ASSIGNMENT NO # 3

Name: Summiya

Subject: Fundamental Of Programming

Applicant ID: BSCSGHR-22-0021

Date: 06-November-2022

Title: Attempt three questions.


```cpp
#include"iostream"
#include"math.h"
using namespace std;
int main(void){
    int a, b;
    int sum, sub, mul, mod;
    float div;

    cout << "Enter any two numbers:\n";
    cin >> a >> b;

    // It will perform all arithmetic operations
    sum = a + b;
    sub = a - b;
    mul = a * b;
    div = (float)a / b;
    mod = a % b;

    // It will print the final output of all arithmetic operations
    cout << endl;
    cout << "SUM:        " << a << " + " << b << " = " << sum << "\n";
    cout << "DIFFERENCE: " << a << " - " << b << " = " << sub << "\n";
    cout << "PRODUCT:    " << a << " * " << b << " = " << mul << "\n";
    cout << "QUOTIENT:   " << a << " / " << b << " = " << div << "\n";
    cout << "MODULUS:    " << a << " % " << b << " = " << mod << "\n";
    return 0;
}
```

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project Classes program 1.cpp

```
1    #include"iostream"
2    #include"math.h"
```

E:\Summiya\program 1.exe

```
Enter any two numbers:
6
9

SUM:         6 + 9 = 15
DIFFERENCE:  6 - 9 = -3
PRODUCT:     6 * 9 = 54
QUOTIENT:    6 / 9 = 0.666667
MODULUS:     6 % 9 = 6

--------------------------------
Process exited after 4.877 seconds with return value 0
Press any key to continue . . .
```

Compiler (4)   Resources   Compile Log   Debug   Find Results   Console   Close

Line: 25 Col: 22 Sel: 0 Lines: 27 Length: 815 Insert   Done parsing in 0.016 seconds

