Program Library

VOLUME 289

2200
General
Demonstration
Package

WANG

Volume 289
2200 Series

2200
General
Demonstration
Package

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INTRODUCTION

This manual is intended to provide the Wang salesforce with a set of general demonstration programs used in showing customers the variety of 2200 advanced programmable calculator capabilities.

The programs selected include CRT display - oriented "eye-catchers", mathematical programs and business - oriented programs. The last program in this package is a Wang EPA/LEASE agreement preparation program that not only impressively demonstrates the business - oriented capabilities of the 2200 advanced programmable calculator; but, also immediately types the actual document on a Wang EPA/LEASE form for the convenience of the customer.

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WANG
2200
SERIES
PROGRAM

2200 DEMONSTRATION PACKAGE (CONTROL BLOCK)
TITLE

6/8/73
NUMBER   **DATE**
2200A-02, 2215, 2216/2217, 2201 (Optional)
EQUIPMENT

PROGRAM ABSTRACT

The "Control" block places 9 programs at the user's finger tips by using the Special Function Keys

BLOCK	SAVE "NAME"	BYTES REQUIRED
1		395

PROGRAM DESCRIPTION

The Control Block allows for up to 9 programs to be available to the user at the touch of a key. The program "remembers" where it is and will either "search" forward or backward to load the desired program.

The program requires that the variables I7, I8 and I9 not be used in any of the programs (except the Control program).

It is very important that the position of the tape not be changed except by the program. Should the position of the tape be changed, such as an accidental REWIND, it is necessary that the program be started from the beginning (see Section I of the Operating Instructions).
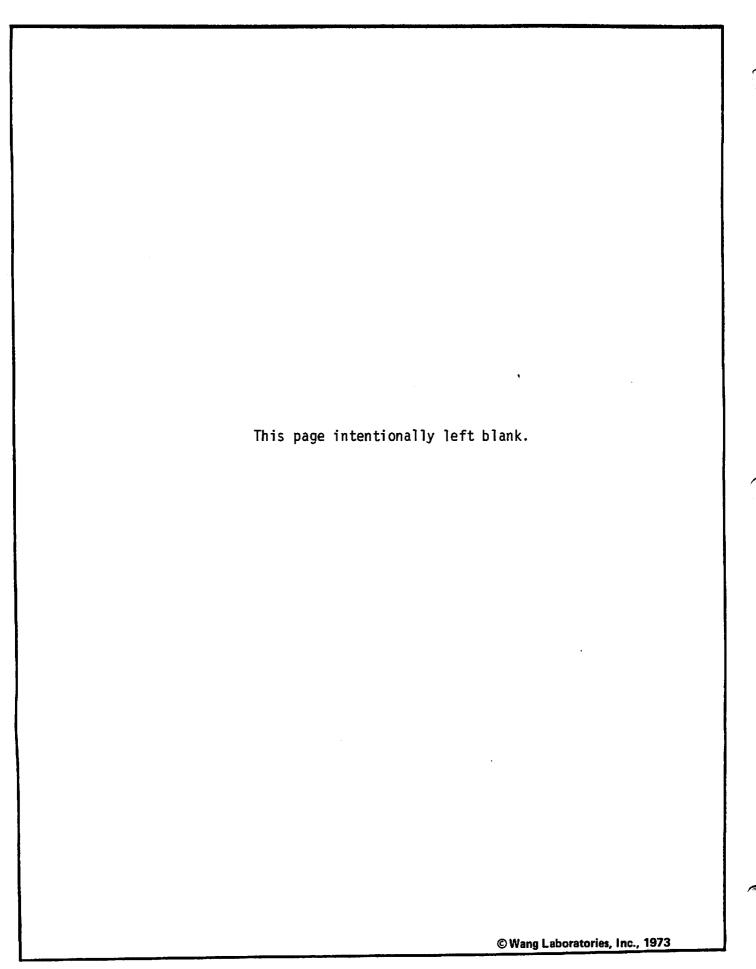
Any program that is in memory may be re-run by either keying Special Function 25 or by keying the Special Function for that program.

OPERATING INSTRUCTIONS

I.   TO LOAD CONTROL BLOCK

        1.   Place tape into tape cassette unit and key REWIND.

        2.   Key   [RESET]

        3.   Key   [CLEAR]   [CR/LF]

        4.   Key   [LOAD]   [CR/LF] *

II   THE FOLLOWING DEMONSTRATION PROGRAMS ARE NOW AVAILABLE:

SPECIAL FUNCTION	PROGRAM
16	Marquee
17	Sine Curve
18	Race Track
19	Mean, Variance, Std. Dev.
20	Linear Regression
21	Simultaneous Eqns
22	Mortgage
23	Payroll
24	Lease vs. Purchase
25	Rerun

    *Once the 1st block has been loaded, do not touch the tape unit. Should anything, other than by the program, cause the tape to rewind, you must start the system as described in I.

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WANG
2200
SERIES
PROGRAM

MARQUEE

TITLE

PMi.02-2200.02A-00FI-1-0   6/8/73

NUMBER   **DATE**

2200A-02, 2215, 2216/2217

EQUIPMENT

PROGRAM ABSTRACT

Fills and clears the CRT with an increasing rectangle. The
program will use any symbol (s) that you supply.

