

Assignment-1

Programming Methodology in Python

Due date: 16th Sept 2025.

This assignment is designed to challenge your understanding of basic programming methodology in Python.

To submit: Create a PDF file containing your explanation of how to solve each problem, the program and its sample runs. The PDF should be named "Python_assignment_1_<your_name>". Substitute <your_name> with your full name connected with underscore(s).

Problems.

1. Write a Python program to find the GCD of two numbers (take input from the user) using **Euclid's algorithm**.
2. Write a Python program to find the factorial of any given positive integer (take input from the user).
3. Write a program that prints the sum of the digits of a positive integer n. For example, if $n = 1234$, then the output would be: $1 + 2 + 3 + 4 = 10$.
4. Write a Python program that prints whether a given year is a leap year or not. Take input from the user (e.g. Input 1900 should output "Not a leap year").
5. Write a Python program that takes as input the time of the day, and greets good morning, good afternoon, or good evening depending on the time. You can assume a suitable time, such as the afternoon or evening. (For example, the 12 noon to 5 pm may be "Afternoon" and thereafter it is evening till 12 am midnight).
6. Write a Python program to play [Rock, Paper, Scissors](#) with the computer. (rock defeats scissors, scissors defeats paper, paper defeats rock, same-same is a tie). Keep count of your scores, including ties and print at the end. You need to use the concepts of:
 - Variables
 - while
 - for
 - random
 - break