90°F Haze   ENG   1:15 PM 11/6/2022

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project Classes program 1.cpp program 2.cpp

```cpp
1    #include"iostream"
2    #include"math.h"
3    using namespace std;
4    int main(void){
5        char op;
6        int num1, num2;
7
8        cout << "Enter an arithemetic operator(+ - * /)\n";
9        cin >> op;
10       cout << "Enter two numbers as operands\n";
11       cin >> num1 >> num2;
12
13       switch(op) {
14           case '+':
15               cout << num1 << " + " << num2 << " = " << num1+num2;
16               break;
17           case '-':
18               cout << num1 << " - " << num2 << " = " << num1-num2;
19               break;
20           case '*':
21               cout << num1 << " * " << num2 << " = " << num1*num2;
22               break;
23           case '/':
24               cout << num1 << " / " << num2 << " = " << num1/num2;
25               break;
26           default:
27               printf("ERROR: Unsupported Operation");
28       }
29
30       return 0;
31   }
```
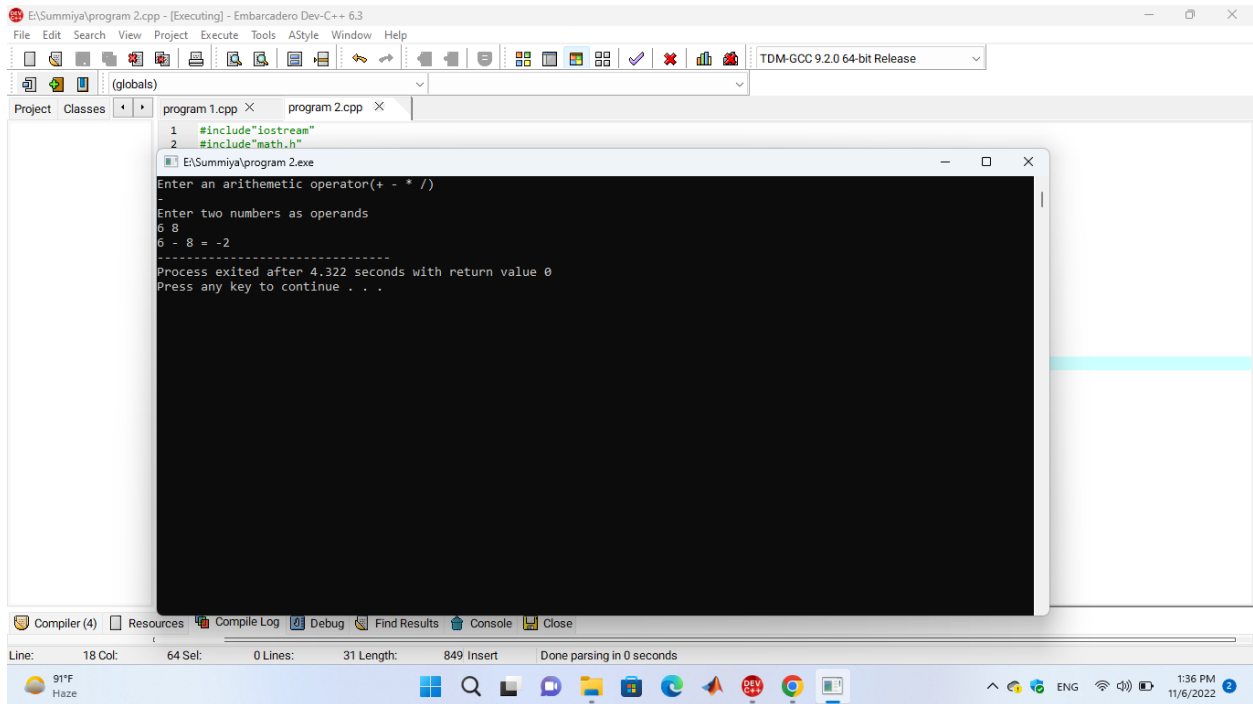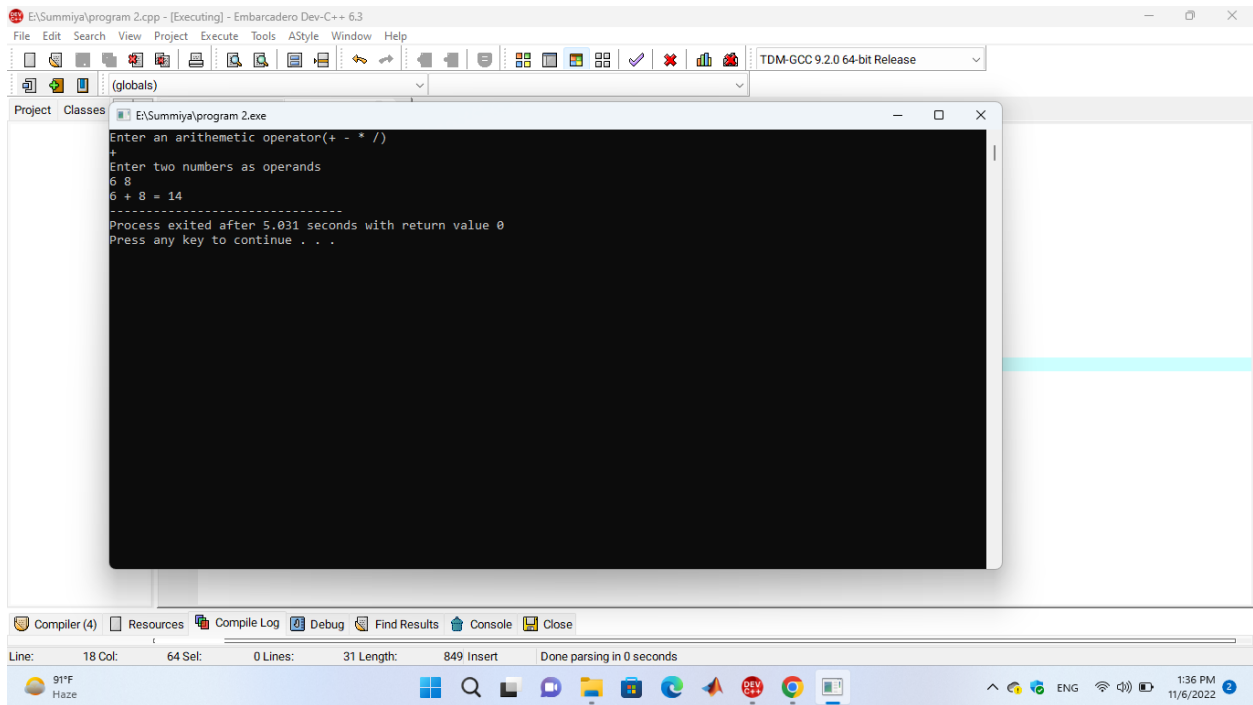
Compiler (4)   Resources   Compile Log   Debug   Find Results   Console   Close

Line: 18 Col: 64 Sel: 0 Lines: 31 Length: 849 Insert   Done parsing in 0 seconds

91°F Haze   ENG   1:35 PM 11/6/2022

Project   Classes

E:\Summiya\program 2.exe

```
Enter an arithemetic operator(+ - * /)
+
Enter two numbers as operands
6 8
6 + 8 = 14
--------------------------------
Process exited after 5.031 seconds with return value 0
Press any key to continue . . .
```

Compiler (4)   Resources   Compile Log   Debug   Find Results   Console   Close

Line: 18 Col: 64 Sel: 0 Lines: 31 Length: 849 Insert   Done parsing in 0 seconds

91°F
Haze

ENG   1:36 PM   11/6/2022

Project   Classes

program 1.cpp   ✕   program 2.cpp   ✕

```
1   #include"iostream"
2   #include"math.h"
```