BLOCK	SAVE "NAME"	BYTES REQUIRED
2		1131

PROGRAM DESCRIPTION

This program is an "eye-catcher". It builds an ever increasing rectangle until the CRT (display) is filled, then it will retrace it's steps until the display is clear. The cycle is continuous until [RESET] is keyed.

The upper half of the rectangle is made up of a symbol or set of symbols that is supplied by the user. For easier reading, the symbol or set of symbols must be preceded and followed by a period (or decimal point).
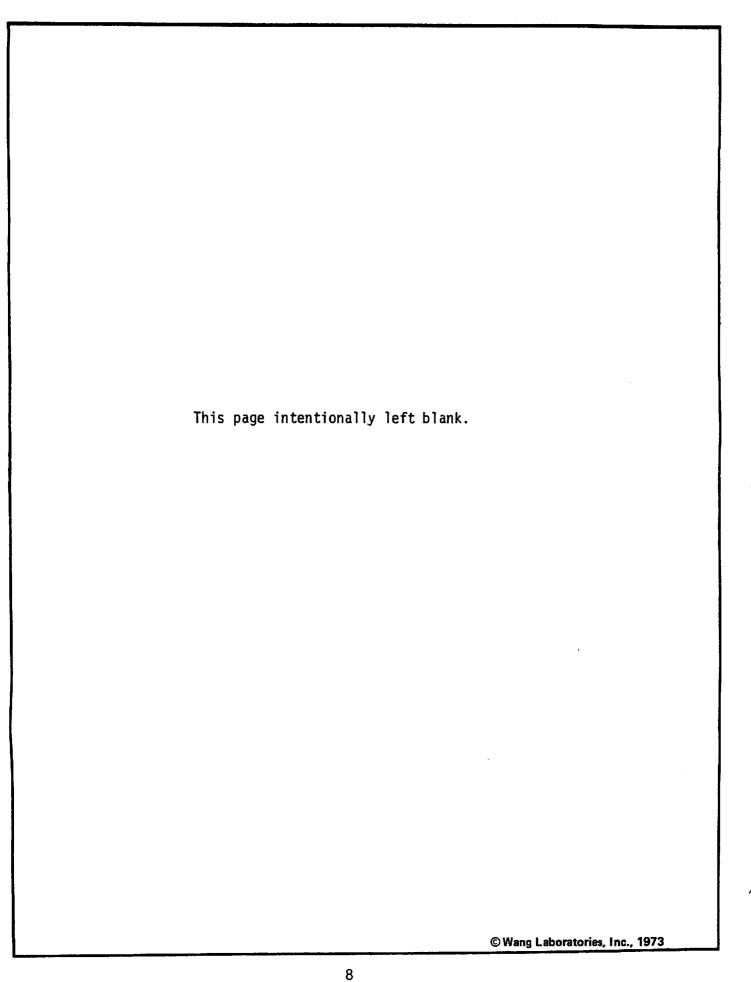
<u>OPERATING INSTRUCTIONS</u>

<u>EXAMPLE</u>

Display .JERRY. on the marquee

1. Key | RESET |

2. Key Special Function <u>16</u>

3. <u>INSTRUCTION</u>   Type .YOUR NAME. CR/LF

4. Key <u>.</u> <u>NAME,</u> <u>.</u> | CR/LF | 4. Key <u>.</u> <u>J</u> <u>E</u> <u>R</u> <u>R</u> <u>Y</u> <u>.</u>

                                      | CR/LF |

5. Program will run until | RESET |

    is keyed.

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WANG
2200
SERIES
PROGRAM

SINE CURVE
_____

TITLE

PS.02-2200.00A-00FI-1-0   6/8/73
_____

NUMBER   **DATE**
2200A-02, 2215, 2216/2217
_____
EQUIPMENT

| **PROGRAM ABSTRACT** This program will plot a Sine Curve starting at some point x. The point x is incremented by a value delta x (Δx). The curve will run until [RESET] has been keyed. The plot symbol(s) used is an input supplied by the user. |

BLOCK	SAVE "NAME"	BYTES REQUIRED
3		659

PROGRAM DESCRIPTION

This program is another "eye-catcher". It plots the Sine Curve. The function is y=Sin(x), x is the initial starting point and then x is incremented by a value delta x (Δx). The curve will be displayed continuously until [RESET] is keyed.

The values of x and Δx are inputs supplied by the user.

The symbols used as the plot element are also a user supplied input.

x is in radians, to change x to degrees

Key <u>3</u> <u>0</u> [SELECT] <u>D</u> [CR/LF]

Plot Sin(x) in increments of Δx using "HI" as a plot symbol.

$$x = 0$$
$$Δx = .2$$

1. Key | RESET |

2. Key Special Function 17

3. INSTRUCTION

    This program will plot a Sine Curve starting at some point x. The point x is incremented by a Value Delta x. The curve will run until the RESET button is keyed.
    Input x, Delta x.

4. Key x , DELTA x | CR/LF |

4. Key 0 , . 2 | CR/LF |

5. INSTRUCTION

    The plot symbol used is an input, controlled by the user. Input the symbol you wish to be used.

