NATIONAL UNIVERSITY OF SCIENCE & TECNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING

[FUNDAMENTALS OF PROGRAMMING(LAB)]

LAB TASK # 4

SEMESTER # 01

CLASS: - ME-15 [SEC A]

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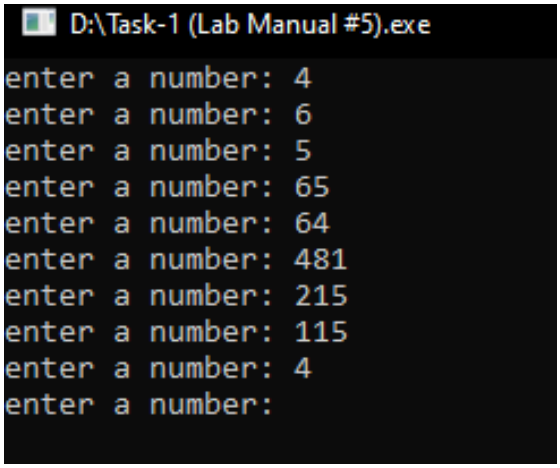
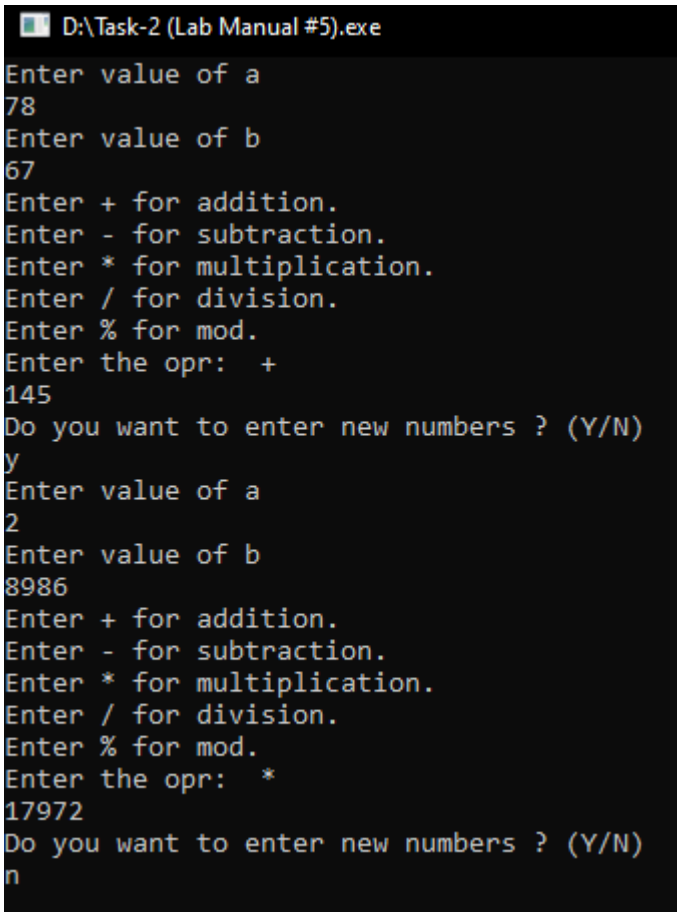
TASK # 1

```
#include <iostream>
using namespace std;
int main()
{
//using do while loop…
int x = 1;

do
{
//input the number from user.
cout << "enter a number: ";

cin >> x;}
//x approaches to infinity here.
while (x > 0);

return 0;
}
```

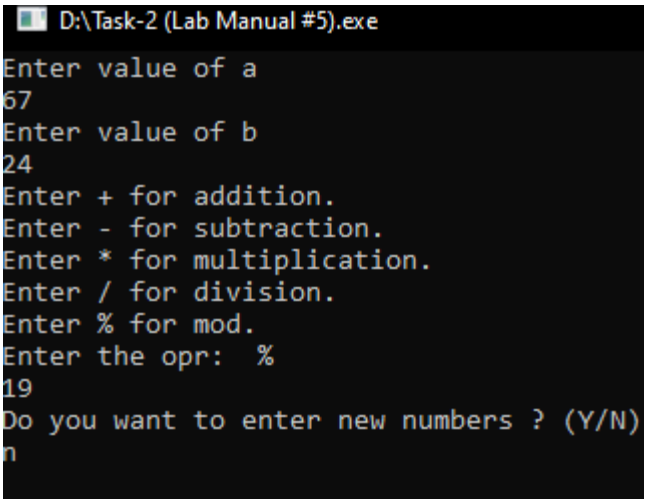


TASK # 2

```
#include <iostream>
using namespace std;
int main()
{
//input the values from user..
int n=1;
int a;
int b;
int addition;
int subtraction;
int multiplication;
int division;
double mod;
char again,opr;


do
{
cout<<"Enter value of a"<<endl;
cin>>a;
cout<<"Enter value of b"<<endl;
cin>>b;

//input operation from user.
cout<<"Enter + for addition."<<endl;
cout<<"Enter - for subtraction."<<endl;
cout<<"Enter * for multiplication."<<endl;
cout<<"Enter / for division."<<endl;
cout<<"Enter % for mod."<<endl;

cout<<"Enter the opr:  ";
cin>>opr;

//using case for diff operations
switch(opr){

//for addition…
case'+':
```

