**Variables and Data Types**

1. Write a Python program to declare two variables, a and b, where a is a float number 3.5, and b is a string "Hello World". Print the type of both variables.

**Strings**

1. Create a string variable containing "Python" and use slicing to print only "yth" from it.

**Operators**

1. Given two integer variables x = 10 and y = 4, write a Python script to perform and print the results of addition, subtraction, multiplication, division, and modulus operations.

**Lists**

1. Create a list named fruits with elements "apple", "banana", and "cherry". Add "orange" at the end and "grape" at the second position. Then remove "banana" from the list.

**Tuples**

1. Write a Python program to create a tuple with different data types and print each item along with its type.

**Sets**

1. Create a Python set called my\_set with numbers from 1 to 5. Then add 6 to the set and remove 2. Check if 4 is in the set.

**Dictionaries**

1. Write a Python script to create a dictionary where the keys are numbers between 1 and 5 (both included) and the values are their squares. Example: {1: 1, 2: 4, 3: 9, ...}

**If-Else**

1. Write a Python program that takes an integer from the user and prints "Even" if the number is even and "Odd" if the number is odd.

**While Loop**

1. Write a Python script to display all prime numbers within the range of 1 to 50 using a while loop.

**For Loop**

1. Use a for loop to iterate over the fruits list created in question 4 and print each item.

**Functions**

1. Define a Python function named sum\_numbers that takes two parameters and returns their sum. Test this function with different pairs of numbers.

**Recursive Function**

1. Write a recursive function named factorial to compute the factorial of a given number. Test this function with different numbers.

**Try...Catch (Exception Handling)**

1. Write a Python program with a try-except block. In the try block, divide two numbers provided by the user. Handle the ZeroDivisionError in the except block by printing a custom error message.

**File Handling**

1. Write a Python program to create a file named example.txt, write "Hello, Python!" to it, and then read and print the contents of the file.
2. Write a Python program to write a list content to a file. Write this list color = ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow'] to a file name color.txt.

**Regular Expressions**

1. Write a Python program that uses regular expressions to check if a string contains the word 'Python'. Test this with the string "I am learning Python programming".
2. Use regular expressions in Python to find all occurrences of dates in the format dd-mm-yyyy in a given string. Test it with the string "My important dates are 12-05-2022, 23-10-2021, and 01-01-2023."
3. Create a Python script using regular expressions to replace all occurrences of the word "is" with "was" in a given string. Test it with the string "This island is beautiful."