



# **MONEY DECISIONS INVESTMENTS**

**Commodore 16  
or Plus/4**

**Requires 1531 Datassette**

 **commodore**  
COMPUTERS



# **MONEY DECISIONS**

## **Investments**

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## **Preface**

While this manual is written expressly for the Commodore 16, the MONEY DECISIONS INVESTMENTS package will also run on your Commodore Plus/4.

In today's fast-paced economy, you need to know how to get the most out of your hard-earned money; your C16 can show you how. The Commodore MONEY DECISIONS INVESTMENTS program lets your C16 help you make the right financial decisions and plan for future expenditures.

MONEY DECISIONS INVESTMENTS is completely preprogrammed; you need absolutely no programming knowledge to use this product.

Here are the nine investment functions MONEY DECISIONS can help you determine:

- Future investment
- Initial investment
- Minimum investment
- Regular withdrawals
- Regular deposits
- Annual interest rate
- Nominal interest rate
- Future annuity
- Continuous compounding

This manual follows the same logical sequence and uses the same terminology as the investment functions you will see on your screen. You'll quickly learn all the MONEY DECISIONS capabilities and feel at ease with the package.

At the end of the manual, you'll find a glossary that briefly explains some financial terminology. You'll also find some rudimentary refreshers of generally accepted concepts and practices.

Read through the manual and practice the examples so you feel at ease with the package in the shortest time possible. Then, you can easily select each investment function and enter your information. Each function requires only a few simple keystrokes. In just a few minutes, you'll master this powerful, easy-to-use product.

## User Conventions

The C16 keyboard looks like that of a regular typewriter with a few extra keys; it is very simple to use. Here is a brief description of some of the conventions you should know to run **MONEY DECISIONS**.

**RETURN** Pressing this key transmits information to the computer's memory.

**SHIFT** This key is like the **SHIFT** key on a typewriter; pressing it lets you enter the top characters on double-character keys.

⇒ This is the prompt character which appears on your screen. It indicates that you will be entering information on that line.

**INST/DEL** You can change information you have keyed in before your press **RETURN** by using the **INST/DEL** key.

**INST** stands for INSERT. You can add characters on a line by following these steps:

1. Position the cursor over the space where you want to begin adding characters.
2. Press the **SHIFT** key.
3. While holding down the **SHIFT** key, press the **INST/DEL** key.
4. You will see a new space provided on the screen for you to insert a character; if you wish to insert more than one character, simply hold the **SHIFT** and **INST/DEL** keys down. Spaces will continue to appear on your screen. Release the keys when there is enough room on the screen to insert the characters you need.
5. Insert the characters and continue with the program.

**DEL** stands for DELETE. You can delete characters on a line by following these steps:

1. Look at the cursor. The character immediately preceding its position will be the first character deleted when you press the **INST/DEL** key.

2. Press the **INST/DEL** key.
3. You will see the cursor move back one space and the character there will be erased.
4. If you wish to erase more than one character on a line, hold the **INST/DEL** key down and you will see characters deleted one at a time on your screen.
5. Continue with the program.

'n'

In this manual, any character surrounded by single quotes (') denotes entries you will key in. Enter only the character between the quotes and **not** the quotes themselves. For this example, **n** is the character, so you would key in only the **n**; not '**n**'.

"n"

Any character surrounded by double quotes (") in this manual indicates information the program will present for you on the screen.

'O, 0'

The letter 'O' and the numeral 0 (zero) are not interchangeable. Be careful not to substitute one for the other. The zero on your screen will always have a slash through it.





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## Section I Tutorial

### 1.1. Getting Started

Here is how you start the MONEY DECISIONS INVESTMENTS program. We suggest you follow right along on your machine, step by step.

1. Turn on your C16.
2. If you have a printer, turn it on and align the paper.
3. Insert MONEY DECISIONS INVESTMENTS cassette into your 1531 Datasette™. Rewind the cassette to make sure the MONEY DECISIONS INVESTMENTS program is at the beginning of the tape.
4. Key in 'LOAD' and press RETURN.
5. Follow the program's request to "PRESS PLAY ON TAPE."
6. After "SEARCHING FOR," "FOUND INVESTMENTS," "LOADING," and "READY" have been displayed, enter 'RUN' and press RETURN.
7. After you see a screen with the program's title on it, this menu will be displayed for you:

F1—BACKGROUND COLOR  
F2—BORDER COLOR  
F3—CHARACTER COLOR  
HELP—DONE

**PRESS A FUNCTION KEY TO CHANGE COLORS.**

The function keys are located on the right side of the Commodore 16 keyboard. Try pressing each one several times so you can see what colors you like best for the background, border, and characters while you work with MONEY DECISIONS INVESTMENTS.

