Assignment 4 – Instructions

Study Unit 4 - Repetition Structures

Practical 4.1 – Sum of Some Numbers

Write a Python script that calculates the sum of the first N of even numbers, where N is a positive integer entered by the user. Use a for loop to iterate from 1 to N inclusively and calculate the running total of even numbers.
After calculating the sum, print the total sum of the first N even numbers.

Example:
If the user enters N = 4, the program should calculate the sum as 2 + 4 + 6 + 8 = 20 and print the result as 'The sum of the first 4 even numbers is 20'.

TAKE NOTE:
- Use f-string formatting to print the output.
- Submit your Python script (*.py) on CodeGrade named: Practical_4_1.py

Practical 4.2 – Pay Increase

At a school the yearly salary for a full-time teacher is R360,00.00 for example. It has been announced that the teachers' pay will increase by 5 percent each year for the next five years.
Write a Python script that receives the current salary amount of the teacher as input and use a for-loop to calculate and display the projected teachers' pay amount for the next five years, formatted accordingly.

Example:
If the user enters R360,000.00, the program should display the salary for year 0 as R360,000.00, then apply the 5% increase each year and display the new salary for the following five years (each on a new line with appropriate label indicating the year). The program should continue displaying salaries until the five-year period is complete. Use f-string formatting to print the output.

TAKE NOTE:
- Submit your Python script (*.py) on CodeGrade named: Practical_4_2.py

Practical 4.3 – Multiplication Table

Write a Python script that prompts the user to enter a number between 1 and 10 and then displays its multiplication table up to 10. After printing the table, the program should ask the user for another number and continue generating multiplication tables until the user enters 0 to stop. The script should provide clear prompts to guide the user. Use f-string formatting to print the output.

Example:
If the user enters 5, the program should display the multiplication table of 5, from 5 × 1 = 5 to 5 × 10 = 50, and then prompt for another number. If the user enters a number outside the range (e.g., 11 or -2), they should be informed that the input is invalid and asked to enter a valid number before proceeding to display the multiplication table.
The program should continue this process until the user enters 0 as the number, at which point it should exit.

TAKE NOTE:
- Submit your Python script (*.py) on CodeGrade named: Practical_4_3.py