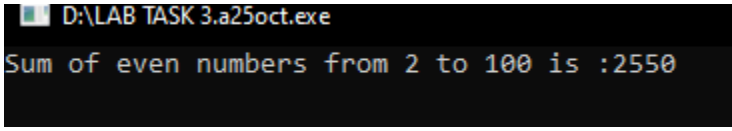


```
addition=a+b;
cout<<addition<<endl;
  break;

//for subtraction…
case '-':
subtraction = a - b;
cout<<subtraction<<endl;
 break;

//for multiplication...
case '*':
multiplication = a * b;
cout<<multiplication<<endl;
break;

//for division…
case '/':
division = a/b;
cout<<division<<endl;
break;

//for mod…
case '%':
mod = a%b;
cout<<mod<<endl;
break;

default:
cout<<"Invalid operation inserted."<<endl;
break;
}

cout<<"Do you want to enter new numbers ? (Y/N)"<<endl;
cin>>again;}

while(again=='Y' || again=='y');

return 0;

}
```



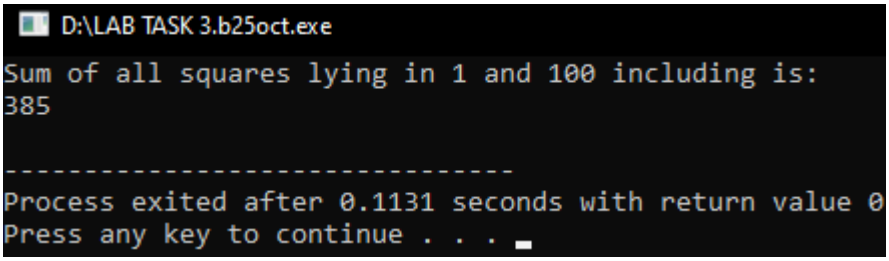
TASK # 3 (a)

```
#include <iostream>
using namespace std;
int main(){

//program for sum of all even in numbers including 2 and 100.
int n=1;
int sum=0;

//largest even number included is 100 .
while(n<=100)

{
if(n%2==0)

sum=sum+n;
n++;

}
//output is....
cout<<"Sum of even numbers from 2 to 100 is :";
cout<< sum <<endl;

return 0;

}
```



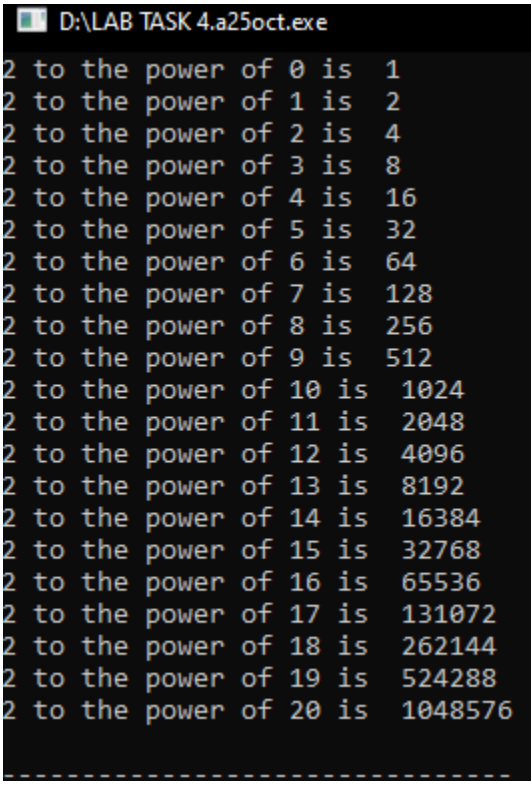
TASK # 3 (b)

```
#include <iostream>
using namespace std;
int main(){

//writting program for sum off squares btw 1-100.
int i=1, m;
int sum = 0;

//there are 10 perfect squares from 1 to 100.
while(i<=10)
{
        if(m=i*i)
sum=(sum+m);
i++;
}

//the answer is__
cout<<"Sum of all squares lying in 1 and 100 including is:"<<endl;
cout<<sum<<endl;

return 0;

}
```



TASK # 4 (a)

```
#include<iostream>

//Here using another library due to involvement of pow function.
#include<cmath>
using namespace std;
int main(){
int i=0, a;

while(i<=20)
{
//Here i represents numbers from 0 to 20.
a=pow(2, i);
cout<<"2 to the power of "<<i<<" is  "<<a<<endl;
//count is increasing.
i++;

}

return 0;}
```



TASK # 4 (b)

```
#include <iostream>
using namespace std;
int main()
{
// Input the numbers from user.
int a, b, i, sum=0;
cout<<"Enter the first number."<<endl;
cin>>a;

cout<<"Enter the second number greater than first ."<<endl;
cin>>b;

//making i equal to a and proceeding until b.
i=a;
while(i>=a&&i<=b)

{
if(i%2==1){
sum=sum+i;}

i++;}

//the output is___
cout<<"The sum of odd numers is : \n";
cout<<sum<<endl;

return 0;

}
```