## Assignment 1:

- Create a Python file that prints your name and a personalized greeting message.
- Experiment with different ways of running the Python file (e.g., through the command line, IDE, or using an online Python interpreter)

## Assignment 2:

- Create a Python program that prints your college name and house door number alone
- Create a Python program that prints your home address with a door number.

## Assignment 3:

- Choose a small Python codebase or function and add comprehensive comments throughout the code.
- Focus on explaining the purpose, input, output, and any significant logic or algorithms used in the code.
- Consider potential scenarios where multiple developers would find the comments valuable.

## Assignment 4:

- Write a Python program that solves a simple problem, such as finding the sum of the first N natural numbers, and requires the inclusion of meaningful comments throughout the code.

## Assignment 5:

- Write a program to calculate the area and perimeter of a rectangle without using variables, directly apply the arithmetic operators and understand their usage.

**Assignment 6:** Write a Python program that calculates the area and perimeter of a rectangle using arithmetic operators without using variables.

Instructions:

- Write a Python program to calculate the area and perimeter of a rectangle.
- The program should only use arithmetic operators (+, -, *, /) without using variables.
- You can directly input the values (length and width) in the program.
- The program should display the calculated area and perimeter as output using the print() function.
- Comment your code to explain the purpose of each step.

Example Output: If the length of the rectangle is 4 units and the width is 5 units, the program should output:

- Area: 20
- Perimeter: 18

**Assignment 7:** Calculate the Total Cost of a Shopping Cart : write a Python program that calculates the total cost of a shopping cart without using variables.

Instructions:

- You should write a Python program to calculate the total cost of a shopping cart.
- Assign fixed prices to different items in the shopping cart.
- You should use arithmetic operators (+, -, *, /) to calculate the total cost without using variables.
- The program should display the calculated total cost as output using the print() function.
- Comment your code to explain the purpose of each step.

Example Output: Consider a shopping cart with the following prices: Item A: $10, Item B: $5, Item C: $8.

- The program should output: Total Cost: $23

**Assignment 8:** Calculate the Final Grade Average: Write a Python program that calculates the average of a set of grades without using variables.

Instructions:

- You should write a Python program to calculate the average of a set of grades.
- Assign a fixed set of grades (e.g., 85, 92, 78, 90) to represent different subject grades.
- You should use arithmetic operators (+, -, *, /) to calculate the average without using variables.
- The program should display the calculated average as output using the print() function.
- Comment your code to explain the purpose of each step.

Example Output: Consider a set of grades: 85, 92, 78, 90.

- The program should output: Average Grade: 86.25

**Assignment 9:** Calculating the Area and Circumference of a Circle.

Instructions:

- You should write a Python program that calculates the area and circumference of a circle.
- Declare a variable to store the radius of the circle as input.
- Use appropriate formulas and arithmetic operators to calculate the area and circumference.
- Declare variables to store the calculated area and circumference.
- Display the calculated area and circumference to the user using the print() function.

Example Output: If the user enters a radius of 3 units, the program should output:

- The area of the circle is 28.27 square units.
- The circumference of the circle is 18.85 units.

## Assignment 10:

- Write a Python program that calculates the area of a triangle.
- Enter the base and height of the triangle as input.
- Declare variables for storing the base and height values.
- Use the formula (base * height) / 2 to calculate the area.
- Display the calculated area to the user using the print() function.

## Assignment 11: Calculating the Total Bill Amount at a Restaurant

Instructions:

- Write a Python program that calculates the total bill amount based on the prices of items ordered.
- Enter the price of each item ordered.
- Use variables to store the prices as floats.
- Use arithmetic operators to perform the necessary calculations to obtain the total bill amount.
- Display the calculated total bill amount to the user.

Example Output: If the user enters the prices of three items as 9.99, 5.50, and 7.25, the program should output:

- Total bill amount: 22.74

## Assignments 12: Leap Year Checker

Instructions:

- Write a Python program that determines if a given year is a leap year.
- Enter a year as input.
- Use conditional statements to check if the year satisfies the leap year conditions:
- The year should be divisible by 4 but not divisible by 100, or
- The year should be divisible by 400.
- Use appropriate logical operators and conditions to implement the leap year logic.
- Display an appropriate message indicating whether the year is a leap year or not.

Example Output: If the user enters the year 2024, which is a leap year, the program should output:

- 2024 is a leap year.
- If the user enters the year 2022, which is not a leap year, the program should output:
- 2022 is not a leap year.