

Week 1 Day 4: Practical Session

Exercise 1: Python Variables and Data Types

Task 1: Variable Declaration

1. Declare three variables: name, age, and height. Assign appropriate values to each (e.g., your name, age, and height in meters).
2. Print out the variables.

Task 2: Identify Data Types

1. Use the type() function to print the data type of each variable.
2. Modify the values and observe how the data types change.

Exercise 2: Basic Arithmetic and Input/Output

Task 1: Arithmetic Operations

1. Create two variables, a and b. Assign them values and perform basic operations like addition, subtraction, multiplication, and division.
2. Print the results of each operation.

Task 2: Taking User Input

1. Use the input() function to take two numbers from the user.
2. Perform addition on the numbers and print the result.

Exercise 3: Working with Lists

1. Create a list of 5 favorite movies.
2. Add a movie to the list, remove one, and then modify the third movie in the list.
3. Print the modified list.
4. Slice the list to show only the first 3 movies.
5. Sort the list in alphabetical order

Exercise 4: Working with Tuples

1. Create a tuple of 4 subjects you are studying this semester.
2. Access and print the second and third subjects using indexing.
3. Create a new tuple by concatenating another tuple of 2 additional subjects.
4. Use tuple unpacking to assign the elements of a tuple to separate variables.

Exercise 5: Working with Sets

1. Create two sets of your favorite foods and a friend's favorite foods.
2. Find the union of both sets.
3. Find the intersection (common items) between the two sets.
4. Remove an item from your set, and then check if another item exists in the set.

Exercise 6: Working with Dictionaries

1. Create a dictionary with details about yourself: name, age, and a list of hobbies.
2. Add a new key-value pair for your city and modify the age.
3. Use a loop to print all the keys and values.
4. Remove the key-value pair for your hobbies.