6. Key SYMBOL | CR/LF |

6. Key H I | CR/LF |

7. Program will run until | RESET |
   is keyed.

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WANG
2200
SERIES
PROGRAM

RACE TRACK
_____
TITLE

PMi.04-2200.02A-00FI-1-0
_____   6/8/73
NUMBER   DATE
2200A-02, 2215, 2216/2217
_____
EQUIPMENT

PROGRAM ABSTRACT
Displays a race between five "horses" and keeps track record, odds and number of wins.

BLOCK	SAVE "NAME"	BYTES REQUIRED
4		1315

PROGRAM DESCRIPTION

This program will display a "horse" race on the CRT. There are five "horses" and their movements are random. The first "horse" to reach the end of the track is the winner. The winner's time and length of lead over the second place "horse" is displayed along with the track record and odds table.

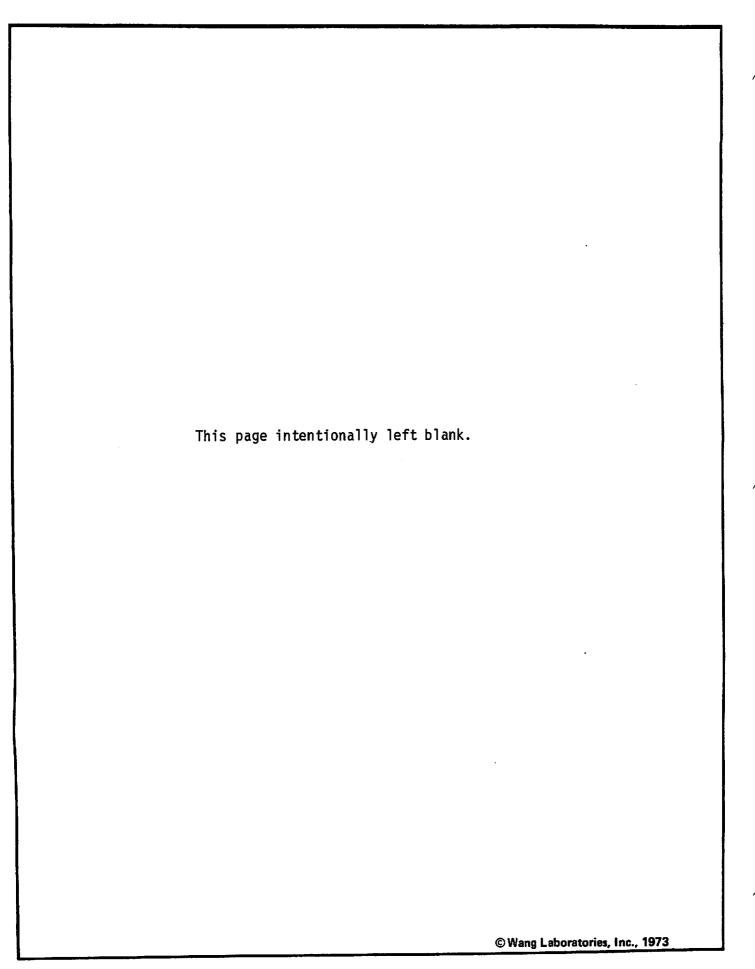The program requires no user inputs and will run until [RESET] is keyed.

1. Key | RESET |

2. Key Special Function 18

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WANG 2200 SERIES PROGRAM

MEAN, VARIANCE, STANDARD DEVIATION
_____
TITLE

PS.01-2200.02A-00FI-1-0   6/8/73
_____
NUMBER   **DATE**
2200A-02, 2215, 2216/2217
_____
EQUIPMENT

PROGRAM ABSTRACT
This program will calculate the Mean, Variance and Standard Deviation for either a population or a sample.

BLOCK	SAVE "NAME"	BYTES REQUIRED
5		919

PROGRAM DESCRIPTION

This program will calculate the Mean, Variance, and Standard Deviation *of either* a population or sample by the following formulae:

LET N = # of items P = 0 for a population and P = 1 for a sample

$$\text{MEAN} = \left(\sum_{i=1}^{n} X_i \right) / N$$

$$\text{VARIANCE} = \left(\sum_{i=1}^{n} X_i^2 - \left(\sum_{i=1}^{n} X_i \right)^2 \right) (/N-P)$$

$$\text{STANDARD DEVIATION} = \sqrt{\text{VARIANCE}}$$

18

OPERATING INSTRUCTIONS

Find the MEAN, VARIANCE, and
STD. DEV. for the following data
taken from a population.

DATA

1
2
3
4
5

1. Key [RESET]

2. Key Special Function 19

3. INSTRUCTION

This program will calculate the
MEAN, VARIANCE and STANDARD
DEVIATION of either a population or
sample by the following formulae:

LET N - # of items and P - 0 for a
Population and P - 1 for a Sample

MEAN - (Sum X)/N

VARIANCE - (Sum (X)+2 -
(Sum X)+2/N)/(N-P)

STANDARD DEVIATION = SQR(VARIANCE)

STOP KEY CONTINUE, CR/LF

4. Key [CONTINUE]   [CR/LF]

5. INSTRUCTION

Input 0 for a Population, 1 for a
Sample.

