Challenge 3: Analyzing the Performance of Students

In this exercise, you have to analyze a student's performance using the concept of classes

WE'LL COVER THE FOLLOWING

Problem Statement

Implement a class, `Student`, that has four fields with properties and two methods. This challenge is designed to test your understanding of following good OOP practices. The problem can be broken down into three tasks:

Task 1

- The properties should only have the `get` block defined for the relative fields, you can skip the `set` block.
- Implement a parameterized constructor to initialize the values of four properties: `Name`, `PhysicsMarks`, `ChemistryMarks`, and, `BioMarks`.

Task 2

Implement a method, `TotalObtained()`, in the `Student` class that calculates and returns the total marks of a student.

Task 3

Using the `TotalObtained()` method, implement another method, `Percentage()`,

in the `Student` class that calculates the percentage of the student's marks.

Assume that the total marks of each subject are **100**. So, the combined marks of three subjects are **300**.

Below is the formula for calculating the percentage:

$$Percentage = \frac{Marks\ Obtained}{Total\ Marks} \times 100$$

Sample Input

```
Student john = new Student("John", 75, 75, 90)
```

Sample Output

```
john.TotalObtained() = 240
john.Percentage() = 80
john.PhysicsMarks = 75
```

Coding Exercise

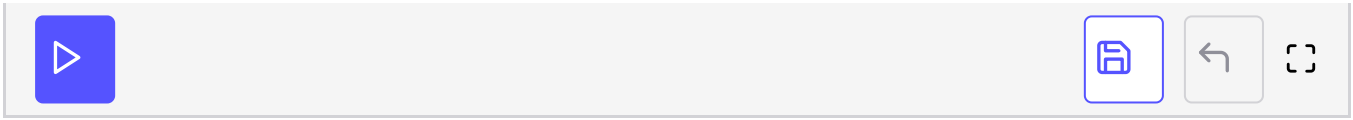
First, take a close look and design a step-by-step algorithm before jumping to the implementation. This problem is designed for your practice, so initially try to solve it on your own. If you get stuck, you can always refer to the solution provided in the solution review.

Good luck!

Exercise | Solution

```
class Student {

  // Declare the fields and properties here

  // Modify the below constructor
  public Student(string name, double phy, double chem, double bio) {
    // Write definition here
  }

  public double TotalObtained() {
    // Write definition here
    return 0;
  }

   public double Percentage() {
    // Write definition here
    return 0;
```

```
  }

}

class Demo {
  public static void Main(string[] args) {
    Student john = new Student("John", 75, 75, 90);
    Console.WriteLine(john.TotalObtained());
    Console.WriteLine(john.Percentage());
    //Console.WriteLine(john.PhysicsMarks);
  }

}
```



The solution will be explained in the next lesson.