E:\Summiya\program 2.exe

```
Enter an arithemetic operator(+ - * /)
-
Enter two numbers as operands
6 8
6 - 8 = -2
--------------------------------
Process exited after 4.322 seconds with return value 0
Press any key to continue . . .
```
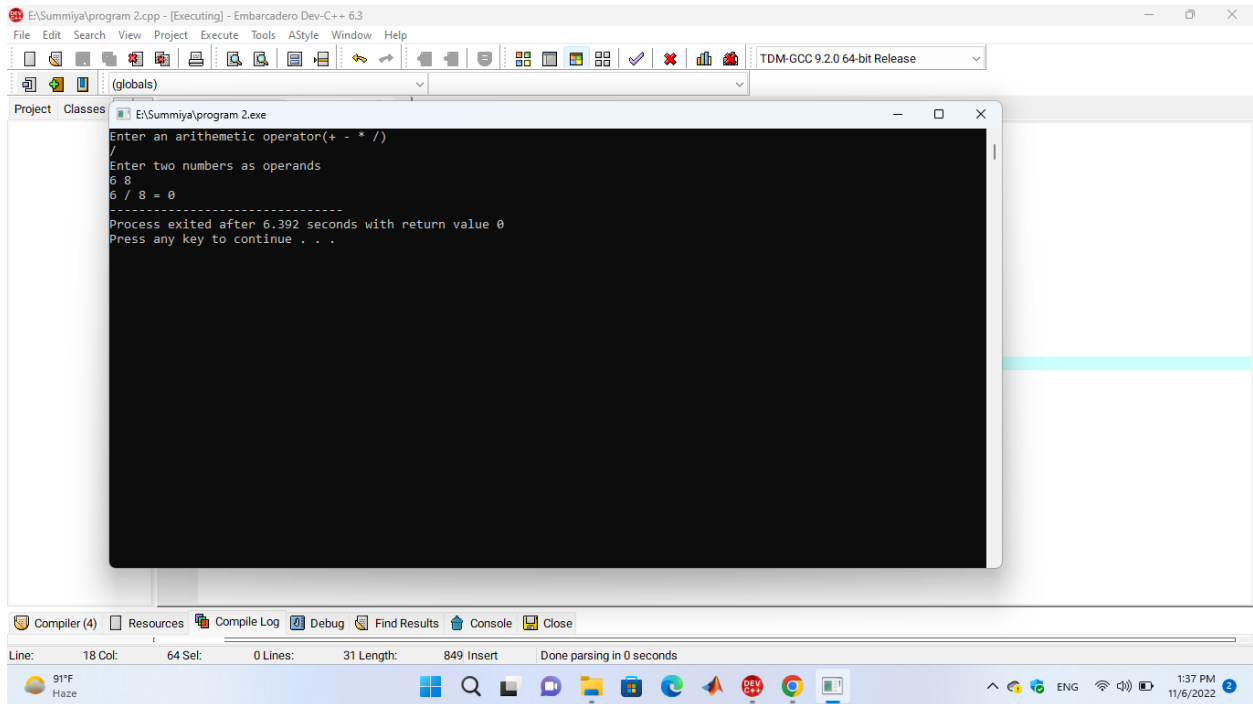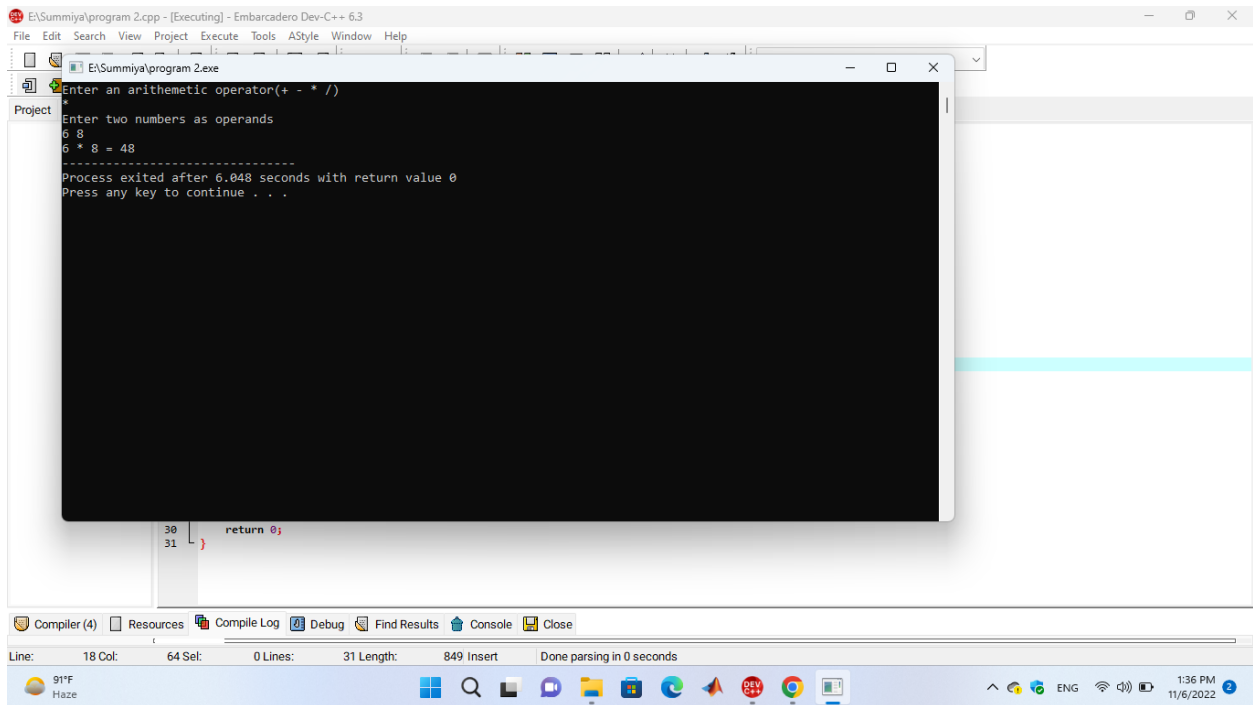
Compiler (4)   Resources   Compile Log   Debug   Find Results   Console   Close