8. When the colors on your screen are the colors you want for the program, press the HELP key once. There will be a short delay and then you will see the following menu:

F1—Dot Matrix  
F2—Letter Quality  
F3—Not Applicable

**PRESS A FUNCTION KEY TO SELECT PRINTER**

9. Make your selection, based on whichever type of printer (if any) you are using. When you have done this, the following menu will appear to start working on your investments.

\$\$MONEY DECISIONS\$\$  
INVESTMENTS  
MENU DISPLAY

- 1 FUTURE INVESTMENT
- 2 INITIAL INVESTMENT
- 3 MINIMUM INVESTMENT
- 4 REGULAR WITHDRAWALS
- 5 REGULAR DEPOSITS
- 6 ANNUAL INTEREST RATE
- 7 NOMINAL INTEREST RATE
- 8 FUTURE ANNUITY
- 9 CONTINUOUS COMPOUNDING
- 0 EXIT FROM PROGRAM

YOUR CHOICE IS (0-9):

Enter your selection by making a single key entry corresponding to the loan function you wish to perform. Different screens will be displayed and you will be prompted for information needed for the function you chose on the first menu. After you have entered all the data the program requests, MONEY DECISIONS will calculate the function and display the results for you.

Section III of this manual follows the program step-by-step for computing choice number 1, FUTURE INVESTMENT.

## 1.2. Guidelines for Entering Information

Here are some guidelines you should know when you are responding to the MONEY DECISIONS prompts:

- There are two ways of entering responses to the MONEY DECISIONS prompts. Some prompts require that you press **RETURN** after you enter the information and some do not.

If your response consists of only one character, such as 'Y' or 'N' for yes or no, don't press RETURN. If your response must be more than one character, or if it includes numeric data, you must press RETURN after entering your response.

- You may respond to a prompt with '0' by simply pressing the **RETURN** key; you will see a "0" on the next menu that displays your response.
- The message "**DATA ERROR**" will flash if entries are incorrect; press any key and you will see a prompt asking you to enter the item number that should be changed. Enter the item number and you will be prompted to change the incorrect item. Enter the correct information and continue on with the program from that point.
- If you enter 'R' as a response to certain prompts, MONEY DECISIONS will use the result of the previous MONEY DECISIONS run for your entry. For example:

1. Run MONEY DECISIONS to determine future investment; your future investment is calculated to be \$4000.00

2. Run MONEY DECISIONS again, this time to compute your initial investment.

3. When the program to determine your initial investment prompts you for the FUTURE INVESTMENT entry, key in 'R' and the program will enter **\$4000.00** for you.

4. Continue answering all prompts and then you will see the INITIAL INVESTMENT displayed for you.

- MONEY DECISIONS can perform calculations on your individual responses. If you would like the program to add ("+"), subtract ("-"), multiply ("\*"), or divide ("/") your entry, simply enter the appropriate arithmetic operator between your numeric responses. For example:

1. The program prompts you to enter your regular monthly deposit.

2. You know your weekly deposits are \$50.00, so you can enter '50 \* 4'.
3. The next menu will display your regular monthly deposit as '200.00'.

**NOTE:**

You can use arithmetic operators with an 'R' option if you wish. For example, you can enter 'R \* 4'.

- Exponents will not be accepted by the program; you must enter all responses in decimal format. ( $5^2 = 25$ ).
- Your screen shows only two decimal places, but if you enter more than two, the extended values will be used in processing your answer.
- Enter percent values as percents; do not enter them as hundredths. For example, 5 & 3/4% is entered as '5.75'; it is not entered as '.0575'.
- If you enter a value that is more than nine digits long, percent signs ('%%%%%%%%') will appear on the screen because the screen cannot display numbers with more than nine digits. However, MONEY DECISIONS can perform calculations on these numbers, so the program will still process your data correctly. You will not be able to view any answer that is more than nine digits long.
- When MONEY DECISIONS prompts you for a whole number, any decimal value you may enter will not be processed even though that value will be displayed. For example:
  1. For the **NUMBER OF MONTHS** prompt, enter '4.1'.
  2. On the next menu, you will see '4.1' listed as the **NUMBER OF MONTHS**.
  3. MONEY DECISIONS will calculate the answer using '4' for the **NUMBER OF MONTHS**.

