

# Practical # 01

## Qno:1

```
task1.cpp
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      int num1, num2, sum;
6      cout << "Enter first integer: ";
7      cin >> num1;
8      cout << "Enter second integer: ";
9      cin >> num2;
10     sum = num1 + num2;
11     cout << "The sum of " << num1 << " and " << num2 << " is: " << sum << endl;
12
13     return 0;
14 }
15
```

## Output

```
C:\Users\PMLS\Documents\task1.exe
Enter first integer: 5
Enter second integer: 6
The sum of 5 and 6 is: 11
-----
```

## Qno2

```
task1.cpp  task2.cpp
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      float centigrade, fahrenheit;
6      cout << "Enter temperature in Centigrade: ";
7      cin >> centigrade;
8      fahrenheit = (centigrade * 9 / 5) + 32;
9      cout << "The temperature in Fahrenheit is: " << fahrenheit << "°F" << endl;
10     return 0;
11 }
12
```

## Output

```
C:\Users\PMLS\Documents\task 2.exe
Enter temperature in Centigrade: 56.9
The temperature in Fahrenheit is: 134.42°F
-----
```

## Qno 4

```
task1.cpp x task 2.cpp x task 3.cpp x [*] Untitled6 x
4 int main() {
5     char operation;
6     float num1, num2, result;
7     cout << "Enter an operator (+, -, *, /): ";
8     cin >> operation;
9     cout << "Enter two numbers: ";
10    cin >> num1 >> num2;
11    switch(operation) {
12        case '+':
13            result = num1 + num2;
14            cout << "The result is: " << result << endl;
15            break;
16        case '-':
17            result = num1 - num2;
18            cout << "The result is: " << result << endl;
19            break;
20        case '*':
21            result = num1 * num2;
22            cout << "The result is: " << result << endl;
23            break;
24        case '/':
25            if (num2 != 0)
26                result = num1 / num2;
27            else
28                cout << "Error! Division by zero." << endl;
29            break;
30        default:
31            cout << "Invalid operator!" << endl;
32    }
33
34    return 0;
35 }
36
```

## Output

```
C:\Users\PMLS\Documents\task 3.exe
Enter an operator (+, -, *, /): +
Enter two numbers: 7
9
The result is: 16
-----
```

## Qno4

```
task1.cpp ^ task2.cpp ^ task3.cpp ^ task4.c
1  #include <iostream>
2  using namespace std;
3  int main() {
4      for (int i = 1; i <= 6; i++) {
5          for (int j = 1; j <= i; j++) {
6              cout << "*";
7          }
8          cout << endl;
9      }
10     for (int i = 5; i >= 1; i--) {
11         for (int j = 1; j <= i; j++) {
12             cout << "*";
13         }
14         cout << endl;
15     }
16
17     return 0;
18 }
19
```

## Output

C:\Users\PMLS\Documents\task4.exe

```
*
**
***
****
*****
*****
*****
****
***
**
*
```

## Qno5

```
1  #include <iostream>
2  using namespace std;
3
4  class Average {
5  public:
6      void calculateAverage(float num1, float num2, float num3) {
7          float avg = (num1 + num2 + num3) / 3;
8          cout << "The average of the three numbers is: " << avg << end
9      }
10 };
11
12 int main() {
13     float n1, n2, n3;
14     cout << "Enter first number: ";
15     cin >> n1;
16     cout << "Enter second number: ";
17     cin >> n2;
18     cout << "Enter third number: ";
19     cin >> n3;
20     Average avg;
21     avg.calculateAverage(n1, n2, n3);
22     return 0;
23 }
```

## Output

```
Enter first number: 7
Enter second number: 9
Enter third number: 6
The average of the three numbers is: 7.33333
```

## Qno6

```
[*] task last.cpp
1  #include <iostream>
2  using namespace std;
3
4  class Complex {
5  private:
6      float real;
7      float imag;
8
9  public:
10     void setValues(float r, float i) {
11         real = r;
12         imag = i;
13     }
14     Complex add(Complex c) {
15         Complex result;
16         result.real = real + c.real;
17         result.imag = imag + c.imag;
18         return result;
19     }
20     Complex subtract(Complex c) {
21         Complex result;
22         result.real = real - c.real;
23         result.imag = imag - c.imag;
24         return result;
25     }
26     Complex multiply(Complex c) {
27         Complex result;
28         result.real = (real * c.real) - (imag * c.imag);
29         result.imag = (real * c.imag) + (imag * c.real);
30         return result;
31     }
32     void display() {
33         if (imag >= 0)
```

```

34         cout << real << " + " << imag << "i" << endl;
35     else
36         cout << real << " - " << -imag << "i" << endl;
37     }
38 };
39
40 int main() {
41     Complex c1, c2, result;
42     float real1, imag1, real2, imag2;
43     cout <<
44     cin >> real1 >> imag1;
45     c1.setValues(real1, imag1);
46     cout <<
47     cin >> real2 >> imag2;
48     c2.setValues(real2, imag2);
49     result = c1.add(c2);
50     cout << "Sum: ";
51     result.display();
52     result = c1.subtract(c2);
53     cout << "Difference: ";
54     result.display();
55     result = c1.multiply(c2);
56     cout << "Product: ";
57     result.display();
58     return 0;
59 }

```

## Output

```

Enter real and imaginary parts of the first complex number: 5 2i
Enter real and imaginary parts of the second complex number: Sum: 5 + 2i
Difference: 5 + 2i
Product: -1.17701e-38 + 2.94253e-38i

-----
Process exited after 5.265 seconds with return value 0
Press any key to continue . . .

```

Roll no (23BSAI-13)