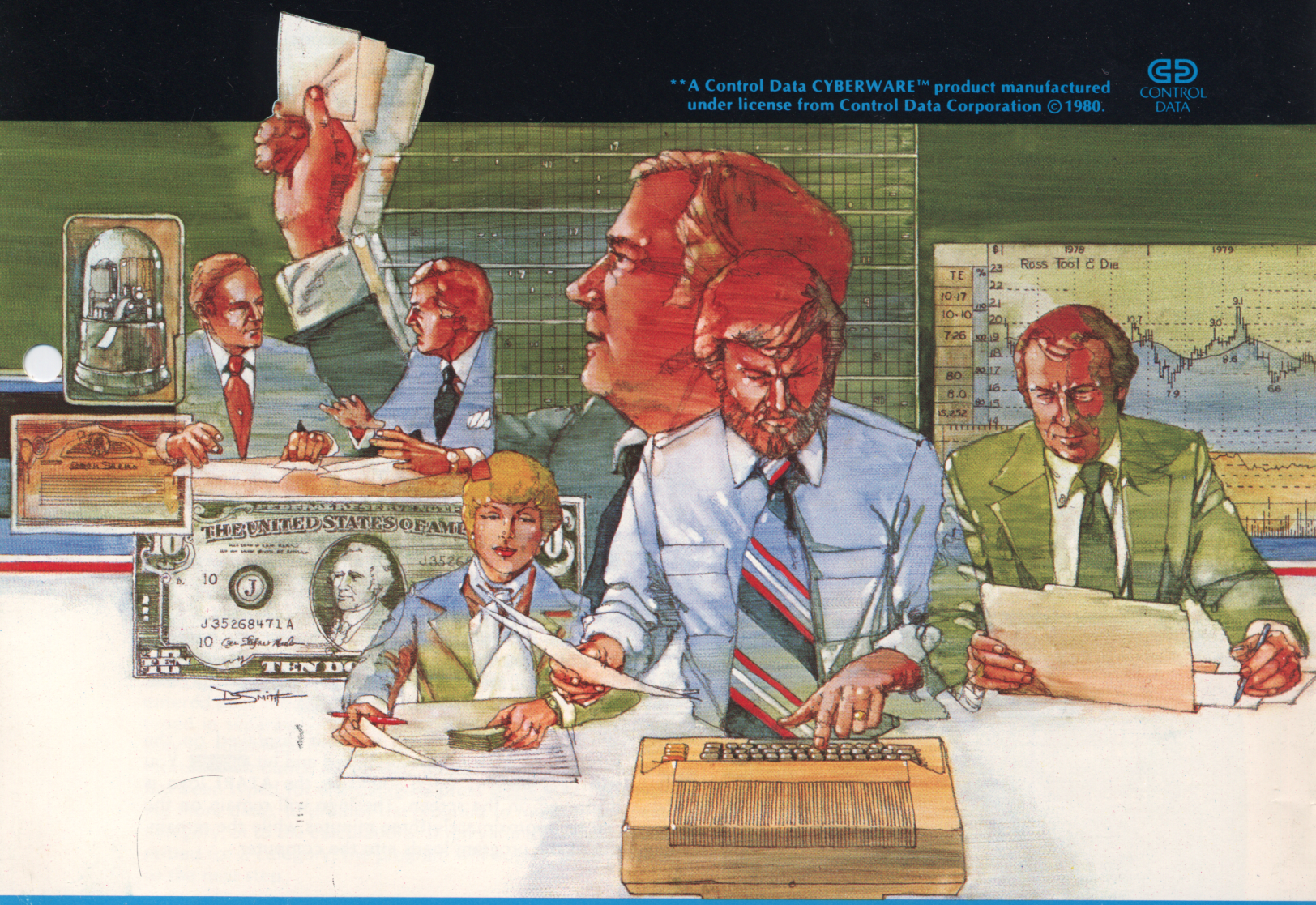
ATARI® 400*/800™

INVESTMENT ANALYSIS SERIES

MORTGAGE & LOAN ANALYSIS**

**A Control Data CYBERWARE™ product manufactured under license from Control Data Corporation © 1980.

CONTROL DATA



ATARI®

A Warner Communications Company

Model CX4115
Use with
ATARI® 400™* or ATARI 800™
PERSONAL COMPUTER SYSTEMS

*The Atari® 400™ Personal Computer System must be upgraded to 16K of RAM at an Atari Service Center.

