Tutorial 01

Guided Practice Tasks

Task to be done in IDLE Shell:

Task 1: Basic Arithmetic Operations

1. Open IDLE and select the Python Shell.
2. Type and execute basic arithmetic operations, like **3 + 4**, **5 * 6**, and **10 / 2**.
3. Observe and note the results displayed in the shell.

Task 2: Variable Assignments

1. Assign a number to a variable: **x = 5**.
2. Assign a string to another variable: **name = "Alice"**.
3. Print these variables: **print(x)**, **print(name)**.

Task 3: Simple Input and Output

1. Ask for user input: **age = input("Enter your age: ")**.
2. Convert this input to an integer: **age = int(age)**.
3. Print a message with this age: **print("You are", age, "years old.")**.

Task 4: String Concatenation

1. Create two string variables: **first_name = "John"** and **last_name = "Doe"**.
2. Concatenate them: **full_name = first_name + " " + last_name**.
3. Print the full name: **print(full_name)**.

Task 5: Basic Error Handling

1. Deliberately make a syntax error: **print("Hello**.
2. Run the code to see the error message.
3. Correct the error and re-run: **print("Hello")**.

Programming exercises

Task 6 :Basic Arithmetic Calculator:

Create a simple calculator that performs addition, subtraction, multiplication, and division based on user inputs.

Task 7: Personal Information Script:

Write a program that asks for the user's name, age, and favorite color, and then prints a personalized greeting.

Task 8: Unit Conversion Program:

Implement a program that converts a given number of days into hours, minutes, and seconds.

Task 9: Simple Interest Calculator:

Develop a script to calculate simple interest based on user input for principal, rate of interest, and time.

Unguided Practice Tasks [To be done at home and submitted to BB]

Task 10: Temperature Conversion:

Create a program to convert a temperature from Celsius to Fahrenheit and vice versa.

Task 11: Grocery Bill Estimator:

Write a script that takes the price of three items and calculates the total cost.

Task 12: Distance Converter:

Develop a program that converts distance from meters to kilometers and miles.

Task 13: BMI Calculator:

Implement a Body Mass Index (BMI) calculator that takes weight and height as inputs and calculates BMI.

Quizzes:

Quiz 1: Basic Python Syntax and Operators

1. What symbol is used for division in Python?
    - a) %
    - b) /
    - c) \
    - d) |
2. What will be the output of **print(8 % 3)** in Python?
    - a) 2.67
    - b) 5
    - c) 2
    - d) None of the above
3. Which of the following is the correct way to comment in Python?
    - a) // This is a comment
    - b) <!-- This is a comment -->
    - c) # This is a comment
    - d) /* This is a comment */

Quiz 2: Data Types and Variables

1. What data type is the result of: **3.0 + 1**?
    - a) int
    - b) float
    - c) string
    - d) bool
2. Which line of code will correctly assign a string to a variable?
    - a) var = "Hello, World!'
    - b) var = 'Hello, World!'
    - c) var = Hello, World!
    - d) var = "Hello, World!
3. Which of the following is NOT a valid variable name in Python?
    - a) my_variable
    - b) 2ndVariable
    - c) variable_name
    - d) _variable

Quiz 3: IDLE Shell Practice

1. What will be the output of **print("Python" + "Rocks!")** in the IDLE shell?
    - a) PythonRocks!
    - b) Python Rocks!
    - c) SyntaxError
    - d) TypeError
2. If you assign **x = 5** and then **y = x + 3**, what is the value of **y**?
    - a) 5
    - b) 8
    - c) 15

- d) None of the above

3. What will be the output of **print("Hello"[1])**?
   - a) H
   - b) e
   - c) l
   - d) Hello