

## Python Workshop 02

### 1. Basic Arithmetic

Write a Python program to add, subtract, multiply, and divide two numbers entered by the user.

### 2. List Slicing

Given a list numbers = [10, 20, 30, 40, 50, 60], write a program to extract:

- The first three elements
- The last two elements

### 3. String Manipulation

Write a Python program that takes a user-input string and converts it to:

- All uppercase letters
- All lowercase letters
- Reverse order

### 4. Conditional Statements

Write a program to determine if a number entered by the user is even or odd.

### 5. Loop Basics

Print all numbers from 1 to 50 that are divisible by both 3 and 5.

### 6. Functions

Write a function factorial(n) that returns the factorial of a given number n.

### 7. List Comprehensions

Create a list of squares of all even numbers from 1 to 20 using list comprehension.

### 8. Dictionaries

Write a program to count the frequency of each character in a given string and store the result in a dictionary.

### 9. Nested Loops

Write a program to print the following pattern for a given n:

1

12

123

1234

(Each row contains numbers from 1 to the row number.)

### 10. Error Handling

Write a program that takes two numbers from the user and divides the first by the second. Handle the case where the second number is zero with a meaningful error message.