Challenge 3: Implement Area and Perimeter Member Methods

Solve an exercise to practice your Python classes, especially the member methods inside a class.

WE'LL COVER THE FOLLOWING

Problem Statement

Implement the `area()` and `perimeter()` methods to return the area and perimeter of the rectangle respectively, where

$$Area = width * height$$

$$Perimeter = 2 * width + 2 * height$$

Input

A class `Rectangle` with constructor having the rectangle coordinates x1, y1, x2, and y2 respectively

Output

The area and perimeter of the rectangle

Sample Input

x1 = 2, y1 = 7, x2 = 5, y2 = 3

Sample Output

Area = 12, Perimeter = 14

Coding Exercise

Write your code below. It is recommended that you try solving the exercise yourself before viewing the solution.

```
class Rectangle:
  def __init__(self, x1, y1, x2, y2): # class constructor
    if x1<x2 and y1>y2:
      self.x1 = x1 # class variable
      self.y1 = y1 # class variable
      self.x2 = x2 # class variable
      self.y2 = y2 # class variable
    else:
      print("Incorrect coordinates of the rectangle!")

  def width(self):
    return self.x2-self.x1

  def height(self):
    return self.y1-self.y2

  #write your code here
```

In the next lesson, we will discuss the solution to this challenge.