

Basic Python Syntax and Operations

1. Write a Python program that prints "Welcome to Python Programming!".
2. Declare two variables, num1 and num2, with values 25 and 75. Calculate their sum and print it.
3. Create a variable with your name and another with your city. Print a statement introducing yourself using these variables.
4. Explain the difference between a variable and a constant in Python with an example.
5. Demonstrate type conversion by converting a float number 45.67 to an integer and a string.

Conditional Statements

1. Write a Python program to check if a given age is eligible for voting ($\text{age} \geq 18$).
2. Create a program that takes two numbers from the user and checks if they are equal or not.
3. Write a program to determine whether a given day is a weekday or a weekend.
4. Write a program to categorize a person as "child," "adult," or "senior citizen" based on age.

Strings

1. Given a string "Python Programming", write a program to convert it to uppercase and lowercase.
2. Write a program to replace the word "World" with "Python" in the string "Hello, World!".
3. Using string slicing, extract "love" from the string "I love Python".
4. Count the number of occurrences of the letter "l" in the string "Hello, world!".

Lists

1. Create a list of numbers from 1 to 5. Append the number 6 to the list and print it.
2. Write a program to merge two lists [1, 2, 3] and [4, 5, 6] using extend() and print the result.
3. Sort the list [3, 1, 4, 5, 2] in descending order and print it.