1. 🎯 Project Title:

"Identify the Type of Triangle using Python"

📝 Problem Statement:

Write a Python program that accepts the lengths of three sides of a triangle and determines:

1. Whether the given sides can form a valid triangle or not.
2. If valid, determine whether the triangle is:
    - **Equilateral** (all sides equal)
    - **Isosceles** (two sides equal)
    - **Scalene** (all sides different)

📘 Conditions to Remember:

A triangle is **valid** only if the sum of any two sides is greater than the third side.
That is:

```
(a + b) > c
(a + c) > b
(b + c) > a
```

💡 Hints:

- Take inputs for the three sides.
- First, check if the triangle is valid.
- If valid, use conditional statements to identify its type.
- Display appropriate messages for each case.

📤 Expected Output Example:

```
Enter side a: 5
Enter side b: 5
Enter side c: 8

These sides can form a triangle.
```

```
Type: Isosceles Triangle
```

🟢 Mini Math Project 2: Area and Perimeter Calculator

🎯 Project Title:

"Menu-Based Area and Perimeter Calculator"

📝 Problem Statement:

Write a Python program that displays a menu with options to calculate the **area and perimeter** of different geometric shapes.

The program should:

Display the following menu:

```
1. Circle
2. Rectangle
3. Triangle
4. Exit
```

1.
2. Based on the user's choice:
    - If **1**, ask for radius and compute area & circumference of a circle.
    - If **2**, ask for length and width and compute area & perimeter of a rectangle.
    - If **3**, ask for the three sides and compute the area (using Heron's formula) and perimeter of a triangle.
    - If **4**, exit the program.
3. Display the results neatly.

📘 Formula Hints for Students

Shape	Area Formula	Perimeter Formula
Circle	π × r²	2 × π × r

Rectangle	length × width	2 × (length + width)
Triangle	√[s(s - a)(s - b)(s - c)]	a + b + c

(where s = (a + b + c) / 2)

🐍 Python Code

```
# ============================================================
# Project: Area and Perimeter Calculator (No Loops)
# Author: Your Name
# Description: Calculates area and perimeter based on one-time choice
# ============================================================
```