UNIVERSITY OF ENGINEERING AND TECHNOLOGY TAXILA

SOFTWRAE ENGINEERING

ASSIGNMENT-2

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REG NO: 20-SE-56

COURSE: PROGRAMMING FUNDAMENTAL

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C++ PROGRAMM TO ADD COMPLEX NUMBERS

CODE

```cpp
// C++ program to add two complex numbers

#include <iostream>

#include<conio.h>

using namespace std;



//defining structure for complex numbers say user defined

   struct Complex_num {

     int realPart;

     int imaginaryPart;



};



   int main() {

   //defining two character data types for sign and to run again the pprogramm

     char run,signImag;

   //using do while loop in order to repeated program running

       do{

         Complex_num n1, n2, sum;



         cout << "Enter value of A and B  where A + iB is first complex number\n";

         cin >> n1.realPart >> n1.imaginaryPart;



         cout << "Enter value of A and B  where A + iB is second complex number\n";
```

```cpp
            cin >> n2.realPart >> n2.imaginaryPart;


    //applying simple addition of both real and imaginary parts
            sum.realPart = n1.realPart + n2.realPart;

            sum.imaginaryPart = n1.imaginaryPart + n2.imaginaryPart;


    // Ternary operator for determining imaginary part sign
            signImag = (sum.imaginaryPart > 0) ? '+' : '-' ;
    //Ternary operator used to determine position of sign
            sum.imaginaryPart  =  (sum.imaginaryPart  >  0)  ?  sum.imaginaryPart  :  -
sum.imaginaryPart ;
                cout <<"The Sum is  " << sum.realPart <<signImag << sum.imaginaryPart
<<"i"  <<endl ;
    //if user want to run program again
                cout << "If you want to repeat the programm press any key without 'N'OR'n'
"  << endl;

                cin >> run;



}

                while(!(run == 'N' || run=='n'));



                return 0;

}
```

OUTPUT

```
"C:\CodeBlocks\projects\PF ASSIGNMENT-2\20-SE-56 ASSIGNMENT-2.exe"                        —    □    ×

Enter value of A and B  where A + iB is first complex number
5 -3
Enter value of A and B  where A + iB is second complex number
-4 -6
The Sum is  1-9i


If you want to repeat the programm press any key without 'N'OR'n'
F
Enter value of A and B  where A + iB is first complex number
-2 -66
Enter value of A and B  where A + iB is second complex number
33 -4
The Sum is  31-70i


If you want to repeat the programm press any key without 'N'OR'n'
N

Process returned 0 (0x0)   execution time : 136.013 s
Press any key to continue.
```