You may enter decimal values for an prompts that do not require whole numbers, such as **INTEREST RATES**.

When MONEY DECISIONS prompts you to enter years and months, you may do this in two ways. If your investment is for 3 and 1/2 years you may enter (years 3; months 6), OR you may enter (years 0; months 42).

### 1.3. Using Special Options

There are four special options you may want to use when you are running the MONEY DECISIONS program. You can use these options only at certain points in the run. The options are:

1. 'S'

Erases all previous entries and causes the program to prompt you for entries again. Valid only when you are responding to a data item prompt, such as "**NUMBER OF MONTHS.**"

2. 'N'

- Cancels your request to change information you have entered. Valid only when you are responding to the prompt, "**ITEM # TO CHANGE.**"

3. 'P'

- Prints what you are currently viewing on the screen. Valid only when one of these prompts is displayed:  
- "**RE-RUN? (Y OR N)**"  
- "**ALL NEW DATA? (Y OR N)**"

**NOTE:**

If your printer is disconnected or turned off, this options is ignored.

4. ↑ (**SHIFT 0**)

- If you want the program to go back to the first menu before the function has completed, simply press the (**SHIFT 0**) and, if necessary, press **RETURN**.

### 1.4. Quitting the Program

To end the MONEY DECISIONS program, enter '0' when you are viewing the first menu. A "**BYTES FREE**" message appears on your screen, followed by "**READY.**" You are now ready to begin any other program.

## Section II User Examples for Each Menu Selection

This section shows you some typical runs of the MONEY DECISIONS program. An example is provided for each choice on the first menu: FUTURE INVESTMENT, INITIAL INVESTMENT, MINIMUM INVESTMENT, REGULAR WITHDRAWALS, REGULAR DEPOSITS, ANNUAL INTEREST RATE, NOMINAL INTEREST RATE, FUTURE ANNUITY, and CONTINUOUS COMPOUNDING. You may want to test your understanding of the program by entering these exact samples and seeing that you arrive at the same answer.

For a more detailed, step-by-step presentation, see Section 3.2.

### 2.1. Future Investment

You can use this function either to:

- Project the future total value of a single deposit investment; or
- Determine the value of a purchased asset you think will appreciate.

The **total value** is principal plus interest at the end of your investment period. This function calculates the final value of a single deposit investment at the end of a specified time period. The FUTURE INVESTMENT function assumes that no additional deposits or withdrawals are made.

#### Sample Application

Suppose you invest \$3000 in your credit union savings account where the 9% interest rate is compounded quarterly. What will your account be worth in 10½ years?

Information You Must Enter:

1. Initial Investment—'3000'
2. # of Years—'10'
- 3 # of Months—'6'
4. Interest Rate (Annual)—'9'
5. # of Comp. Periods/Year—'4' (per year)

Results:

**"FUTURE INVESTMENT VALUE \$ 7638.02"**

## 2.2. Initial Investment

When you have an investment goal in mind for some future date, you can use this function to determine how much you must invest or deposit now to reach the objective; compounding effects are, of course, considered. You may want to build up a savings certificate to a certain level two years from now to use as a down payment on something.

This function calculates the initial investment you'll need to make to reach a desired total account value a specified time period. You must enter the number of compounding periods per year.

### Sample Application

You want to attain an account value of \$10,000 in five years and three months. If the account interest is compounded monthly and the interest rate is 8.9%, how much will you have to invest initially?

Information You Must Enter:

1. Future Value—'10000.00'
2. # of Years—'5'
3. # of Months—'3'
4. Interest Rate (Annual)—'8.9'
5. # of Comp. Periods/Year—'12' (one each month)

Results:

**"INITIAL INVESTMENT = \$ 6278.05"**

## 2.3. Minimum Investment

This function calculates the minimum investment you need to make regular withdrawals over a specified time period. The interest is compounded at the time of each withdrawal.

You will want to use this function when you need to know the size of the investment or deposit you must make now to give you a certain periodic withdrawal for a length of time. Keep in mind that both your interest and principal are consumed, so the balance stands at \$0 when you make the final withdrawal.

### Sample Application

Suppose you want to be able to make \$800 withdrawals every month for the next 5½ years and the nominal interest rate is 12.6%. What initial investment will you have to make?