6. Key 0 [CR/LF] for Population
        OR
   Key 1 [CR/LF] for Sample

6. Key 0   [CR/LF]

7. INSTRUCTION

Of Items (N)

8. Key N [CR/LF]

8. Key 5   [CR/LF]

9. <u>INSTRUCTION</u>   Input Items

10. Key <u>ITEM 1</u> | CR/LF | 10. Key <u>1</u> | CR/LF |

    Key <u>ITEM 2</u> | CR/LF | Key <u>2</u> | CR/LF |

         .   Key <u>3</u> | CR/LF |
         .
         .   Key <u>4</u> | CR/LF |
         :
                                               Key <u>5</u> | CR/LF |
    Key <u>ITEM N</u> | CR/LF |

11. READ: MEAN = 3
                                               VARIANCE = 2
                                               ST.DEV. = 1.4142135624

12. <u>INSTRUCTION</u>   More Input (1 = Yes, 0 = No)

13. Key <u>0</u> | CR/LF | if you have no   13. Key <u>0</u> | CR/LF |
    more input and go to Step 14

    Key <u>1</u> | CR/LF | if you have
    more input and go to Step 3.

14. Program Ends   END PROGRAM

WANG
2200
SERIES
PROGRAM

<u>LINEAR REGRESSION</u>

TITLE

PS.01-2200.02A-00FI-2-0   6/8/73

NUMBER   **DATE**

2200A-02, 2215, 2216/2217

EQUIPMENT

PROGRAM ABSTRACT

This program fits the curve $Y=A+Bx$ to a set of N data points by the method of least squares. Also, an analysis of regression is performed.

BLOCK	SAVE "NAME"	BYTES REQUIRED
6		1680

PROGRAM DESCRIPTION

This program fits the curve $y = A + Bx$ to a set of N data points by the method of least squares. Also, an analysis of regression is performed, the regression table, F - value, coefficient of determination, coefficient of correlation, and standard error of estimate are printed out. The user may estimate values of y from the regression curve by inputting values of x.

FORMULAE:

$$A = \frac{\Sigma y - B \Sigma x}{N}$$

$$B = \frac{N \Sigma xy - (\Sigma x)(\Sigma y)}{N \Sigma x^2 - (\Sigma x)^2}$$

$$R = \frac{N \Sigma xy - \Sigma x \Sigma y}{\sqrt{\left(N\Sigma x^2 - (\Sigma x)^2\right)\left(N\Sigma y^2 - (\Sigma y)^2\right)}}$$

R^2 = Coefficient of Determination

R = Coefficient of Correlation

Standard Error of Estimate

$$\frac{1}{N} \sqrt{N\Sigma y^2 - (\Sigma y)^2 - \frac{\left\{N\Sigma xy - (\Sigma x)(\Sigma x)\right\}^2}{N\Sigma x^2 - (\Sigma x)^2}}$$

F - Test for R, $\quad F_R = \dfrac{R^2 (N-2)}{1 - R^2}$

EXAMPLE

Fit to the curve $y = A+Bx$ the following data and perform an analysis of regression.

x	y
1	2
2	4
2	2
6	4
8	8
8	7
5	6

Solve y (2.1)

1. Key RESET

2. Key Special Function 20

3. INSTRUCTION

This program fits the curve $y = A + Bx$ to a set of N data points by the method of least squares. Also, an analysis of regression is performed. The regression table, F-value, coefficient of determination, coefficient of correlation, and standard error of estimate are printed out. The user may estimate values of y from the regression curve by inputting values of x. Input the No. of (x,y) - Data Points

4. Key No. of (x,y)-Data Points CR/LF

4. Key 7 CR/LF

5. INSTRUCTION

INPUT 1 (x,y)-DATA POINT/LINE

6. Key X1 , Y1 CR/LF

Key X2 , Y2 CR/LF

.
.
.

Key Xn , Yn CR/LF

6. Key 1 , 2 CR/LF

Key 2 , 4 CR/LF

.
.
.

Key 5 , 6 CR/LF

7. READ:

0 Deg. Coeff. = 1.43093922652

1 Deg. Coeff. = .7182320441989

8. INSTRUCTION

STOP KEY CONTINUE, CR/LF TO
CONTINUE PROGRAM

9. Key [CONTINUE]   [CR/LF]

10. READ

REGRESSION TABLE

SOURCE	SUM OF SQ.	DEG. FREEDOM	MEAN SQ.
REGRESSION	26. 67719021313	1	26. 67719021313
RESIDUAL	6. 75138121547	5	1. 350276243094
TOTAL	33. 4285714286	6	

F = 19.7568389058

COEFF.OF DETERMINATION = .798035646656
COEFF.OF CORRELATION = .89332838568
STANDARD ERROR OF ESTIMATE = 1.1628438739

11. INSTRUCTION

Do you wish to estimate values of
y from the Regression Curve?
(1 = Yes, 0 = No)

12. Key 0 [CR/LF] if you do not
wish to estimate y and go to Step 18.

12. Key 1 [CR/LF]

Key 1 [CR/LF] if you do wish
to estimate y and go to Step 13.

