OBJECT ORIENTED PROGRAMMING WITH C++

ASSIGNMENT WORK-2 **DATE: 30th December 2023**

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1. Write a program to read in two integers and perform the following operations on them: addition, subtraction, multiplication, division, and modulo.

Program:

```
#include<iostream> using namespace
std;
int main(){
  int x,y;      cout<<"Enter two numbers"<<endl;
cin>>x;
 cin>>y;    int sum=x+y;    int diff=x-y;    int
mul=x*y;   int div=x%y;   cout<<"The sum
is "<<sum<<endl;  cout<<"The difference
is "<<diff<<endl;   cout<<"The product is
"<<mul<<endl;
        cout<<"The modulo is "<<div<<endl;
return 0;
}
```

Output:

```
Enter two numbers
5
4
The sum is 9
The difference is 1
The product is 20
The modulo is 1

--------------------------------
Process exited after 3.515 seconds with return value 0
Press any key to continue . . .
```

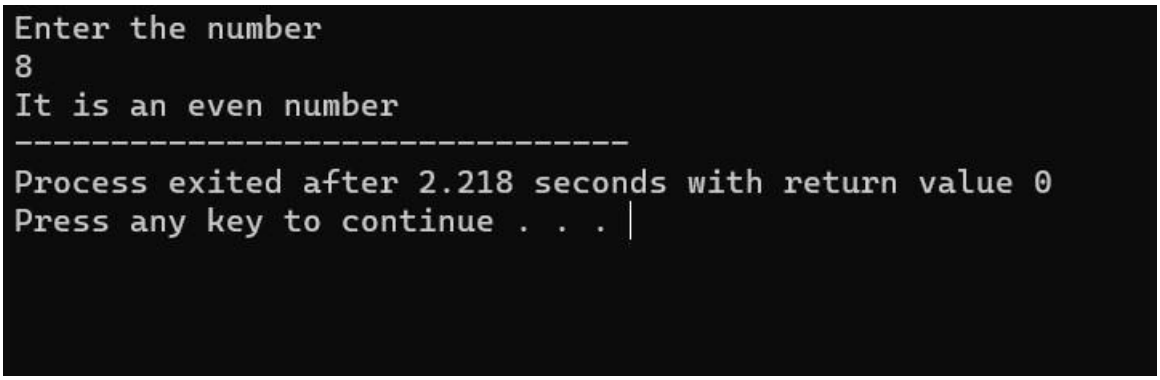
2. Program to determine the integer is odd or even

Program:

```
#include<iostream> using namespace
std;
int main(){
        int n;
        cout<<"Enter the number
"<<endl;      cin>>n;       if(n%2==0){
        cout<<"It is an even number";

 }
        else{
                cout<<"It is an odd number";
        }
}
```

Output:



3. Program to compute the average of three integers

Program:

```
#include<iostream> using namespace
std;
int main(){
int x,y,z;   cout<<"Enter three
numbers"<<endl;   cin>>x;        cin>>y;
cin>>z;
        int avg=(x+y+z)/3;   cout<<"The
averaage is "<<avg;
        return 0;
}
```

Output:

```
Enter three numbers
45
48
50
The averaage is 47
--------------------------------
Process exited after 7.455 seconds with return value 0
Press any key to continue . . .
```

4. Program to check two numbers are equal or not Program:

```
#include<iostream> using namespace std;
int main(){
        int x,y;
    cout<<"Enter the two numbers"<<endl;
cin>>x;
cin>>y;     if(x==y){
            cout<<"They are equal";
        }
        else{
            cout<<"They are not equal";
        }
}
```

Output:

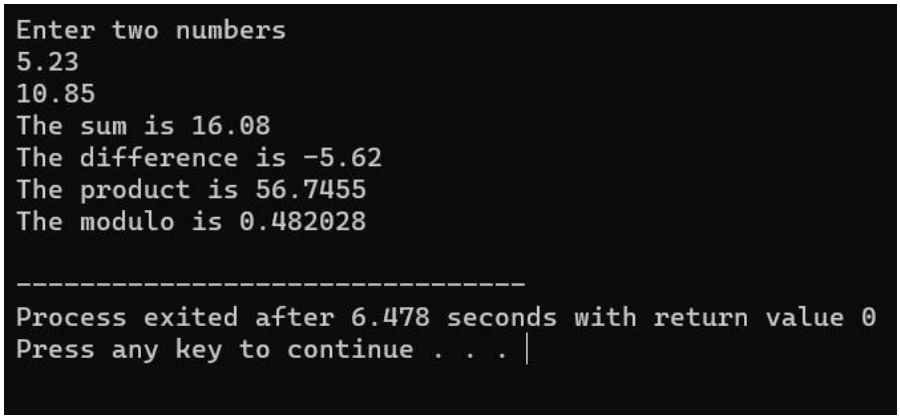
```
Enter the two numbers
5
9
They are not equal
--------------------------------
Process exited after 3.396 seconds with return value 0
Press any key to continue . . .
```

5. Write a program to read in two Floating numbers and perform the following operations on them: addition, subtraction, multiplication, division, and modulo.

Program:

```
#include<iostream>
using namespace std; int
main(){
  float x,y;      cout<<"Enter two numbers"<<endl;
cin>>x;  cin>>y;
        float sum=x+y;      float diff=x-y;      float mul=x*y;
float div=x/y;      cout<<"The sum is
"<<sum<<endl;      cout<<"The difference is
"<<diff<<endl;      cout<<"The product is
"<<mul<<endl;      cout<<"The      modulo      is
"<<div<<endl;  return
0;
}
```

Output:



6. Program to check the character is a vowel or consonant

Program:

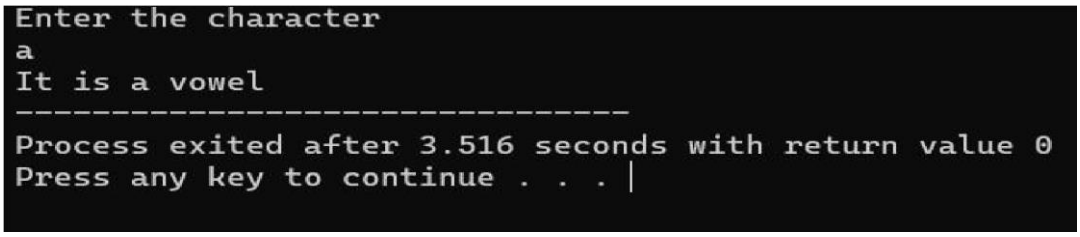
```
#include<cctype>
#include<iostream> using
namespace   std;      int
main(){
        char x;
        cout<<"Enter the character"<<endl;
        cin>>x;
        char y=tolower(x);
```

```
        if(y=='a' || y=='e' || y=='i' || y=='o' || y=='u'){
 cout<<"It is a vowel";
            }
            else{
                cout<<"It is a consonant";

            }


}
```

Output:



7. Program to check the number is positive, negative or zero

Program:

```
#include<iostream> using namespace
std;
int main(){
            int x;
        cout<<"Enter the number";
cin>>x;                 if(x>0){
                cout<<"Positive number";
            }
else if(x<0){    cout<<"Negative number";
            }
            else{
                cout<<"Zero";
 }
}
```

Output:

```
Enter the number-5
Negative number
--------------------------------
Process exited after 4.526 seconds with return value 0
Press any key to continue . . .
```

8. Program to determine which number is greater among two integers

Program:

```
#include<iostream> using namespace
std;
int main(){
        int x,y;
 cout<<"Enter the two numbers"<<endl;   cin>>x;
cin>>y;
        if(x>y){
                cout<<"First number is greater";
        }
        else{
                cout<<"Second number is greater";
        }
}
```