Information You must Enter:

1. Withdrawal Amount—'800'
2. # of Years—'5' (years)
3. # of Months—'6'
4. Interest Rate (Annual)—'12.6'
5. # Withdrawals/Year—'12' (one each month)

Results:

**MINIMUM INVESTMENT = \$ 37951.72"**

## 2.4. Regular Withdrawals

When you know what amount you want to invest now, use this function to determine how large your periodic withdrawals can be. By withdrawing the amount MONEY DECISIONS calculates, you can be sure you will not deplete your account until you make the last withdrawal.

This function calculates the maximum amount of a regular withdrawal from an investment over a specified time period. The interest is compounded at the time of each withdrawal.

### Sample Application

For this example, imagine that you want to invest \$10,000 at 12% interest. How much money will you be able to withdraw monthly over the next 5 years?

Information You Must Enter:

1. Initial Investment—'10000'
2. # of Years—'5'
3. # of Months—'0'
4. Interest Rate (Annual)—'12.00'
5. # of Withdrawals Per Year—'12' (one each month)

Results:

**"WITHDRAWAL AMOUNT = \$ 222.44"**

## 2.5. Regular Deposits

You will want to use this function when you want to reach a certain savings or investment account value by a specific date. The REGULAR DEPOSIT function tells you how much your periodic deposit must be to reach your objective.

This function is useful for sinking fund calculations, where you always know the end amount required by a certain time and you need to know the amount of your periodic deposit.

### Sample Application

Suppose you know you will need \$5000 for your initial college expenses and you want to start college in three years. What monthly deposit will you have to make to achieve this if the interest rate is 8.5%?

Information You Must Enter:

1. Future Value—‘5000’
2. # of Years—‘3’ (years)
3. # of Months—‘0’ (zero)
4. Interest Rate (Annual)—‘8.5’
5. # Deposits/Year—‘12’ (one each month)

Results:

“REGULAR DEPOSIT = \$ 122.42”

## 2.6. Annual Interest Rate

This function determines what **effective** interest rate you must seek when you want your investment to grow to a specific amount. Because of investment compounding, you can reach your goal with a nominal interest rate that is lower than the **effective** interest rate. Compounding adds the amount earned in the previous compounding or investment periods to your principal for the next compounding period.

You can use this function whenever you know how much you have to invest and you know how much you want to attain. This function calculates the actual interest rate earned annually on an initial investment; the investment matures to a known future value over a specified time period. If you wish, you can use the program to calculate the effective rate with tax.

### Sample Application

If you invest \$25,000 in a savings certificate and the account value is \$50,000 in 5½ years, what is the **effective** annual interest rate?

Information You Must Enter;

1. Initial Investment—‘25000’
2. # of Years—‘5’
3. # of Months—‘6’

4. Future Value—‘50000’
5. Tax Rate (%)—‘0’ (if not considered)

Results:

**ANNUAL INTEREST RATE = 13.43%**

## 2.7. Nominal Interest Rate

This function calculates the nominal interest rate you need to look for when you know how much you want to invest and you know how much you want the investment to grow by a specific time.

### Sample Application

You want to invest \$50,000 in a savings account and you want the account to achieve a value of \$90,000 in 4 years. If the interest is compounded monthly, what must the nominal interest rate be to achieve this objective?

Information You Must Enter:

1. Initial Investment—‘50000’
2. # of Years—‘4’
3. # of Months—‘0’
4. Future Value—‘90000’
5. # Comp./Periods/Year—‘12’ (one each month)

Results:

**“NOMINAL INTEREST RATE = 14.79%”**

## 2.8. Future Annuity

This function will determine how large your account will be after you have made a number of equal deposits. The future value will be the sum of deposits plus earned interest. You should remember there can be no interim withdrawals from this type of account, and that interest will be compounded each time you make a deposit. You can use this function when you want to know what the value of an annuity account will be at some future date.

### Sample Application

Suppose you want to transfer \$100 each month from your checking account to a special annuity savings account with a 7% interest rate. What will your regular deposits (annuity value) be worth in three years?

### Information You Must Enter

1. Deposit Amount—'100'
2. # of Years—'3'
3. # of Months—'0'
4. Interest Rate (Annual)—'7'
5. # Deposits/Year—'12' (one each month)

Results:

**"FUTURE ANNUITY VALUE = \$3993.01"**

## 2.9. Continuous Compounding

This function calculates an investment's final value before and after taxes at the end of a specified time period. The interest paid on this investment must have been compounded continuously.

Computerized banking systems have made continuous interest compounding on savings investments quite common. Compounding is more frequent than daily; it is **continuous**.

