

Fundamentals of Programming

Lab Task #5



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|----------------|---------------------------|
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Name: **Muhammad Abdullah Qureshi**
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Batch: **ME-15 Section A**
Lab Task - 5 (Programming Fundamentals)

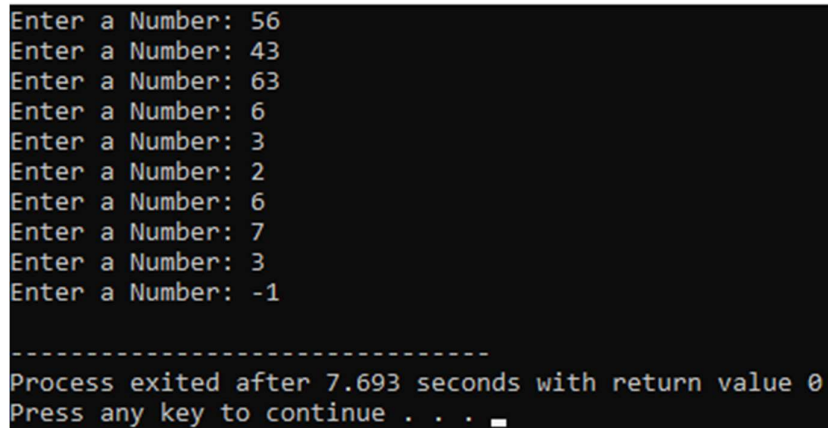
Task # 1:

```
#include <iostream>

using namespace std;

int main(){
    int x=1;
    do{
        cout<<"Enter a Number: ";
        cin>>x;
    }
    while(x>0);
    return 0;
}
```

TASK 1 CONSOLE:



```
Enter a Number: 56
Enter a Number: 43
Enter a Number: 63
Enter a Number: 6
Enter a Number: 3
Enter a Number: 2
Enter a Number: 6
Enter a Number: 7
Enter a Number: 3
Enter a Number: -1
-----
Process exited after 7.693 seconds with return value 0
Press any key to continue . . . _
```

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Task # 2:

```
#include <iostream>

using namespace std;

int main(){
    char repeat, func;
    double num1, num2, res;
    repeat='y';
    do{
        cout<<"Enter Num 1: ";
        cin>>num1;
        cout<<"Enter Num 2: ";
        cin>>num2;
        cout<<"Enter Function (+, -, *, /, %)";
        cin>>func;
        switch(func){
            case '+':
                res=num1+num2;
                break;
            case '-':
                res=num1-num2;
                break;
            case '*':
                res=num1*num2;
                break;
            case '/':
                res=num1/num2;
```

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```
        break;

    case '%':

        int num1i;

        int num2i;

        num1i=num1;

        num2i=num2;

        res=num1i%num2i;

        break;

    default:

        cout<<"Invalid Operation";

        break;

}

cout<<"The Answer is: "<<res<<endl;

cout<<"Press Y to Continue Calculating or Press N for Quitting! ";

cin>>repeat;

repeat=tolower(repeat);

}

while(repeat=='y');

cout<<"Calculation Complete, Quitting Application!";

return 0;

}
```

TASK #2 CONSOLE WINDOW:

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```
Enter Num 1: 43.54
Enter Num 2: 32.43
Enter Function (+, -, *, /, %)+
The Answer is: 75.97
Press Y to Continue Calculating or Press N for Quitting! Y
Enter Num 1: 22.43
Enter Num 2: 45.32
Enter Function (+, -, *, /, %)-
The Answer is: -22.89
Press Y to Continue Calculating or Press N for Quitting! Y
Enter Num 1: 34.53
Enter Num 2: 2
Enter Function (+, -, *, /, %)*
The Answer is: 69.06
Press Y to Continue Calculating or Press N for Quitting! y
Enter Num 1: 43.2
Enter Num 2: 33.2
Enter Function (+, -, *, /, %)/
The Answer is: 1.3012
Press Y to Continue Calculating or Press N for Quitting! y
Enter Num 1: 32.53
Enter Num 2: 3
Enter Function (+, -, *, /, %) %
The Answer is: 2
Press Y to Continue Calculating or Press N for Quitting!
```