PROGRAM DESCRIPTION

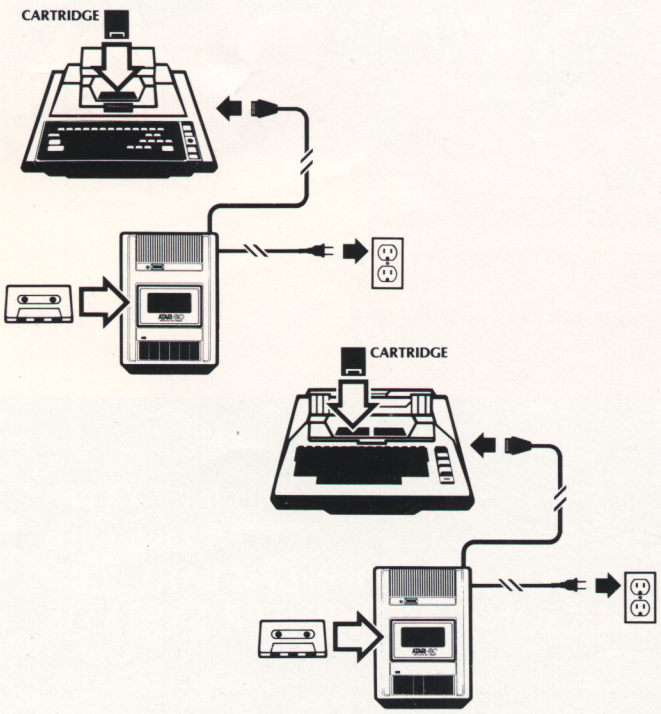
The Mortgage & Loan Analysis Program allows you to compare various mortgage amounts, interest rates, and mortgage lives. The program calculates and displays monthly payments and total repayment of interest. Each mortgage amount will be calculated in combination with each interest rate and mortgage life, which you have requested. This program may also be used to calculate other types of loans. You may enter any principal amount with any interest rate, and calculate the payment and interest amounts for any specified length of time. The calculations are based on a twelve-month year. For loan lives of less than one year, enter the decimal number, (enter .5 for a 6-month loan life) as a percentage of a year.

This program is a modification of MORTCOST by J.E. Felch, Amos Tuck School of Business, Dartmouth College.

PREPARING YOUR ATARI PERSONAL COMPUTER SYSTEM

To use the **ATARI® Mortgage & Loan Analysis Program** you will need the following **ATARI** equipment:

- **ATARI 800™** , or **ATARI 400™ Personal Computer System** which has been upgraded to 16K of RAM at an **ATARI** Service Center
- **ATARI 410™ Program Recorder**
- **ATARI BASIC** (Computing Language) **Cartridge,** Model No. CXL4002
- **ATARI Printer** (**ATARI 820™, ATARI 822™,** or **ATARI 825™**) Optional
- Minimum RAM requirement: 16K



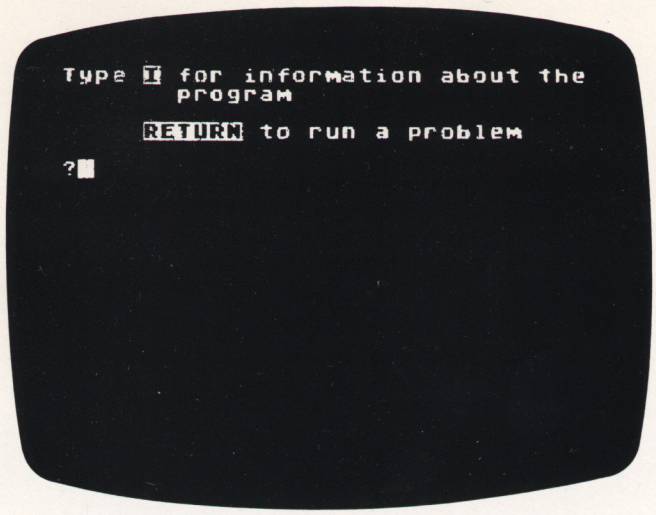
To connect your **ATARI 800** or upgraded **ATARI 400 Personal Computer System** use the following procedure:

1. Verify that the TV Switch Box is connected and in the COMPUTER or GAME position.
2. Insert an **ATARI BASIC** (Computing Language) **Cartridge** into your **ATARI 400** or **ATARI 800** computer console slot. (Insert in the **LEFT CARTRIDGE** slot on the **ATARI 800** console.)
3. Make sure the **ATARI 410 Program Recorder** is properly connected to the computer console, and to a wall or power outlet.

