

```
#include <stdio.h>
```

```
struct complex {
```

```
    float real;
```

```
    float imag;
```

```
};
```

```
struct complex readcomplex() {
```

```
    struct complex c;
```

```
    printf("Enter real part: ");
```

```
    scanf("%f", &c.real);
```

```
    printf("Enter imaginary part: ");
```

```
    scanf("%f", &c.imag);
```

```
    return c;
```

```
}
```

```
void writecomplex(struct complex c) {
```

```
    if (c.imag >= 0)
```

```
        printf("%.2f + %.2f i\n", c.real, c.imag);
```

```
    else
```

```
        printf("%.2f - %.2f i\n", c.real, -c.imag);
```

```
}
```

```
struct complex addcomplex(struct complex c1, struc-
```

```
complex c2) {
```

```
    struct complex result;
```

```
    result.real = c1.real + c2.real;
```

```
    result.imag = c1.imag + c2.imag;
```

```
    return result;
```

```
}
```

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```
struct complex subcomplex(struct complex c1, struct  
complex c2) {
```

```
    struct complex result;
```

```
    result.real = c1.real - c2.real;
```

```
    result.imag = c1.imag - c2.imag;
```

```
    return result;
```

```
}
```

```
int main() {
```

```
    struct complex c1, c2, sum, diff;
```

```
    printf("Enter first complex number: \n");
```

```
    c1 = readcomplex();
```

```
    printf("Enter second complex number: \n");
```

```
    c2 = readcomplex();
```

```
    sum = addcomplex(c1, c2);
```

```
    diff = subcomplex(c1, c2);
```

```
    printf("\n first complex number: ");
```

```
    writecomplex(c1);
```

```
    printf(" second complex number: ");
```

```
    writecomplex(c2);
```

```
    printf("\n sum of complex numbers: ");
```

```
    writecomplex(sum);
```

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Name:

```
printf("Difference of complex numbers: ");  
writecomplex(diff);
```

```
return 0;  
y
```

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main.c

```
1 #include <stdio.h>
2 struct Complex {
3     float real;
4     float imag;
5 };
6 struct Complex readComplex() {
7     struct Complex c;
8     printf("Enter real part: ");
9     scanf("%f", &c.real);
10    printf("Enter imaginary part: ");
11    scanf("%f", &c.imag);
12    return c;
13 }
14 void writeComplex(struct Complex c) {
15     if (c.imag >= 0)
16         printf("%.2f + %.2f\n", c.real, c.imag);
17     else
18         printf("%.2f - %.2f\n", c.real, -c.imag);
19 }
20 struct Complex addComplex(struct Complex c1, struct Complex c2) {
21     struct Complex result;
22     result.real = c1.real + c2.real;
23     result.imag = c1.imag + c2.imag;
24     return result;
}
```

Output

Clear

```
Enter first complex number:
Enter real part: 3
Enter imaginary part: 2
Enter second complex number:
Enter real part: 1
Enter imaginary part: 4
First complex number: 3.00 + 2.00
Second complex number: 1.00 + 4.00
Sum of complex numbers: 4.00 + 6.00
Difference of complex numbers: 2.00 - 2.00
==== Code Execution Successful ===
```

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main.c

```
25 }  
26 struct Complex subComplex(struct Complex c1, struct Complex c2) {  
27     struct Complex result;  
28     result.real = c1.real - c2.real;  
29     result.imag = c1.imag - c2.imag;  
30     return result;  
31 }  
32 int main() {  
33     struct Complex c1, c2, sum, diff;  
34  
35     printf("Enter first complex number:\n");  
36     c1 = readComplex();  
37  
38     printf("Enter second complex number:\n");  
39     c2 = readComplex();  
40  
41     sum = addComplex(c1, c2);  
42     diff = subComplex(c1, c2);  
43  
44     printf("\nFirst complex number: ");  
45     writeComplex(c1);  
46  
47     printf("Second complex number: ");  
48     writeComplex(c2);
```

Output

Clear

```
* Enter first complex number:  
Enter real part: 3  
Enter imaginary part: 2  
Enter second complex number:  
Enter real part: 1  
Enter imaginary part: 4  
  
First complex number: 3.00 + 2.00  
Second complex number: 1.00 + 4.00  
  
Sum of complex numbers: 4.00 + 6.00  
Difference of complex numbers: 2.00 - 2.00  
  
== Code Execution Successful ==
```

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main.c

```
33 struct Complex c1, c2, sum, diff;
34
35 printf("Enter first complex number:\n");
36 c1 = readComplex();
37
38 printf("Enter second complex number:\n");
39 c2 = readComplex();
40
41 sum = addComplex(c1, c2);
42 diff = subComplex(c1, c2);
43
44 printf("\nFirst complex number: ");
45 writeComplex(c1);
46
47 printf("Second complex number: ");
48 writeComplex(c2);
49
50 printf("\nSum of complex numbers: ");
51 writeComplex(sum);
52
53 printf("Difference of complex numbers: ");
54 writeComplex(diff);
55
56 return 0;
```

Output

```
Enter first complex number:
Enter real part: 3
Enter imaginary part: 2
Enter second complex number:
Enter real part: 1
Enter imaginary part: 4

First complex number: 3.00 + 2.00
Second complex number: 1.00 + 4.00

Sum of complex numbers: 4.00 + 6.00
Difference of complex numbers: 2.00 - 2.00

==== Code Execution Successful ===
```

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