**LABSHEET 01 - Programming**

Shape

**Date: 12.02.2025**  **Submission Date:** on or before Thursday,13.02.2025

**Introduction to Python Basics**

1. Setup Instructions: Before starting the exercises, ensure you have a proper Python environment set up. You can use one of the following methods

Create a Python virtual environment (VM) using the command

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| --- |
| 1. python -m venv myenv 2. source myenv/bin/activate  3. myenv\Scripts\activate |

Use PyCharm and set up a new virtual environment in the project settings.

Use any Python IDE like VS Code, Thonny, or IDLE to execute Python scripts.

**Task**

**Exercise 1: Using print() and input() Functions**

1. Write a Python program to print "Hello, World!".
2. Write a program that asks for the user’s name and prints a greeting message
3. Modify the program to also ask for the user’s age and display it.

**Exercise 2: Exploring Python Data Types**

1. Create variables of the following types and print their values:
   1. String (str)
   2. Integer (int)
   3. Float (float)
   4. Boolean (bool)
2. Use the type() function to display the data type of each variable.
3. Convert an integer to a float and vice versa, then print the results.

**Exercise 3: Understanding Python Operators**

1. Perform basic arithmetic operations (addition, subtraction, multiplication, division, modulus, exponentiation, floor division) and print results.
2. Demonstrate comparison operators (==, !=, >, <, >=, <=) with print statements.
3. Demonstrate logical operators (and, or, not).

**Exercise 4: Python Punctuation Usage**

1. Use parentheses () in mathematical expressions.
2. Use square brackets [] in list operations.
3. Use curly braces {} in dictionary operations.
4. Use colons : in function and loop definitions.
5. Use commas , in function arguments and lists.