′] [2nd] [C′]	 x′† y′†

NOTE: † These values are printed if the PC-100A is connected.

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 12	
2	Initialize		[2nd] [E′]	0.
3	Enter the following in order: 1 Cash flows 2 Investment			
	Cash flow (enter each cash flow)	CF†	[A]	CF#
	Investment	PV	[B]	PV†
4	To change a cash flow before the calculation has been made. This step can be repeated as many times as necessary	CF# New CF	[2nd] [A′] [2nd] [B′]	CF# New CF
5	Solve for internal rate of return		[C]	IRR†
6	To change a cash flow after the calculation has been made. This step may be repeated as many times as necessary.	CF# New CF	[2nd] [A′] [2nd] [C′]	CF# New CF
7	After change, calculate IRR		[E]	IRR†**
8	To increase the capability of the program from 40 to 80 (10 to 40) cash flows*	10 (6)	[2nd] [Op] 17	159.99 (0.59)
9	Upon completion of calculations, return to original mode, before proceeding to next program*	6 (3)	[2nd] [Op] 17	479.59 (239.29)

NOTES:
† These values are printed if the PC-100A is connected.
* Numbers in parenthesis are for TI Programmable 58. Be sure to press [2nd] [Fix] 9 before repartitioning.
** Relatively long calculating time for the step.

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 13	
2	Initialize		[2nd] [E']	0.
3	Inputs must be in order:†			
	a. Mortgage	PV†	[A]	PV
	b. Remaining term	Term†	[R/S]	Term
	c. Periods/yr	Periods†	[R/S]	Periods
	d. Interest rate	Rate†	[R/S]	Rate
	e. Payment/period (On mortgages with balloon payment – enter balloon payment here; on standing mortgages enter 0 here; for constant payment to principal loans, enter principal payment)	PMT†	[R/S]	PMT
	f. Building value	SBV†	[R/S]	SBV
	g. Depreciation factor or salvage	FACT, SAL†	[R/S]	FACT, SAL
	h. Life	Life†	[R/S]	Life
	i. Type of depreciation (Building) 1 – Straight Line 2 – Declining Balance 3 – Sum-of-Years'-Digits	Type†	[B]	Type
	j. Personal property	Amount†	[R/S]	Amount
	k. Depreciation factor or salvage value	FACT, SAL†	[R/S]	FACT, SAL
	l. Life of personal property	Life†	[R/S]	Life
	m. Type of depreciation (Personal Property) 1 – Straight Line 2 – Declining Balance 3 – Sum-of-Years'-Digits	Type†	[B]	Type
	n. Enter 1 or fraction	1 or Frac.†	[R/S]	1 or Frac.
	o. Type of mortgage 1 – Amortized 2 – Amortized with balloon payment 3 – Constant payment to principal loan or standing mortgage	Type†	[C]	Type
4	Compute prinicpal reduction when principal is paid (see Note 2), for standing mortgage, enter principal and add to figure in display to obtain total principal reduction		[D]	Principal Reduction†*
5	Enter gross income	gross income	[R/S]	Gross Income†
6	Enter vacancy and credit losses			
	a. Enter 0 if amount is known; then enter amount	0 V&C Losses	[R/S] [R/S]	1.00 V&C Losses†
	b. Enter 1 if you want value computed; then enter percentage	1 %	[R/S] [R/S]	1.00 V&C Losses†

7	Enter operating expenses	Op. Exp.	[E]	Op. Exp.†
8	Enter growth rate %	%	[R/S]	%†
9	Compute net operating income		[2nd] [A']	NOI†
10	Enter non-operating expenses	Non-op. exp.	[R/S]	Non-op. exp.
11	Compute interest		[R/S]	Interest†
12	Compute depreciation		[R/S]	Depreciation†
13	Compute taxable income		[R/S]	Taxable Inc.†
14	Enter funded reserves	Funded res.	[R/S]	Funded res.
15	Enter capital additions	Cap. add.	[R/S]	Cap. add.†
16	Cash flow before taxes			
	a. Compute		[R/S]	CF before taxes†
	b. Enter	CF	[2nd] [C']	CF before taxes†
17	Enter tax bracket (%)	%	[R/S]	Income tax†
18	Compute cash flow after taxes		[R/S]	CF after taxes†
	Repeat Steps 4-18 for each year of the total term, then go to Step 19.			
19	Enter original investment	OI	[2nd] [B']	OI†
20	Enter capital improvements	CI	[R/S]	CI†
21	Enter costs of sale	COS	[R/S]	COS†
22	Total depreciation			
	a. Compute		[R/S]	Total dep.†
	b. Enter in case of fractional years	Amount	[2nd] [D']	Total dep.†

