Project 2

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:

$$futureInvestmentValue = investmentAmount \times (1 + monthlyInterestRate)^{numberOfYears \times 12}$$

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`.

Deliverables

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.   **10 Points**

- **Design**: Describe the major steps for solving the problem.   **10 Points**

- **Coding**:

    - Name your program Project2 and submit it to GitHub.   **60 Points**
    - Comment your code accordingly.   **10 Points**

- **Testing**: Describe how you test this program.   **10 Points**

Submission

Submit the following items:

1. Create a PDF file with the written deliverables and submit to GitHub as described below.

2. Compile, test, and submit your java program to GitHub (you must submit the program regardless whether it's complete or incomplete, correct or incorrect)

Place your `.java` file under the corresponding folder in your local copy of the GitHub repository, commit and push it to the remote repository. Make sure that the professor has access to the repository (`jfac65-marist`).

```
cmpt220lastname\
   prj\
      2\
         Project2.pdf
         Project2.java
```