Challenge 3: Implement a Calculator Class

In this exercise, you have to implement a calculator which can perform addition, subtraction, multiplication, and division.

WE'LL COVER THE FOLLOWING

Problem Statement

Write a C++ **class** called `Calculator` with

- `private` *member variables*:
  - `num1` and `num2` (**float** type)

And *member functions*:

- `add(float n1, float n2)`, a *function* which returns the addition of two numbers
- `Subtract(float n1, float n2)`, a *function* which returns the subtraction of n1 from n2
- `multiply(float n1, float n2)`, a *function* which returns the multiplication of numbers
- `divide(float n1, float n2)`, a *function* which returns the division of n2

by n1

- Define a default constructor which initializes both numbers by **zeros**

Input

Pass floating point numbers in the member functions

Output

Addition, Subtraction, division, and multiplication

Sample Input

```
calculator obj;
obj.add(10, 94)
obj.subtract(10, 94)
obj.multiply(10, 94)
obj.divide(10, 94)
```

Sample output

```
104
84
940
9.4
```

Coding Exercise

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

Good Luck!

Exercise | Solution

```
class calculator{
  // wrrite class member variables here
  public:
  calculator() {
    //write definition here
  }

  int add(float n1, float n2){
    //write definition here
    return 0;
```

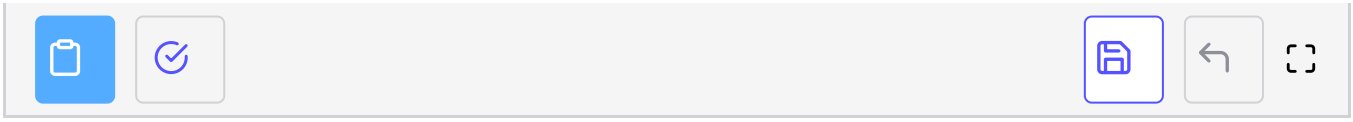
```
  }

  float subtract(float n1, float n2){

    //write definition here
    return 0;
  }

  float multiply(float n1, float n2){
    //write definition here
    return 0;
  }

  float divide(float n1, float n2){
    //write definition here
    return 0;
  }
};
```



Solution Review

- We have implemented `Calculator` class which have data members `num1` and `num2`
- In the constructor, initialize both variables to **0**
- `add(float n1, float n2)`, a *function* which returns the addition of two numbers
- `Subtract(float n1, float n2)`, a *function* which returns the subtraction of n1 from n2
- `multiply(float n1, float n2)`, a *function* which returns the multiplication of numbers
- `divide(float n1, float n2)`, a *function* which returns the division of n2 by n1
- In main, create an instance of `calculator` class and call these functions

---

In the next chapter, we'll learn about data hiding(`Encapsulation` and `Abstraction`) an important OOP concept.