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Project: Computing Future Investment Value

Problem Description:

Write a method that computes future investment value at a given interest rate for a specified number of years. The future investment is determined using the following formula:

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

Use the following method header:
public static double futureInvestmentValue(
double investmentAmount, double monthlyInterestRate, int years)

For example, futureInvestmentValue(10000, 0.05/12, 5) returns 12833.59.

Write a test program that prompts the user to enter the investment amount (e.g., 1000) and the interest rate (e.g., 9%) and prints a table that displays future value for the years from 1 to 30, as shown below:

The amount invested: 1000
Annual interest rate: 9%

Years	Future Value
1	1093.80
2	1196.41
...	
29	13467.25
30	14730.57

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

The program calculates the future investment value based on an initial investment amount, an annual interest rate, and a specified number of years. The user inputs the investment amount and the interest rate, and the program displays the future value for each year up to 30 years. It is done using the formula in the project specification.
Inputs: Investment amount and annual interest rate
Output: A table displaying the future investment value for each year from 1 to 30

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

Input collection: Prompt the user to enter the investment amount and the annual interest rate.
Processing: Convert the annual interest rate to a monthly interest rate by dividing the annual rate by 1200. Next, the method, futureInvestmentValue, takes 3 parameters: investment amount, monthly interest rate, and the number of years. This method uses the formula to compute the future investment value.
Output: Use a loop to iterate through the years 1 to 30, calling the futureInvestmentValue method for each year. Lastly, print the results in a formatted table with two columns: "Years" and "Future Value".

Testing: (Describe how you test this program)

Sample provided test: Use the provided test case in the project spec of an investment amount of 1000 and an annual interest rate of 9%. Moreover, cross reference the output with the correct output to ensure correctability

Custom test cases: Use a variety of custom inputs such as 5000 for the investment amount and 5% for the annual interest rate to ensure functionality.

Coding:
Name your program Exercise06_07

Submit the following items:
1. Print this Word file and Submit to me before the class on the due day
2. Compile, Run, and Submit