23	Enter partial sales	Partial sale	[R/S]	Part. sales†
24	Compute adjusted basis		[R/S]	Adju. basis†
25	Enter total S.L. depreciation	SL Dep.	[R/S]	SL Dep.†
26	Compute excess depreciation		[R/S]	Excs. Dep.†
27	Enter % of excess counted on total tax liability	%	[R/S]	%†
28	Enter sales price	Price	[R/S]	Price†
29	Compute capital gain		[R/S]	Cap. gain†
30	Compute total tax liability		[R/S]	Total tax†
31	Compute proceeds after taxes		[R/S]	Proc. after tax†

NOTES:

1. For more than one mortgage, enter data for all mortgages by repeating Step 3 as required.
2. For initial year new mortgages take effect, store the new number of mortgages in Register 15 before pressing [D].
3. If an input value is not applicable, enter a 0.
4. If net operating income is changing by a growth rate or is not changing, Steps 5, 6, 7, and 8 may be skipped.
5. To enter a new value for net operating income, enter the amount and press [STO] 53.
6. To enter a new value for growth rate, enter rate and press [÷] 100 [=] [STO] 07.
7. The power-up partition must be changed on the TI Programmable 58 before running this program. The key sequence required if 6 [2nd] [Op] 17.

† These values are printed if the PC-100A is connected.

* Relatively long calculating time for this step.

YEARLY AMORTIZATION SCHEDULE

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program 02		[2nd] [Pgm] 02	
2	Initialize		[2nd] [E′] [2nd] [C′]	0. 0.
3	Enter known variables in any order:			
	N (in months)	N	[A]	N†
	i (in percent/month)	i	[B]	i†
	Monthly payment	PMT	[C]	PMT†
	Present value	PV	[D]	PV†
4	To solve for the unknown, enter zero, then press the appropriate key			
	N	0	[A]	N†
	i%	0	[B]	i†
	PMT	0	[C]	PMT†
	PV	0	[D]	PV†
5	Select program 14		[2nd] [Pgm] 14	
6	Compute annual debt service		[E]	ADS†
7	Compute mortgage constant %		[R/S]	Mort. C %†
8	Compute first year		[R/S]	1.†
9	To see payment to principal		[RCL] 10	Prin. pmt.
	To see payment to interest		[RCL] 11	Int. PMT
	To see total pmt to principal		[RCL] 19	Tot. prin.
	To see total pmt to interest		[RCL] 18	Tot. int.
	To see remaining balance		[RCL] 04	Rem. bal.
10	Compute next year		[R/S]	Year no.†
11	Go to Step 9			

NOTE: † These values are printed when the PC-100A is connected.

INVESTMENT FEASIBILITY ANALYSIS

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 15	
2	Enter net income, if known	Net Income	[A]	Net Income†
3	Enter debt coverage ratio, if known	Debt Coverage	[B]	Debt Coverage†
4	Enter mortgage constant %, if known	Mort. Constant	[C]	Mort. Constant†
5	Enter return on equity %, if known	Return on Equity	[D]	Return on Equity†
6	Enter price, if known	Price	[E]	Price†
7	To solve for net income		[2nd] [A']	Net Income†
8	To solve for debt coverage ratio		[2nd] [B']	Debt Cov. Ratio†
9	To solve for mortgage constant		[2nd] [C']	Mort. Constant†
10	To solve for return on equity		[2nd] [D']	Return on Equity†
11	To solve for price		[2nd] [E']	Price†
12	Execute Steps 2-6 as necessary to change known factors			
13	Execute Steps 7, 8, 9, 10, or 11 to solve for new unknown factor			
14	For a new problem, go to Step 2			

NOTE: † These values are printed if the PC-100A is connected.

RESIDENTIAL PURCHASE ANALYSIS

STEP	PROCEDURE	ENTER	PRESS	DISPLAY
1	Select program		[2nd] [Pgm] 16	
2	Initialize		[SBR] [CLR]	0.00
3	Enter term of loan	Years	[2nd] [A′]	Term (mos.)†
4	Enter annual interest rate	i%	[2nd] [B′]	i% (%/mo.)†
5	Enter mortgage amount	PV	[2nd] [C′]	PV†
6	Compute monthly mortgage payment	0	[2nd] [D′]	PMT†
7	Enter down payment	$	[2nd] [E′]	Down payment†
8	Enter sale price	$	[A]	Price†
9	Enter market appreciation rate	Annual %	[B]	Mkt. app. rate†
10	Enter annual taxes	$	[C]	Taxes†
11	Enter annual tax increase rate	%	[D]	Tax Inc. rate†
12	Enter months left in first year	Months	[E]	Monthly PMT, mortg † taxes†
13	Compute equity buildup		[R/S]	Total equity buildup†
14	Compute income tax deductions		[R/S]	Income tax deductions†
15	*For subsequent years, go to Step 13*			

NOTE: † These values are printed if the PC-100A is connected.

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