Challenge 1: Calculating Perimeter of a Rectangle

In this lesson, you will solve a challenge to test your understanding of classes.

Problem Statement

Write a *class* having **two** `float` type variables for `length` and `height`, a **default** *constructor* and **one** *member* function called `perimeter` which will *return* the **perimeter** of the **rectangle**.

Input

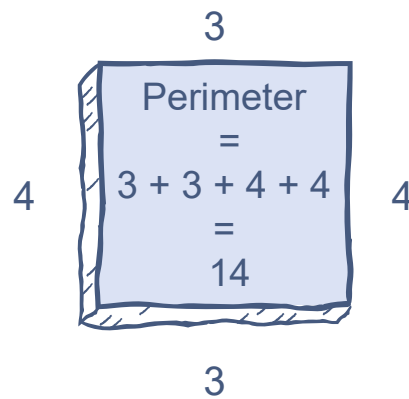Length and width of the rectangle

Output

Perimeter of rectangle

Sample Input

```
length = 2, height = 10
```

Sample Input

$$3$$

Perimeter
=
$3 + 3 + 4 + 4$
=
14

4   4

$$3$$

Finding the perimeter of rectangle

Coding Exercise

This problem is designed for your practice so try to solve it on your own first. If you get stuck, you can always refer to the solution provided in the solution section.

Good Luck!

Exercise | Solution

```cpp
// Define Rectangle class here
// Add public data members and member function

float calculate(float length, float height) {

  // Make rectangle object and set length and height here

  float answer;

  // Store rectangle perimeter in answer
  return answer;
}
```

Solution Review

- Firstly, a class `Rectangle` is made with the data members `length` and `height`

- A Constructor initializes the data members to zero.

- The function `perimeter` calculates the perimeter from data members
- Inside the `main` function, an object `obj` of class Rectangle is made
- After assigning the relevant values to data members, the `perimeter` function is called which returns the perimeter of a rectangle

In the next challenge, we'll solve another problem of calculating the total marks of the student.