ISYS 350, Fall 21, Programming Assignment 1, Due Date: 9/13/21

The formula to calculate the monthly payment, given loan L, term T in year and annual interest rate R is shown below.

$$Monthlypayment = \frac{L \times \frac{R}{12}}{1-(1+\frac{R}{12})^{-12\times T}}$$

Create a python program that uses input statements to ask user to enter loan, term in year and annual interest rate, and compute and display the monthly payment **with a currency format**. Submit the source code and the result of the program as it runs. You copy the source code and paste to a Word document, and run the program with the test data, and copy/past the output lines to the Word document. **Submit the Word document by email attachment.**

Note 1: Test your program with the following data: Loan = $600,000, annual rate = 4.2%, term = 30 years. You may use Excel's PMT function to verify your output.

Note 2: The annual interest rate should be entered without the percentage sign. For example, 3.5% should enter as .035. Use the input statement to explain how to enter the rate. For example: input('Please enter interest rate (3.5% entered as 0.035)').

Note 3: Use comment lines to enter your name, section and a brief description of the purpose of this program.

Note 4: Variable names must be meaningful and have **at least 4 characters**.

Note 5: Use the format statement to format dollar figures with currency format and rate with percentage format.

The screenshot of the program is similar to this:

Enter loan:600000

Enter rate(4.5% entered as 0.045):0.042

Enter term in year:30

With $600,000.00 loan, 4.20% rate, 30.0 years term, the monthly payment is:$2,934.10.

Press any key to continue . . .

Two extra points: Do the programming exercise 2.14, Compound Interest at the end of chapter 2.

Test your program with the sample data and the output should be similar to this:

Enter principal amount:10000

Enter annual interest rate:.04

Enter the number of years:10

Enter number of times per year compounded:12

Compounded amount is: 14908.32682418262