   (See your **Program Recorder** Owner's Manual for further details if necessary.)
4. Turn your television ON.
5. Connect your **ATARI Printer** (optional) as described in the appropriate manual.
6. Install either two 8K RAM Memory Modules or one 16K RAM Memory Module into your **ATARI 800 Personal Computer System.**
7. Power up the computer console by pressing the **POWER** switch on the right side of the console to **ON.**
8. Turn the Printer **POWER** switch to **ON.**
9. If all equipment is properly connected and powered up, your television screen should be displaying the READY prompt, with the white square "cursor" just below. (See the **NOTE** on the last page of these instructions if you have loading problems.)
10. Insert side **1** of the **Mortgage & Loan Analysis Program** cassette into the **ATARI 410 Program Recorder.** This program is contained on one side of the cassette tape only. **REWIND** the tape all the way to the beginning if it is not already at that position. When the tape stops, push **STOP** (**STOP/EJECT**).
11. Type **CLOAD** on the computer keyboard and hit RETURN. The "beep" sound is a reminder to press **PLAY** on the **Program Recorder.** Hit the RETURN key again on the computer console.
12. You will notice through the window of the **Program Recorder** that the tape is turning, which means that the beginning of the program is being loaded into the computer.
13. When the READY prompt is again displayed on the screen type **RUN** on the keyboard and hit RETURN. You will hear another beep sound as the **ATARI** logo is displayed on the screen. The logo will remain on the screen approximately three minutes while the remainder of the program loads into the computer.

RUNNING THE PROGRAM

As the program begins, the screen displays the **ATARI** and **Control Data Corporation** logos and an overview of the **Mortgage & Loan Analysis Program.** Then the screen displays:



Typing I provides information about the use and purpose of the **Mortgage & Loan Analysis Program.** You should read this information the first time through the program. If you are already familiar with this program, press the RETURN key. If you would like a printout of the display, press P and the Printer will print the screen display. You may obtain multiple printed copies by pressing P again after each printout. The data which you type is not printable until the computer has performed the calculations. Pressing RETURN signals the computer that you are ready to move to the next display. When input data is required, the computer will prompt with a question mark (?). Pressing RETURN with no data will cause the computer to move to the next screen.

ENTERING MORTGAGE & LOAN ANALYSIS DATA

Your **ATARI Personal Computer System** along with the **Mortgage & Loan Analysis Program** will prompt you for the data required to calculate mortgage interest and payment amounts. When data is requested, you type the information and press RETURN. The computer will not act on any data entered until the RETURN key is pressed. Each value must be typed in separately, followed by RETURN. Up to ten values may be submitted for each category. The categories include mortgage amounts, terms, and interest rates. After all data has been typed for one category press RETURN (without typing more data), to prompt the program to move to the next category, or to the calculations. If ten values have been submitted for a category, the program will automatically move to the next step.

All data must be numeric. If non-numeric data is supplied, the computer will display:

ERROR - Invalid data. Resubmit it.

At least one value is required for each category. If no value is submitted, the computer will display:

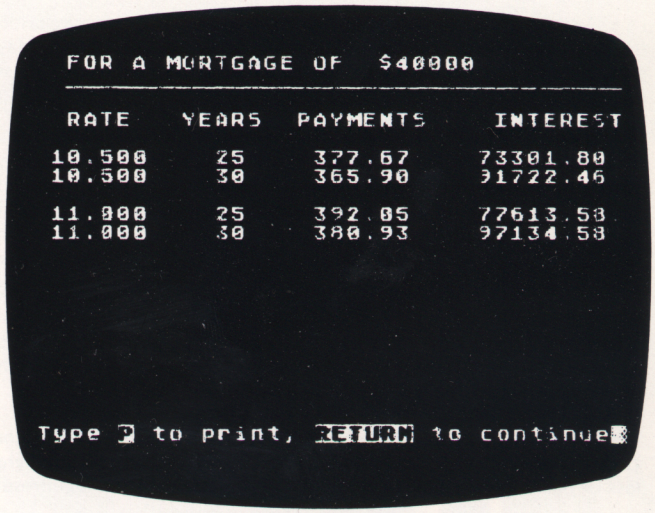
ERROR - At least one value is required.