13. INSTRUCTION

INPUT x

14. Key x [CR/LF]

14. Key 2 . 1 [CR/LF]

15. READ:

y = 2.939226519338

16. INSTRUCTION

Another Point? (1 = Yes, 0 = No)

17. GO TO STEP 12

18. PROGRAM ENDS

END PROGRAM

WANG
2200
SERIES
PROGRAM

SIMULTANEOUS EQUATIONS
_____
TITLE

PS.02-2200.02A-00FI-2-0   6/8/73
_____
NUMBER   **DATE**
2200A-02, 2215, 2216/2217
_____
EQUIPMENT

PROGRAM ABSTRACT

This program solves a system of N simultaneous equations using a minimum storage technique. The maximum value of N is 31.

BLOCK	SAVE "NAME"	BYTES REQUIRED
7		3115

PROGRAM DESCRIPTION

This program solves a system of N simultaneous equations using a minimum storage technique. (N $\leq$ 31)

The data is manipulated as it is entered and is not stored as inputed.

Solve the following system:

$$3X_1 + 2X_2 + 4X_3 + X_4 = 5$$

$$2X_1 + 0X_2 + 2X_3 + 5X_4 = 1$$

$$2X_1 + X_2 + 2X_3 + X_4 = 3$$

$$2X_1 + 4X_2 + 3X_3 + 1X_4 = 4$$

1. Key | RESET |

2. Key Special Function 21

3. INSTRUCTION

This program solves a system of N simultaneous equations using a minimum storage technique. The maximum value of N is 31.
Input N

4. Key N | CR/LF |

4. Key 4 | CR/LF |

5. INSTRUCTION

Input 1 equation/line. The end of an equation is signaled by a | CR/LF | immediately following a?

The equations are entered 1 equation/line. The end of an equation is signaled by a | CR/LF | immediately following a question mark. For example, the equation

$$X_1 + 3X_2 + 4X_3 + 5X_4 - 6X_7 = 8$$

would be entered as follows:

? 1, 3, 4, 5, -6, 8 | CR/LF |

? | CR/LF |

NOTE: Elements of the equation are separated by a comma.

NOTE: If N = 31, then only 1 | CR/LF | is required.

6. Key <u>EQUATION 1</u> | CR/LF | | CR/LF |

         .
         .
         .

     Key <u>EQUATION N</u> | CR/LF | | CR/LF |

7. READ

6. Key <u>3</u> , <u>2</u> , <u>4</u> , <u>1</u>

   , <u>5</u> | CR/LF | | CR/LF |

       .
       .

     Key <u>2</u> , <u>4</u> , <u>3</u> , <u>1</u> ,

   <u>4</u> | CR/LF | | CR/LF |

X(1) = 1.42857142857

X(2) = .285714285716

X(3) = .142857142858

X(4) = .4285714285712

END PROGRAM

WANG
2200
SERIES
PROGRAM

MORTGAGE

TITLE

PF.05-2200.02A-00FI-1-0   6/8/73

NUMBER   **DATE**
2200A-02, 2215, 2216/2217, 2201 (Optional)

EQUIPMENT

PROGRAM ABSTRACT

This program computes the monthly payment and total interest on
a loan. The mortgage table may be displayed or printed.

BLOCK	SAVE "NAME"	BYTES REQUIRED
8		1462

PROGRAM DESCRIPTION

This program computes the monthly payment and total interest on a loan by the formulae:

$$M = \frac{P*I/1200}{1 - (1 + I/1200) + - (12*N)}$$

$$T = (12*N) * M-P$$

Where:

M = Monthly Payment
T = Total Interest
P = Principal
I = Annual Interest Rate (%)
N = No. of Years

The Mortgate Table may be displayed (CRT) or typed on the 2201. The table is displayed or typed in 12 month increments.

Find monthly payment and total interest on the following loan:

    Principal = $18,900
    Annual Interest Rate = 7%
    No. of Years = 25

1. Key   &boxed{RESET}

2. Key Special Function <u>22</u>

3. <u>INSTRUCTION</u>

This program computes the monthly payment and total interest on a loan by the formulae:

$$M = \frac{P*I/1200}{1 - (1 + I/1200) \uparrow - (12*N)}$$

$$T = (12*N) * M - P$$

Where:

M = Monthly Payment
T = Total Interest
P = Principal
I = Annual Interest Rate (%)
N = No. of Years

STOP KEY CONTINUE, CR/LF TO CONTINUE PROGRAM

4. Key   &boxed{CONTINUE}   &boxed{CR/LF}

5. <u>INSTRUCTION</u>

PRINCIPAL?

6. Key <u>PRINCIPAL</u> &boxed{CR/LF}

6. Key <u>1</u> <u>8</u> <u>9</u> <u>0</u> <u>0</u> &boxed{CR/LF}

7. <u>INSTRUCTION</u>

ANNUAL INTEREST RATE (%)

8. Key <u>A.I.R. (%)</u> &boxed{CR/LF}

8. Key <u>7</u> &boxed{CR/LF}

9. <u>INSTRUCTION</u>

NO. OF YEARS?

10. Key <u>NO. OF YEARS</u> | CR/LF | 10. Key <u>2</u> <u>5</u> | CR/LF |

11. READ: Monthly Payment = $133.58
                                                     Total Interest = $21174

12. <u>INSTRUCTION</u>   Do you want Mortage Table?
                                                     (1 = Yes, 0 = No)

13. Key <u>0</u> | CR/LF | if you do not   13. Key <u>1</u> | CR/LF |
     want table and program ends.

     Key <u>1</u> | CR/LF | if you do want
     table and go to Step 14.

