

## 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 ^

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## 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{  
    // write 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.

