

C exp7complex.c > ...

```
1 #include <stdio.h>
2
3 struct Complex {
4     float real;
5     float imag;
6 };
7
8
9 struct Complex add(struct Complex a, struct Complex b) {
10    struct Complex result;
11    result.real = a.real + b.real;
12    result.imag = a.imag + b.imag;
13    return result;
14 }
15
16 struct Complex subtract(struct Complex a, struct Complex b) {
17    struct Complex result;
18    result.real = a.real - b.real;
19    result.imag = a.imag - b.imag;
20    return result;
21 }
22
23 void display(struct Complex c) {
24     printf("%.2f + %.2fi\n", c.real, c.imag);
25 }
26
27 int main() {
28     struct Complex c1 = {4.5, 2.5};
29     struct Complex c2 = {1.5, 3.5};
30
31     printf("Addition: ");
32     display(add(c1, c2));
33
34     printf("Subtraction: ");
35     display(subtract(c1, c2));
36
37     return 0;
38 }
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE PORTS

```
PS C:\Users\abiga\OneDrive\Desktop\Absproj> cd "c:\Users\abiga\OneDrive\Desktop\Absproj\" ; if ($?) { gcc exp7complex.c -o exp7complex } ; if ($?) { .\exp7complex }
Addition: 6.00 + 6.00i
Subtraction: 3.00 + -1.00i
PS C:\Users\abiga\OneDrive\Desktop\Absproj> -[]
```

Experiment 7 : Structures and Union.

1. Write a C program that uses functions to perform the following operations:
 - a. reading a complex number.
 - b. writing a complex number.
 - c. addition & subtraction of two complex numbers

```
#include <stdio.h>
struct Complex {
    float real;
    float imag;
};

struct Complex add (struct Complex a, struct Complex b) {
    struct Complex result;
    result.real = a.real + b.real;
    result.imag = a.imag + b.imag;
    return result;
}

struct Complex subtract (struct Complex a, struct Complex b) {
    struct Complex result;
    result.real = a.real - b.real;
    result.imag = a.imag - b.imag;
    return result;
}

void display (struct Complex c) {
    printf ("% .2f + % .2fi \n", c.real, c.imag);
}
```

```
int main() {  
    struct Complex c1 = {4.5, 2.5};  
    struct Complex c2 = {1.5, 3.5};  
    printf("Addition: ");  
    display (add(c1, c2));  
    printf("Subtraction: ");  
    display (subtract(c1, c2));  
    return 0;  
}
```