14. <u>INSTRUCTION</u>   Do you want a hard copy of table?
                                                     (1 = Yes, 0 = No)

15. Key <u>0</u> | CR/LF | if you do not   15. Key <u>0</u> | CR/LF |
     want typed copy and go to Step 16.

     *Key <u>1</u> | CR/LF | if you do want
     typed copy and go to Step 16.

     *Typewriter (2201) must be plugged in, connected to CPU and in the AUTO MODE.

16. READ:

MONTH	PRINCIPAL OUTSTANDING	INTEREST	PRINCIPAL REPAYMENT
1	18900	110.25	23.33
2	18876.67	110.11	23.47
3	18853.2	109.98	23.6
4	18829.6	109.84	23.74
5	18805.85	109.7	23.88
6	18781.98	109.56	24.02
7	18757.96	109.42	24.16
8	18733.8	109.28	24.3
9	18709.5	109.14	24.44
10	18685.05	109	24.58
11	18660.48	108.85	24.72
12	18635.75	108.71	24.87

17. <u>INSTRUCTION</u>   Stop Key CONTINUE,   CR/LF
                                                     to continue table

     ┌──┐
     │   The table will be displayed or typed   │
     │   in increments of 12, to have the next 12   │
     │   displayed or typed Key | CONTINUE | | CR/LF | │
     └──┘

WANG
2200
SERIES
PROGRAM

PAYROLL

TITLE

PF.14-2200.02A-00FI-1-0   6/8/73

NUMBER   **DATE**

2200A-02, 2215, 2216/2217

EQUIPMENT

PROGRAM ABSTRACT This program will calculate the gross and net pay for employees whose deduction information is known.		
BLOCK	**SAVE "NAME"**	**BYTES REQUIRED**
9		2287

PROGRAM DESCRIPTION

This program will calculate the gross and net pay for employees whose deduction information is known.

The following restraints must be honored:

1. $1 \leq$ Employee No. ≤ 50

2. $\$1.25 \leq$ Hourly Rate $\leq \$10.00$

3. $0 \leq$ Hours Worked ≤ 100

NOTE: The type of deductions shown (i.e. pension, health insurance, etc.) vary with each employee number. To demonstrate this effectively, key in different employee numbers each time the program is run.

Employee #25 is making $5.75/Hr. and he worked 45 Hrs. last week. What is his gross and net pay?

1. Key [RESET]

2. Key Special Function 23

3. INSTRUCTION

This program will calculate the gross and net pay for employees whose deduction information is known. The following restraints must be honored:

1. $1< =$ Employee No. $< = 50$
2. $\$1.25< =$ Hourly Rate $< \$10.00$
3. $0 < =$ Hours Worked $< = 100$

Input employee No., hourly rate, hours worked.

4. Key EMPLOYEE NO. , HOURLY RATE

    , HOURS WORKED [CR/LF]

4. Key 2 5 , 5 . 7 5 ,

     4 5 [CR/LF]

5. READ:

Employee Number 25 has 1 exemption.

       Gross Pay = 273.13

Less Deductions:

       Federal Tax =   36.42
         State Tax =   1.82
          FICA Tax =   9.90
           Net Pay = 224.99

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WANG 2200 SERIES PROGRAM

LEASE Vs. PURCHASE
_____
TITLE

PMi.05-2200.02A-00FI-1-0   6/8/73
_____
NUMBER   **DATE**
2200A-02, 2215, 2216/2217
_____
EQUIPMENT

PROGRAM ABSTRACT	Compares a lease with purchase of equipment.	
BLOCK	**SAVE "NAME"**	**BYTES REQUIRED**
10		3819

PROGRAM DESCRIPTION

This program compares a lease with purchase of equipment, using the Bower-Williamson method of analysis. The equipment is depreciated by the sum-of-the-years digits and the appropriate investment tax credit is taken, for the purchase alternative.

OPERATING INSTRUCTIONS

1. Key | RESET |

2. Key Special Function <u>24</u>

3. INSTRUCTION

This program compares a lease with purchase of equipment, using the Bower-Williamson method of analysis. The equipment is depreciated by the sum of the year's digits and the appropriate investment tax credit is taken, for the purchase alternative.

If you are all set, key |CONTINUE|, |CR/LF|

4. Key | CONTINUE | | CR/LF |

5. INSTRUCTION

Enter the Purchase Price of the equipment?

6. Key <u>PURCHASE PRICE</u> | CR/LF |

6. Key <u>6</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> | CR/LF |

7. INSTRUCTION

Enter the Leesee's Income Tax Rate?

