Day-3 --Exercise Questions for Homework:

Here are the exercise questions for Day 3 based on the provided materials:

1. Variables & Data Types

- 1.1: Declare variables to store your name, age, and height. Print the values of these variables.
- 1.2: Create a variable to store the price of an item. Calculate the total cost after adding 10% sales tax.
- 1.3: Declare two variables, one for your first name and one for your last name. Concatenate them to form your full name.
- 1.4: Create a variable to store a sentence. Print the length of the sentence.
- 1.5: Create a variable to store a number. Check if the number is even or odd.

2. Keywords

- 2.1: List down at least 5 keywords in Python and explain their purpose.
- 2.2: Try to use a keyword as a variable name and observe the error message.

3. Indentation

- 3.3: Write a simple if statement and deliberately introduce incorrect indentation. Observe the error message.
- 3.4: Write a simple for loop with correct indentation.

4. Comments

- 4.1: Write a multi-line comment explaining the purpose of a specific piece of code (you can choose any simple code snippet).

5. Strings

- 5.1: Create a string variable and use the .upper() and .lower() methods.
- 5.2: Extract a substring from a given string.
- 5.3: Count the number of occurrences of a specific character in a string.
- 5.4: Replace a substring within a string with another string.
- 5.5: Check if a string starts or ends with a specific substring.

6. Numbers

- 6.1: Perform addition, subtraction, multiplication, and division operations on two numbers.
- 6.2: Calculate the square root of a given number using the math module.
- 6.3: Convert a float to an integer and vice versa.

7. Boolean

- 7.1: Write a program to check if a given number is greater than 10 using boolean logic.
- 7.2: Create a program to check if a given character is a vowel.

8. Lists

- 8.1: Create a list of your favorite colors.
- 8.2: Add a new color to the list.
- 8.3: Remove the first element from the list.
- 8.4: Access and print the second element of the list.
- 8.5: Modify the third element of the list.

9. Tuples

- 9.1: Create a tuple of your favorite fruits.
- 9.2: Try to modify an element within the tuple and observe the error.
- 9.3: Access the last element of the tuple.

10. Sets

- 10.1: Create a set of integers.
- 10.2: Add a new element to the set.
- 10.3: Check if a given number is present in the set.
- 10.4: Create two sets and perform union and intersection operations.

11. Dictionaries

- 11.1: Create a dictionary to store the names and ages of three people.
- 11.2: Access and print the age of one of the people.

- 11.3: Add a new key-value pair to the dictionary.
- 11.4: Update the age of one of the people in the dictionary.

12. Type Casting

- 12.1: Convert a string to an integer.
- 12.2: Convert a float to an integer.
- 12.3: Convert a list to a set.
- 12.4: Convert an integer to a string.

13. Output Formatting

- 13.1: Use f-strings to print a formatted message with a name and age.
- 13.2: Use the .format() method to print a formatted message with multiple variables.

14. User Input

- 14.1: Take the user's name as input and print a personalized greeting message.
- 14.2: Take two numbers as input from the user and calculate their sum.

15. Multiple Inputs

- 15.1: Take three numbers as input from the user in a single line and calculate their average.