Output:

```
Enter the two numbers
8
5
First number is greater
--------------------------------
Process exited after 4.374 seconds with return value 0
Press any key to continue . . .
```

9. Program to read a floating-number and round it to the nearest integer using the floor an ceil functions.

Program:

```
#include<iostream>
#include<cmath> using
namespace std;
int main(){
        float x;
        cout<<"Enter the number"<<endl;
        cin>>x;
    cout<<"The nearest higher number is "<<ceil(x)<<endl;   cout<<"The
```

nearest lower number is "<<floor(x)<<endl;
}
Output:

```
Enter the number
5.3
The nearest higher number is 6
The nearest lower number is 5

--------------------------------
Process exited after 3.072 seconds with return value 0
Press any key to continue . . .
```

10. Program to
swap two numbers using bitwise XOR operator

Program:

```
#include<iostream> using namespace
std; int main(){
        int x,y;
         cout<<"Enter the numbers "<<endl;
 cin>>x;   cin>>y;    cout<<"Before swapping x = "<<x<<" y =
"<<y<<endl;   x=x^y;   y=x^y;   x=x^y;
         cout<<"After swapping, x = "<<x<<" y = "<<y;

}
```

Output:

```
Enter the numbers
5
6
Before swapping x = 5 y = 6
After swapping, x = 6 y = 5
--------------------------------
Process exited after 8.663 seconds with return value 0
Press any key to continue . . .
```

11. Largest among
three numbers using ternary conditional operator

Program:

```
#include<iostream> using namespace
std; int main(){
        int x,y,z,l;
         cout<<"Enter the three numbers"<<endl;
```

```
 cin>>x;  cin>>y;  cin>>z;  l=x;
        if(y>l){
l=y;    }
        if(z>l){
l=z;    }
            cout<<"The greatest of three numbers is "<<l;
}
```

Output:

```
Enter the three numbers
5
6
7
The greatest of three numbers is 7
--------------------------------
Process exited after 4.732 seconds with return value 0
Press any key to continue . . .
```

12. Program to check two numbers are equal or not using ternary conditional operator

Program:

```
#include<iostream>
#include<string> using
namespace std; int main(){
        int x,y;  string result;
            cout<<"Enter the two numbers "<<endl;
        cin>>x;  cin>>y;
            result=(x==y) ? "They are equal" : "They are not equal";
          cout<<result;

}
```

Output:

```
Enter the two numbers
6
3
They are not equal
--------------------------------
Process exited after 3.357 seconds with return value 0
Press any key to continue . . .
```

13. Program to check the integer is divisible by 3 or not using ternary conditional operator

Program:

```
#include<iostream>
#include<string> using
namespace std;
int main(){
        int x;
    string result;          cout<<"Enter
the number"<<endl;
        cin>>x;
    result=(x%3==0) ? "Divisible by three" : "Not divisible by three";    cout<<result;

}
```

Output:

```
Enter the number
9
Divisible by three
--------------------------------
Process exited after 2.084 seconds with return value 0
Press any key to continue . . .
```

14. Program to print numbers from 1 to 10 using for loop

Program:

```
#include<iostream> using namespace
std;
int main(){
        cout<<"Printing numbers 1 to 10"<<endl;  for(int
i=1;i<11;i++){
                cout<<i<<endl;
 }
}
```

Output:

```
Printing numbers 1 to 10
1
2
3
4
5
6
7
8
9
10

--------------------------------
```

15. Factorial of a number using for loop

Program:

```
#include<iostream>
using namespace std; int
main(){
        int x,fact=1;          cout<<"Enter
the number"<<endl;
cin>>x;        for(int
i=1;i<x+1;i++){
 fact=fact*i;   }
        cout<<"The factorial is "<<fact;
}
```

Output:

```
Enter the number
5
The factorial is 120
--------------------------------
Process exited after 2.349 seconds with return value 0
Press any key to continue . . .
```