8. Key <u>LEESEE'S INCOME TAX RATE</u>
        | CR/LF |

8. Key <u>.</u> <u>4</u> <u>8</u> | CR/LF |

9. INSTRUCTION

Enter the Interest Rate on a loan, compounded semi-annually

10. Key LOAN INTEREST RATE [CR/LF]

10. Key <u>.</u> <u>0</u> <u>4</u> <u>7</u> <u>5</u> [CR/LF]

Enter the Opportunity Rate that can be earned, after taxes, on new investments, compounded semi-annually

11. INSTRUCTION

12. Key OPPORTUNITY RATE [CR/LF]

12. Key <u>.</u> <u>1</u> [CR/LF]

Enter the Monthly rent, payable in advance

13. INSTRUCTION

14. Key MONTHLY RENT [CR/LF]

14. Key <u>9</u> <u>0</u> <u>0</u> [CR/LF]

Enter the Depreciable Life of the equipment, in years

15. INSTRUCTION

16. Key DEPRECIABLE LIFE (In Years)

[CR/LF]

16. Key <u>1</u> <u>0</u> [CR/LF]

17. INSTRUCTION

Enter the Salvage Value for tax purposes

18. Key SALVAGE VALUE (For Tax) [CR/LF]

18. Key <u>5</u> <u>0</u> <u>0</u> <u>0</u> [CR/LF]

19. INSTRUCTION

Enter the Expected Actual Salvage Value, must be < purchase price

20. Key ACUTAL SALVAGE VALUE [CR/LF]

20. Key <u>1</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u>   CR/LF

21. INSTRUCTION

Enter the expenses of making the least agreement

22. Key LEASE AGREEMENT EXPENSES [CR/LF]

22. Key <u>1</u> <u>0</u> <u>0</u> <u>0</u> [CR/LF]

23. INSTRUCTION

Enter the Annual Savings in expenses due to lease

24. Key LEASE SAVINGS [CR/LF]

24. Key <u>3</u> <u>5</u> <u>0</u> <u>0</u> [CR/LF]

25. INSTRUCTION

Enter the Length of Lease in years.

26. Key LENGTH OF LEASE (Years) [CR/LF]

26. Key <u>8</u> [CR/LF]

27. INSTRUCTION

Enter the Length of the Rental Period

28. Key <u>LENGTH OF RENTAL PERIOD</u> | CR/LF | 28. Key <u>6</u> | CR/LF |

29. <u>INSTRUCTION</u>

Enter 0 if no investment tax
credit taken, otherwise enter <u>1</u>

30. Key <u>0</u> | CR/LF |
        OR
    Key <u>1</u> | CR/LF |

30. Key <u>1</u> | CR/LF |

31. READ:

Comparison of Lease with Purchase

Purchase Price = $60,000
Interest Rate = 4.75000000E-02
Monthly Rent = $900
Salvage for Tax = $5,000
Expense of Arranging
  Lease = $1,000
Actual Expense Savings
  Due to Lease = $3,500
Lease Length = 8 Yrs.
Basic Rental Period = 6 Yrs.
Investment Tax Credit
  to be taken is = $4,200
Tax Rate = .48
Opportunity Rate = .1
Depreciable Life = 10 Yrs.
Expected Salvage = $10,000

STOP Key CONTINUE, CR/LF to
CONTINUE

32. Key | CONTINUE | | CR/LF |

33. READ:

YEAR	RENT	DEPRECN	LOAN INTERES	OP'G FL DIFF'CE WITH LEASE	BASIC CASH FL SAVING WITH LEASE	BASIC CASH FL DISC AT 10
1	10800	10000	2588.00	2500	-3758	-3579
2	10800	90000000	2162.00	3500	1646	1422
3	10800	8000	1715.00	3500	2341	1834
4	10800	7000	####.##	3500	3045	2164
5	10800	6000	757.00	3500	3761	2424
6	10800	5000	243.00	3500	4487	2624
7	10800	4000	0.00	3500	-5716	-3031
8	10800	3000	0.00	-6500	-14276	-6867

Stop Key | CONTINUE | | CR/LF | to continue

34. Key | CONTINUE | | CR/LF |

35. READ:

```
FINANCIAL ADVANTAGE OF LEASE        3415.76
OPERATING ADVANTAGE OF LEASE       -3009.18
NET ADVANTAGE OF LEASE               406.58
```

WANG
2200
SERIES
PROGRAM

EPA/LEASE
_____
TITLE

PMi.05-2200.02A-00FI-2-0   6/8/73
_____
NUMBER   **DATE**
2200A-02, 2215, 2216/2217, 2201
_____
EQUIPMENT

PROGRAM ABSTRACT This program will allow 2200 system to be designed by the "buyer" and will show EPA, EPA (with maintenance), 3 or 5 Yr. lease, 3 or 5 Yr. pay off, and educational discount.		
BLOCK	**SAVE "NAME"**	**BYTES REQUIRED**
11		

PROGRAM DESCRIPTION

This program is designed to have the user create his own system and determine exactly what it will cost him.

The options are:

3 Year Lease
3 Year Full Payout Lease
5 Year Lease
5 Year Full Payout Lease

Outright Purchase:

With or without maintenance

Educational discount on any of the above.

OPERATING INSTRUCTIONS

1. Key | RESET | | CLEAR | | CR/LF | | LOAD |

   "EPA" | CR/LF |

2. Key | RUN | | CR/LF |

> Once you decide to use this
> program it is necessary to set-up
> the control block before using any
> of the other programs.

3. INSTRUCTION   System Considered =

4. Key 2 2 0 0 | CR/LF |

5. READ: Available Peripherals for Wang
                                               2200 System
                                            Wang Calculators/Computers/Word
                                               Processing Systems
                                            Line Item No. Description Unit Price

> 2200 peripherals will be displayed,
> 12 items at a time.