Continuous compounding eliminates the need to time your withdrawals and deposits for fear of losing interest. Here is an example of various compounding frequencies based on a \$1000 investment for one year at an 8% annual percentage rate:

Frequency	End of Year \$	Effective Rate%
Annual	1080.00	8.00
Quarterly	1082.43	8.24
Monthly	1083.00	8.30
Daily	1083.28	8.32
Continuous	1083.29	8.329

### Sample Application

Suppose you invested \$1000 when your son was born and you want to know how much money will have accrued by the time he is 21 years old. If the continuous interest is 8.5%, what will the future value be?

Information You Must Enter:

1. Initial Investment—**'1000'**
2. # of Years—**'21'** (years)
3. # of Months—**'0'**
4. Interest Rate (Annual)—**'8.5'**
5. Tax Rate (%)—**'0'** (if not considered)

Results:

**"FUTURE VALUE = \$ 5959.58"**

## Section III Terms and Information

### 3.1. Investment Compounding

Compounding is one of the most important and frequently used theories of investments; you should understand compounding to invest wisely. **Compounding** means that you earn interest on both your principal and the interest you've already earned. This increases your principal, and the amount returned increases from period to period.

You benefit from compounding because it increases the real rate of return on your investments. The more frequent the compounding, the better your return rate.

### 3.2. Sample Run for Future Investment

Here is a screen-by-screen presentation of the MONEY DECISIONS program. This example calculates FUTURE INVESTMENT, choice number 1 on the first menu. When you enter '1' on the first display, the screen will clear and the following screen will appear:

```
$$$MONEY DECISION$$$  
INVESTMENTS  
FUTURE INVESTMENT  
INITIAL INVESTMENT =>
```

For our example, the initial investment is \$3000. Enter '**3000**'; before you press **RETURN**, you may change your response by pressing the **INST/DEL** key and then entering your changes. Your response is not entered into the computer until you press **RETURN**.

Press **RETURN** and the following screen is displayed:

```
$$$MONEY DECISION$$$  
INVESTMENTS  
FUTURE INVESTMENT  
  
1 INITIAL INVESTMENT = 3000.00  
# OF YEARS =>
```

You can see that your response, '**3000.00**', has been entered as the initial investment. For our example, enter '**5**' and press **RETURN**, remembering the computer does not receive your response until you press **RETURN**.

Next, this screen is displayed:

**\$\$MONEY DECISIONS\$\$  
INVESTMENTS**

**FUTURE INVESTMENT**

**1 INITIAL INVESTMENT = 3000.00**

**2 # OF YEARS = 5.00**

**# OF MONTHS =>**

Enter '0' for the number of months and press **RETURN**. Remember that you can enter '0' or simply press **RETURN** and a '0' will be entered for you.

The next screen displayed will be:

**\$\$MONEY DECISIONS\$\$  
INVESTMENTS**

**FUTURE INVESTMENT**

**1 INITIAL INVESTMENT = 3000.00**

**2 # OF YEARS = 5.00**

**3 # OF MONTHS = 0.00**

**INTEREST RATE =>**

For this example, enter the interest rate as '12.00' and press **RETURN**.

Then, you will see this screen:

**\$\$MONEY DECISIONS\$\$  
INVESTMENTS**

**FUTURE INVESTMENT**

**1 INITIAL INVESTMENT = 3000.00**

**2 # OF YEARS = 5.00**

**# OF MONTHS = 0.00**

**4 INTEREST RATE = 12.00**

**COMP. PERIODS/YEAR =>**

Enter '1' for the number of compounding periods and press **RETURN**.

After you have responded to this prompt, you will see this screen:

**\$\$MONEY DECISIONS\$\$  
INVESTMENTS  
FUTURE INVESTMENT**

<b>1 INITIAL INVESTMENT =</b>	<b>3000.00</b>
<b>2 # OF YEARS =</b>	<b>5.00</b>
<b>3 # OF MONTHS =</b>	<b>0.00</b>
<b>4 INTEREST RATE =</b>	<b>12.00</b>
<b>5 # COMP.PERIODS =</b>	<b>1.00</b>

**ANY CHANGES? (Y OR N)**

Enter 'Y', but do not press **RETURN**. You will now see a prompt requesting "ITEM #TO CHANGE." In this example, you want to change the number of compounding periods, so enter '5' and press **RETURN**.

The next screen displays the area you want to change (the number of compounding periods) on a blue background. The last line of the display prompts you for the new number of compounding periods. Enter '4' and press **RETURN**.

This corrects the number of compounding periods as shown here. Another "ANY CHANGES (Y OR N)" prompt is then displayed.

