



LAB TASK

PROGRAMMING



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OCTOBER 25, 2023

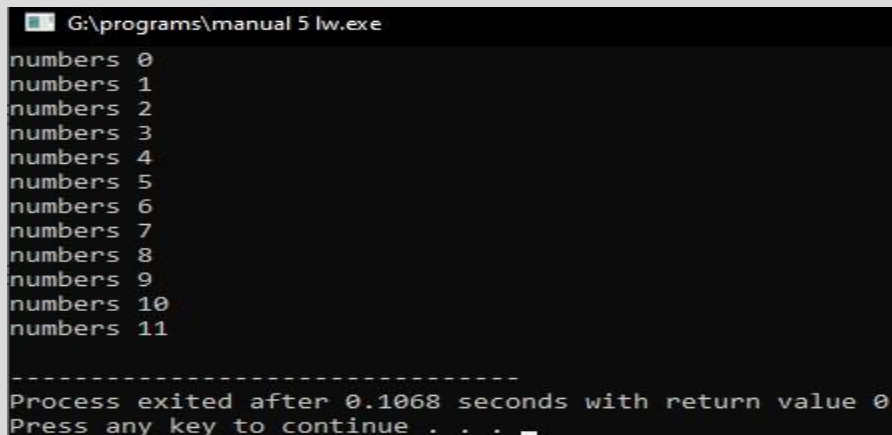
SMME

TASK:01

Convert the following while loop to a do-while loop:

```
int x = 1; while (x > 0) { cout << "enter a number: ";  
cin >> x; }
```

```
#include<iostream>  
#include<math.h>  
using namespace std;  
int main()  
{  
    /*-----  
    * program converted into do while loop  
    */  
    //declare i  
    int i=0;  
    //using do while loop  
    do{  
        //condition  
        cout<<"numbers "<<i<<endl;i++;}  
    while(i<12);  
    //end program
```



```
G:\programs\manual 5 lw.exe  
numbers 0  
numbers 1  
numbers 2  
numbers 3  
numbers 4  
numbers 5  
numbers 6  
numbers 7  
numbers 8  
numbers 9  
numbers 10  
numbers 11  
  
-----  
Process exited after 0.1068 seconds with return value 0  
Press any key to continue . . .
```

TASK:02

Use a do while loop to make a simple calculator for two numbers.
Insert buttons for it to ask again and for termination.

```
//declare all variable integer character used in program
```

```
int a,b,c;
```

```
char oper;
```

```
//using do while loop
```

```
do{
```

```
//enter two number
```

```
cout<<"enter number a"<<endl;
```

```
cin>>a;
```

```
cout<<"enter number b"<<endl;
```

```
cin>>b;
```

```
//enter operation which user want to perform
```

```
cout<<"enter operation(+,-,*,/,%)" <<endl;
```

```
cin>>oper;
```

```
//switch case
```

```
switch (oper)
```

```
{
```

```
case '+':
```

```
cout<<a<<"+"<<b<<"="<<a+b<<endl;
```

```
break;
```

```
case '-':
```

```
cout<<a<<"-"<<b<<"="<<a-b<<endl;
```

```
break;
```

```
case '*':
```

```
cout<<a<<"*"<<b<<"="<<a*b<<endl;
```

```
break;
```

```
case '/':
```

```
cout<<a<<"/"<<b<<"="<<a/b<<endl;
```

```
break;
```

```
case '%':
```

```
cout<<a<<"%"<<b<<"="<<a%b<<endl;
```

```
break;
```

```
}
```

```
//enter return condition
```

```
cout<<"enter 1 for exit"<<endl;
```

```
cin>>c;
```

```
}
```

```
//while condition
```

```
while(c==1);
```

```
return 0;
```

```
//end program
```

```
}
```

```
G:\programs\manual 5 lw.exe
enter number a
5
enter number b
7
enter operation(+,-,*,/,%)
+
5+7=12
enter 1 for return
1
enter number a
20
enter number b
4
enter operation(+,-,*,/,%)
/
20/4=5
enter 1 for return
1
enter number a
12
enter number b
5
enter operation(+,-,*,/,%)
*
12*5=60
enter 1 for return
1
```

TASK:03

Write programs with while or do while loops that compute:

- The sum of all even numbers between 2 and 100 (inclusive)

```
//sum of all even num between 2 to 100
int i=2,k=0;
//using do while loop
do{
    //using if else for condition
    if(i%2==0)
    {
        k=k+i;
    }else{
    }
    i++;
}
//using while loop
while(i<=100);
cout<<"sum of all even number "<<k<<endl;
//end program
```

```
G:\programs\manual 5 lw.exe
sum of all even number  2550
-----
Process exited after 0.1056 seconds with return value 0
Press any key to continue . . .
```

b:The sum of all squares between 1 and 100 (inclusive).

```
//sum of all square between 2 and 100
int j=1,k=0;
do{
    //condition for squaring
    k=k+j*j;
    j++;
} //while loop
while(j*j<=100);
cout<<"sum of number  "<<k<<endl;
//end program
```

```
G:\programs\manual 5 lw.exe
sum of number  385
-----
Process exited after 0.08177 seconds with return value 0
Press any key to continue . . .
```

TASK:04

Write programs with while or do while loops that compute:

- a. All powers of 2 from 20 up to 220

```
// getting power of 2 upto 20
int a=0,z;
//using do while loop
do{
    z=pow(2,a);
    a++;
    cout<<z<<" , "<<endl;
    //power function
}while(a<=30);
//end program
```

```
1 ,
2 ,
4 ,
8 ,
16 ,
32 ,
64 ,
128 ,
256 ,
512 ,
1024 ,
2048 ,
4096 ,
8192 ,
16384 ,
32768 ,
65536 ,
131072 ,
262144 ,
524288 ,
1048576 ,
2097152 ,
4194304 ,
8388608 ,
16777216 ,
33554432 ,
67108864 ,
134217728 ,
268435456 ,
536870912 ,
1073741824 ,

-----
Process exited after 0.08982 seconds with return value 0
Press any key to continue . . .
```

- b. The sum of all odd numbers between a and b (inclusive), where a and b are inputs

```
int a=0,b=0,r,s=0;
cout<<"enter values of a "<<endl;
cin>>a;
cout<<"enter the valu of b"<<endl;
cin>>b;
r=a;
do{
    if(r%2!=0)
    {
        s=r+s;
    }
    else{
    }
    r++;
} while(r<=b);
cout<<"sum of all odd number between a and b "<<s<<endl;
```

```
G:\programs\manual 5 lw.exe
enter values of a
2
enter the valu of b
7
sum of all odd number between a and b 15
-----
Process exited after 4.719 seconds with return value 0
Press any key to continue . . .
```