6. INSTRUCTION   STOP   PRESS CONTINUE   (CR/LF)
7. Key | CONTINUE | | CR/LF |

> After all peripherals have been displayed

8. INSTRUCTION   STOP   PRESS CONTINUE   (CR/LF) for
                                            Key Picture

9. Key | CONTINUE | | CR/LF |

10. Read the List of Special Functions available.

11. To Create System Configuration

12.   Key Special Function <u>0</u>

   <u>INSTRUCTION</u>   Input Qty. of 99 to Reconfigurate

                                            System Configuration Work Sheet
                                            Wang Calculators/Computers/Work
                                              Processing Systems
                                            Item No. Description
                                              Unit Price   Qty.   Amount

┌───┐
│   The equipment will be displayed <u>1</u> item at a time. The program waits for a │
│ Qty. to be entered. If that item is not wanted, key │ CR/LF │ and the next item │
│ will appear.   │
└───┘

13.   Key   <u>QTY.</u> -   CR/LF

14.   Program will loop until all equipment has been shown. At end read order and
      cash price.

15.   <u>INSTRUCTION</u>   Depress CR/LF to rework system
                                            or function key

                                            STOP 0 = Rework System
                                                 1/6 = EPA
                                                 2-5 = Lease Plans

16.   For an EPA (without maintenance)

      Key Special Function <u>1</u>

17.   The order is displayed

18.   For an EPA/Maintenance

      Key Special Function <u>6</u>

19.   For a 3 Year Full Pay

      Key Special Function <u>2</u>

20.   For a 5 Year Full Pay

      Key Special Function <u>3</u>

21.   For a 3 Year Lease

      Key Special Function <u>4</u>

22. For a 5 Year Lease

    Key Special Function <u>5</u>

23. For an Educational Discount

    Key Special Function <u>12</u>

24. To display all Special Function Options
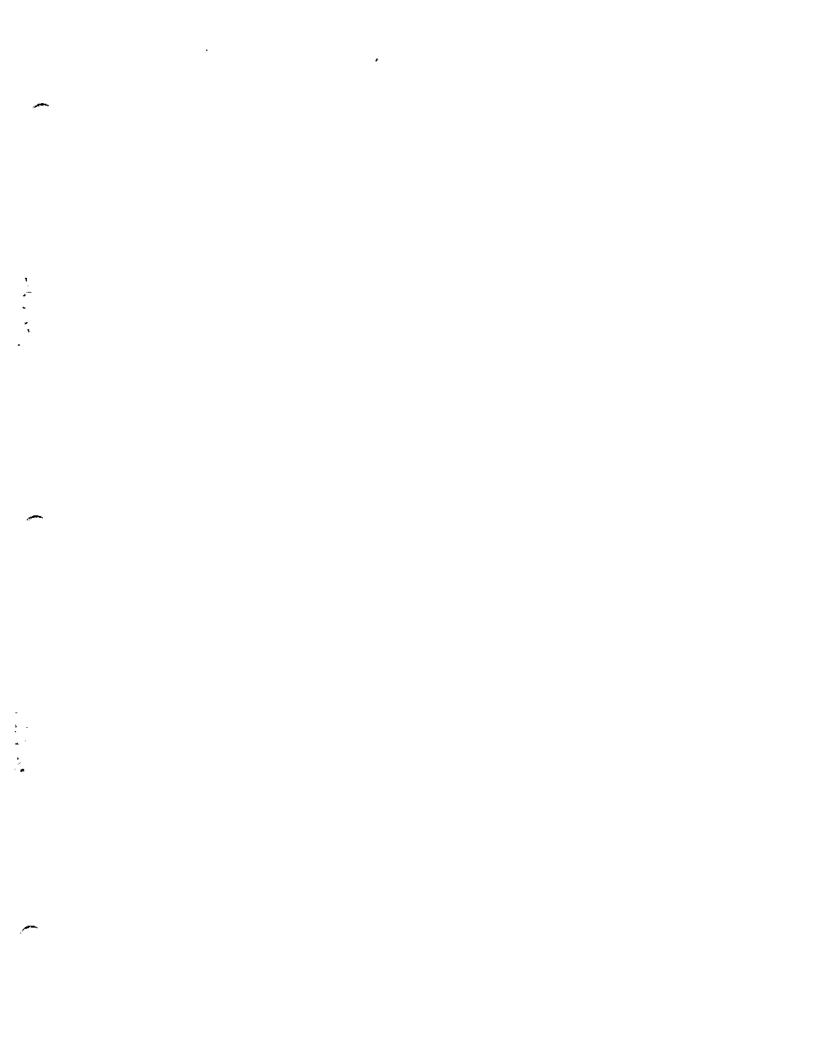
    Key Special Function <u>13</u>

25. For output on Special Form Paper.

    > This is a Wang EPA or Lease Agreement Form and
    > can be used to close the sale right there.

    > <u>Note:</u> Recommended that salesman try this ahead
    > of time to be sure of correct placement of the
    > forms in the typewriter.

26. For output on Plain Paper.

    Key Special Function <u>15</u>