**\$\$MONEY DECISIONS\$\$  
INVESTMENTS  
FUTURE INVESTMENT**

<b>1 INITIAL INVESTMENT =</b>	<b>3000.00</b>
<b>2 # OF YEARS =</b>	<b>5.00</b>
<b>3 # OF MONTHS =</b>	<b>0.00</b>
<b>4 INTEREST RATE =</b>	<b>12.00</b>
<b>5 # COMP. PERIODS/YEAR =</b>	<b>4.00</b>

**ANY CHANGES? (Y OR N)**

Enter 'N' and do **not** press **RETURN**. You may see a "WAIT...COMPUTING..." message as computation occurs.

After the answer has been calculated, it replaces the "WAIT" message. Next, a prompt for re-running the function appears on the last line of the display.



**\$\$MONEY DECISIONS\$\$  
INVESTMENTS**

**FUTURE INVESTMENT**

<b>1 INITIAL INVESTMENT =</b>	<b>3000.00</b>
<b>2 # OF YEARS =</b>	<b>5.00</b>
<b>3 # OF MONTHS =</b>	<b>0.00</b>
<b>4 INITIAL RATE =</b>	<b>12.00</b>
<b>5 # COMP. PERIODS/YEAR =</b>	<b>4.00</b>
<b>FUTURE INVESTMENT VALUE =</b>	<b>5418.33</b>

**RE-RUN? (Y OR N, OR P)**

If you want to print the function results, enter **'P'** in response to **"RE-RUN"** prompt.

If you answer **'Y'** to the **"RE-RUN"** prompt on the preceding screen display, you will be asked whether you want to rerun the function with all new data. The preceding screen continues to be displayed until you enter an answer to this prompt.

If you answer **'N'** to the **"RE-RUN"** prompt, the program will return to the first menu where you may now select additional functions. To print that main menu, simply enter **'P'**.

If you enter **'N'** to the **"ALL NEW DATA"** prompt after enter **'Y'** to the **RE-RUN"** prompt, you will be asked which item number from the previous run you wish to change. After you enter that number and press **RETURN**, you will see the item you wish to change displayed on a blue background as described in the sample run. Proceed with the program as discussed previously.

If you enter **'Y'** to the **"ALL NEW DATA"** prompt, the program will clear the data display area and start prompting you from the first field of the function (in this case, **INITIAL INVESTMENT**) as if you had just selected the **FUTURE INVESTMENT** function.

To end the **MONEY DECISIONS** program, enter **'0'** when you are viewing the main menu. A **"BYTES FREE"** message will appear on your screen, followed by **"READY."** You are now ready to begin any other program.

### 3.3. Glossary

Annuity	A stipulated series of payments made at stated intervals for a specified period of time.
Asset	Property that has money value (cars, real estate, etc.) and which can be sold to pay debts.
Appreciate	To increase in value as time goes by. Generally speaking, real estate appreciates in value, while cars depreciate (decrease) in value.
Compounding	Periodic rates of return earned on amounts invested; these amounts include accumulated interest and the initial investment. (More interest is actually earned on interest.)
Decimal	A proper fraction in which the denominator is a power of 10 signified by a point placed at the left of the numerator. For example: $.25 = 25/100$
Deposits	Money balances due from banks to those who have either placed funds with the bank or borrowed funds from the bank, creating an account for the borrower.
Effective Annual Interest Rate	The true percentage rate earned on an investment or paid on a loan when the effect of compounding the nominal rate is considered.
Future Value	Present dollars plus the amount of interest that could be earned on present dollars when invested at a given interest rate.
Initial Investment	Amount paid to acquire an asset or the first deposit required to initiate an investment.
Integer	Any natural whole number, including negatives and zero.
Interest	Dollars paid by the borrower to the lender for use of cash.
Interest Rate	A percentage amount paid for the use of capital.
Loan	Something of value, usually money, borrowed at interest for a specified period of time.

Nominal Interest Rate	A stated rate of return on an investment or stated interest charge on a loan without the effects of compounding. (Compounding will increase the rate.)
Non-numeric	Any character other than 0 through 9. Such characters may be alphabetic or special characters like a dash (—) or an asterisk (*).
Numeric	Information consisting of the digits 0 through 9 or any combination of such characters.
Principal	The amount of money borrowed.
Tax Rate	The percentage of tax obligation applied to personal or business taxable earnings.
Whole Number	A “counting” number which contains no fractions or decimals (0,1,2,3,4, etc.)
Withdrawal	Removal of a deposit or investment.

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