Task #3 A:

```
#include <iostream>

using namespace std;

int main(){

    int count=2, sum=0;

    while(count>=2 && count<=100){

        if(count%2==0){

            sum=sum+count;

        }

        count++;

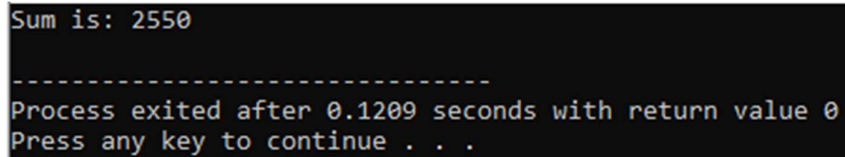
    }

    cout<<"Sum is: "<<sum<<endl;
```

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```
    return 0;  
}
```

TASK #3 a CONSOLE WINDOW



```
Sum is: 2550  
-----  
Process exited after 0.1209 seconds with return value 0  
Press any key to continue . . .
```

Task #3 B:

```
#include <iostream>  
  
#include <math.h>  
  
using namespace std;  
  
int main(){  
    int sum=0, count=0, square=0;  
    while(count>=0 && count<=100){  
        square=pow(count, 2);  
        sum=sum+square;  
        count++;  
    }  
    cout<<"Sum of All Squares is: "<<sum<<endl;  
  
    return 0;  
}
```

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TASK #3 b CONSOLE WINDOW

```
Sum of All Squares is: 338350
-----
Process exited after 0.1081 seconds with return value 0
Press any key to continue . . .
```

TASK #4 a:

```
#include<iostream>

#include<cmath>

using namespace std;

int main(){

    int count=0, ans;

    while(count<=20){

        ans=pow(2, count);

        cout<<"2 to the Power of "<<count<<" is: "<<ans<<endl;

        count++;

    }

    return 0;

}
```

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TASK #4 a CONSOLE WINDOW

```
2 to the Power of 0 is: 1
2 to the Power of 1 is: 2
2 to the Power of 2 is: 4
2 to the Power of 3 is: 8
2 to the Power of 4 is: 16
2 to the Power of 5 is: 32
2 to the Power of 6 is: 64
2 to the Power of 7 is: 128
2 to the Power of 8 is: 256
2 to the Power of 9 is: 512
2 to the Power of 10 is: 1024
2 to the Power of 11 is: 2048
2 to the Power of 12 is: 4096
2 to the Power of 13 is: 8192
2 to the Power of 14 is: 16384
2 to the Power of 15 is: 32768
2 to the Power of 16 is: 65536
2 to the Power of 17 is: 131072
2 to the Power of 18 is: 262144
2 to the Power of 19 is: 524288
2 to the Power of 20 is: 1048576
```

TASK #4 b:

```
#include<iostream>

using namespace std;

int main(){

    int a, b, sum, count=0;

    cout<<"Enter Lower Limit: ";

    cin>>a;

    cout<<"Enter Upper Limit: ";

    cin>>b;

    count=a;

    while(count>=a && count<=b){

        if(count%2==1){

            sum=sum+count;

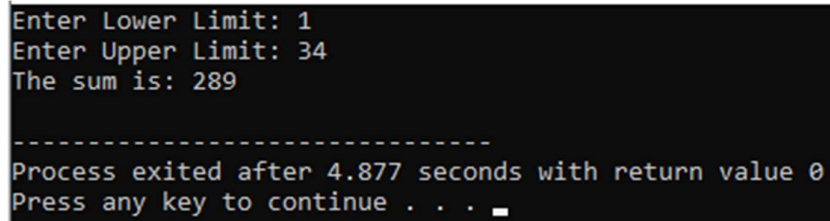
        }

    }
```


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```
        count++;  
    }  
  
    cout<<"The sum is: "<<sum<<endl;  
  
    return 0;  
  
}
```

TASK #4 b CONSOLE WINDOW



```
Enter Lower Limit: 1  
Enter Upper Limit: 34  
The sum is: 289  
  
-----  
Process exited after 4.877 seconds with return value 0  
Press any key to continue . . .
```