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Class and Section CIS 2212 103

# Assignment: Calculating Future Investment Value

## Problem Description:

Write a program that reads in investment amount, annual interest rate, and number of years, and displays the future investment value using the following formula:

futureInvestmentValue = investmentAmount \* (1 + monthlyInterestRate)numberOfYears\*12

For example, if you enter amount 1000, annual interest rate 3.25%, and number of years 1, the future investment value is 1032.98. Here are two sample runs:

Enter investment amount: 1000

Enter annual interest rate: 4.25

Enter number of years: 1

Accumulated value is 1043.34

Enter investment amount: 1000

Enter annual interest rate: 4.25

Enter number of years: 1

Accumulated value is 1043.34

Hint: Use the Math.pow(m, n) method to compute m raised to the power of n.

**Analysis:** (Describe the problem including input and output in your own words.)

This program will require to get input for investment amount, annual interest rate, and the year. The annual interest rate will need to be converted to decimal value and a monthly rate. The number of years I need used math power method for the formula to output accumulated value.

**Design:** (Describe the major steps for solving the problem.)

When designing, I used pseudocode in eclipse to map out the steps.

Which included:

* Importing Scanner from Java Utility Package
* Declaring public class
* Declaring the main function
* Assigning Scanner to an object
* Prompting the user to input investment amount.
* amount to variable.
* Prompting the user to input annual interest rate.
* Assigned interest to variable.
* Prompting the user to input number of years.
* Assigned years to variable.
* Convert annual rate to monthly rate.
* Divided rate by 100 to convert to decimal and by 12 for months.
* Calculated Investment value
* Used math power method for formula.
* Displayed results.
* Used close method of the scanner.
  + FYI: I know didn’t need to do this but I curious on why Eclipse would say that it was resource leak. So, I did some googling found that if the scanner is not closed, when remaining open it will not allow operating system will not be reclaim the memory and I could avoid errors if It was used again in the future.

**Coding:** (Submit the archive file)

**Testing:** (Describe how you test this program)

When running programing checked for logic errors by using calculator to check the values where correct and I referred to examples shown in document.