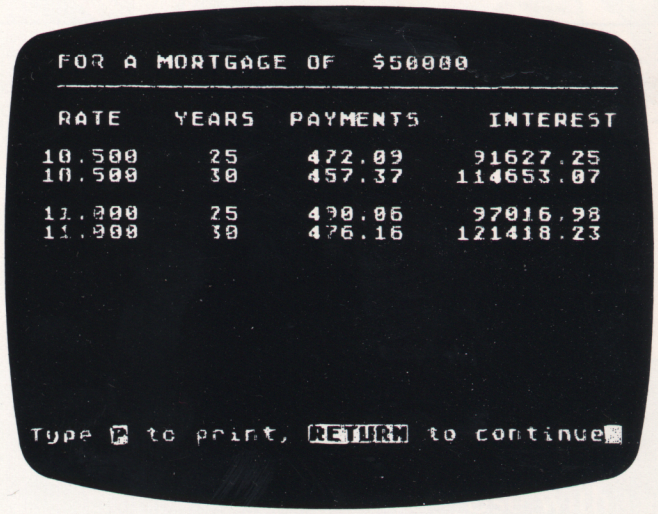
The computer will not calculate fractions. To avoid confusion on the printout and on the screen, it is advisable to type whole numbers or decimal numbers. Do not type commas to separate thousands (type 40000, not 40,000) and do not type "$" preceeding the loan amount.

SAMPLE RUN

As an example we can compare the monthly payments and total interest paid on mortgages of $40000 and $50000, at interest rates of 10.5 and 11 percent, for mortgage lives of 25 and 30 years.

After entering this data and pressing RETURN the screen will clear, and then display the outputs as it calculates them. Each mortgage amount will have a separate output display. It will include as many combinations of interest rates and mortgage lives as will fit on the screen display. If there are too many calculations to fit on the screen the surplus calculations will be displayed on the next screen after you press RETURN.





After the display is complete and you have pressed P or the final RETURN, the computer gives you the option to run another problem or exit the program.

The **Mortgage & Loan Analysis Program** calculates its data based on the following formula:

$$M = \frac{AR}{1 - (1-R)^{-12Y}}$$

$$I = 12MY - A$$

where:

A = Amount of mortgage (dollars)

R = Monthly interest rate

Y = Mortgage life in months

M = Monthly mortgage payment

I = Total interest paid on mortgage

NOTE: If an **ATARI Disk Drive** is connected to the computer, the Disk Operating System and system software use almost 9K of available RAM (Random Access Memory). This overhead needs to be taken into account when calculating the amount of RAM required to run a program.

If you have problems loading the program, and if you have other peripherals in addition to the **Program Recorder** attached to the computer console, you should try disconnecting the other peripherals and connecting the **Program Recorder** directly into the console to isolate the problem. If loading problems persist, consult the **ATARI 410 Program Recorder** Operator's Manual.

If you are using an ATARI Printer, consult the appropriate Printer Operator's Manual for proper connecting instructions.

LIMITED 90 DAY WARRANTY
ATARI® PROGRAM CASSETTES

ATARI, INC. ("ATARI") warrants to the original consumer purchaser that this ATARI Program Cassette (not including computer programs) shall be free from any defects in material or workmanship for a period of 90 days from the date of purchase. If a defect covered by this warranty is discovered during this 90 day warranty period, and you have timely validated this warranty, ATARI will repair or replace the Cassette, at ATARI's option, provided the cassette and proof of date of purchase is delivered or mailed, postage prepaid, to an authorized ATARI Sevice Center.

This warranty shall not apply if the Cassette (i) has been misused or shows signs of excessive wear, (ii) has been damaged by playback equipment or while being used with any products not supplied by ATARI, or (iii) if the purchaser causes or permits the Cassette to be serviced or modified by anyone other than an authorized ATARI Service Center. Any applicable implied warranties, including warranties of merchantibility and fitness, are hereby limited to 90 days from the date of purchase. Consequential or incidental damages resulting from a breach of any applicable express or implied warranties are hereby excluded.

NOTICE

All ATARI computer programs are distributed on an "as is" basis without warranty of any kind. The entire risk as to the quality and performance of such programs is with the purchaser. Should the programs prove defective following their purchase, the purchaser and not the manufacturer, distributor, or retailer assumes the entire cost of all necessary servicing or repair.

ATARI shall have no liability or responsibility to a purchaser, customer, or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused directly or indirectly by computer programs sold by ATARI. This includes but is not limited to any interruption of service, loss of business or anticipatory profits or consequential damages resulting from the use or operation of such computer programs.

The provisions of the foregoing warranty are subject to the laws of the state in which the Cassette is purchased. Such laws may broaden the warranty protection available to the purchaser of the Cassette.

NOTE: Neither ATARI nor the author of this computer program will be responsible for any loss, including loss of profit as a result of using the information in this computer program for investment purposes.

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