

Solution Review: Subtract Two Complex Numbers

Let's go over the solution review of the challenge given in the previous lesson.

We'll cover the following



- Solution
- Explanation
 - struct complex_number
 - subtract function

Solution

Press the **RUN** button and see the output!

```
#include <iostream>

using namespace std;

// Structure to store complex number
struct complex_number {
    // Store real part of complex number
    double real;
    // Store imaginary part of complex number
    double imaginary;
};

// Function subtract
complex_number subtract(struct complex_number c1, struct complex_number c2) {
    // Declare a structure variable
    struct complex_number c;
    // Subtract real parts
    c.real = c1.real - c2.real;
    // Subtract imaginary parts
    c.imaginary = c1.imaginary - c2.imaginary;
    // Return structure variable
    return c;
}

// Function print_complex
void print_complex(struct complex_number c) {
    cout << c.real << " + ";
    cout << c.imaginary << " i ";
    cout << endl;
}

// Function main
```



```

int main() {
    // Declare structure variables
    struct complex_number c1, c2, c;

    // Initialize structure variable c1
    c1 = { -12.3, -67.4 };
    // Initialize structure variable c2
    c2 = { 34, 89 };
    // Print members of c1
    cout << "First complex number = " ;
    print_complex(c1);
    // Print members of c2
    cout << "Second complex number = " ;
    print_complex(c2);
    // Call subtract function and store its output in c
    c = subtract(c1, c2);
    // Print members of c
    cout << "First complex number - Second complex number = " ;
    print_complex(c);
}

```



Explanation

struct complex_number

We define the structure `complex_number` on **Line No. 6**. `real` and `imaginary` are the members of the structure that stores the value of type `double`.

subtract function

The `subtract` function takes two values of type `complex_number` as its input parameters. It returns the value of type `complex_number` as its output.

Declare a new structure variable `c` of type `complex_number`. Subtract the `real` member of `c2` from the `real` member of `c1` and store the answer in a `real` member of `c`. Subtract the `imaginary` member of `c2` from the `imaginary` member of `c1` and store the answer in the `imaginary` member of `c`. Return `c`.

Let's solve another challenge in the upcoming lesson.