Line: 18 Col: 64 Sel: 0 Lines: 31 Length: 849 Insert   Done parsing in 0 seconds

91°F
Haze

ENG   1:36 PM   11/6/2022

E:\Summiya\program 2.exe

```
Enter an arithemetic operator(+ - * /)
*
Enter two numbers as operands
6 8
6 * 8 = 48
-------------------------------
Process exited after 6.048 seconds with return value 0
Press any key to continue . . .
```

```
30        return 0;
31    }
```

E:\Summiya\program 2.exe

```
Enter an arithemetic operator(+ - * /)
/
Enter two numbers as operands
6 8
6 / 8 = 0
-------------------------------
Process exited after 6.392 seconds with return value 0
Press any key to continue . . .
```

File   Edit   Search   View   Project   Execute   Tools   AStyle   Window   Help

(globals)

Project   Classes   ◄   ►   program 1.cpp ✕   program 2.cpp ✕   program 3.cpp ✕

```cpp
1    #include"iostream"
2    #include"math.h"
3    using namespace std;
4    int main(void){
5
6        float a, b, c, x1, x2, discriminant, realPart, imaginaryPart;
7        cout << "Enter coefficients a, b and c: ";
8        cin >> a >> b >> c;
9        discriminant = b*b - 4*a*c;
10
11       if (discriminant > 0) {
12           x1 = (-b + sqrt(discriminant)) / (2*a);
13           x2 = (-b - sqrt(discriminant)) / (2*a);
14           cout << "Roots are real and different." << endl;
15           cout << "x1 = " << x1 << endl;
16           cout << "x2 = " << x2 << endl;
17       }
18
19       else if (discriminant == 0) {
20           cout << "Roots are real and same." << endl;
21           x1 = -b/(2*a);
22           cout << "x1 = x2 =" << x1 << endl;
23       }
24
25       else {
26           realPart = -b/(2*a);
27           imaginaryPart =sqrt(-discriminant)/(2*a);
28           cout << "Roots are complex and different."  << endl;
29           cout << "x1 = " << realPart << "+" << imaginaryPart << "i" << endl;
30           cout << "x2 = " << realPart << "-" << imaginaryPart << "i" << endl;
31       }
32
33       return 0;
34   }
```

Compiler (4)   Resources   Compile Log   Debug   Find Results   Console   Close

Line: 34   Col: 2 Sel: 0 Lines: 34 Length: 1035 Insert   Done parsing in 0.016 seconds

91°F
Haze
ENG   1:46 PM   11/6/2022

File   Edit   Search   View   Project   Execute   Tools   AStyle   Window   Help

(globals)

Project   Classes

E:\Summiya\program 3.exe

```
Enter coefficients a, b and c: 2
4
6
Roots are complex and different.
x1 = -1+1.41421i
x2 = -1-1.41421i

--------------------------------
Process exited after 5.955 seconds with return value 0
Press any key to continue . . .
```

return 0;

Compiler (4)   Resources   Compile Log   Debug   Find Results   Console   Close

Line: 34   Col: 2 Sel: 0 Lines: 34 Length: 1035 Insert   Done parsing in 0.016 seconds

91°F
Haze
ENG   1:46 PM   11/6/2022