CS410 INTRODUCTION TO COMP SCI APPLIC

Assignment 3 – Inflation

Before you start, make a folder called **Assign3**.

Program

Write a Java class called **Inflation** to calculate the cost of an item in the future based on whether the inflation increase is calculated yearly or daily. The formulas are as follows:

Yearly Calculation: future cost = $c(1 + i)^n$
Daily Calculation: future cost = $c(1 + i/365)^{365n}$
where **c** is the original cost
       i is the annual rate of inflation (as a decimal)
       n is the number of years

Your program should prompt for and input the current cost, current inflation rate and number of years, process the data and then output the original cost and the two calculated costs. A sample run:

```
Enter orginal cost..505.17
Enter inflation rate..3.75
Enter number of years..5

Original cost = $505.17
Future cost with inflation calculated yearly = $607.26
Future cost with inflation calculated daily = $609.35
```

Notes

1. Choose descriptive variable names. Properly comment, indent and line up your program as discussed in class. Add comments for all variables used.

2. The outputs should be displayed to 2 decimal places. To format a **double** variable called **myVar** to 2 decimal places when printing use the command:

    ```
    System.out.printf("%.2f", myVar);
    ```

3. To get inputs you need a **Scanner** object. Read Section 2.3 and look at Program Listing 2.2 on Page 37.

4. Assume all input will be of the correct type – you do not have to handle errors.

5. **Math.pow(a, b)** will calculate a^b where a and b are doubles.

Turning in the Assignment

1. When you have finished, run your program using the test data below (2 separate runs of the program, one after the other):

699.99 for cost	23.5 for cost
4.12 for rate	3 for rate
7 for years	25 for years

2. Take a screenshot of your program running. Upload the screenshot, **Inflation.java** and **Inflation.class** to Canvas by the start of the next class.