Fundamentals of programming I

Lab 3

Exercises

Write a C++ program that built simple calculator(+,-,*,/) using Switch case statement. Any other operator is an error.

Write C++ program to check whether a character is lowercase or an uppercase using switch case statement.

Write a C++ program that calculates sum of positive numbers entered by the user until user enters a negative number or zero using while loop.

- Write a C++ program that gets two positive integers numbers X and Y and calculates X^y Use only the addition and the multiplication, using while loop.
- Write a C++ program that prints the factorial of a positive integer number using for loop.

Write five C++ statements to print the asterisk pattern as shown below

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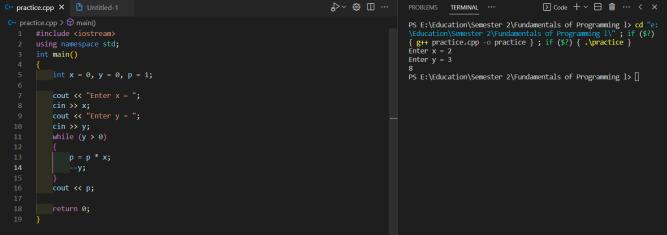
**
```

```
#include <iostream>
      using namespace std;
    □int main() {
          char oper;
          float num1, num2;
          cout << "Enter an operator (+, -, *, /): ";</pre>
          cin >> oper;
          cout << "Enter two numbers: " << endl;</pre>
          cin >> num1 >> num2;
10
          switch (oper) {
11
12
              case '+':
13
                  cout << num1 << " + " << num2 << " = " << num1 + num2;
14
                  break;
15
              case '-':
16
                  cout << num1 << " - " << num2 << " = " << num1 - num2;
17
                  break;
              case '*':
18
                   cout << num1 << " * " << num2 << " = " << num1 * num2;
19
20
                  break:
21
              case '/':
                  cout << num1 << " / " << num2 << " = " << num1 / num2;
22
23
                  break;
24
              default:
25
                  cout << "Error! The operator is not correct";</pre>
26
27
                  break;
28
29
          return 0;
30
```

```
#include<iostream>
      using namespace std;
      int main()
          char ch;
          cout<<" ENTER a character"<<endl;</pre>
          cin>>ch;
          switch (ch)
               case 'A'...'Z':
10
                   cout<<"character "<<ch<<" is uppercase character";</pre>
11
12
                   break;
                   case 'a'...'z':
13
                       cout<<"character "<<ch<<" is lowercase character";</pre>
14
15
                       break;
16
                       default:
17
                            cout<<"invalid character";</pre>
                           break;
18
19
20
          return 0;
```

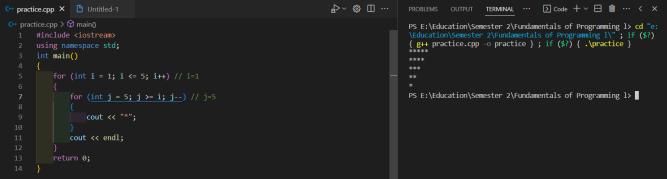
```
#include <iostream>
      using namespace std;
      int main()
          int sum=0, number;
          cout<<"Please Enter a Number\n";</pre>
          cin>>number;
          while (number > 0)
10
               sum = sum + number; // OR sum + = number
11
               cout<<"Please Enter a Number\n";</pre>
12
               cin>>number;
13
          cout<< "The Sum is : " << sum;</pre>
14
15
16
          return 0;
17
18
```

```
#include <iostream>
      using namespace std;
      int main()
           int x = 0, y = 0, power = 1, counter = 1;
           cout<<"Please Enter a Number \n";</pre>
           cin>>x;
           cout<<"Please Enter a Power you want \n";</pre>
           cin>>y;
10
           while (counter <= y)</pre>
11
12
               power = power*x;
13
               counter = counter+1;
14
           cout<<x<<" Power "<<y<<" = "<<power<<end1;</pre>
15
16
           return 0;
17
18
```



```
#include <iostream>
     using namespace std;
      int main()
          int num, fact=1;
          cout<<" Please Enter a number: ";</pre>
          cin>>num;
          for(int counter=1; counter <= num; counter++)</pre>
10
11
               fact = fact * counter;
12
13
          cout<<fact;</pre>
14
15
          return 0;
16
17
```

```
C→ practice.cpp > 分 main()
      #include <iostream>
      using namespace std;
       int main()
           int x = 0, f = 1, counter = 1;
           cout << "Enter x = ";
           cin >> x;
           while (counter <= x)
               f = f * counter;
 11
 12
               counter++;
           cout << f << endl;
 14
           return 0;
```



Thank You!