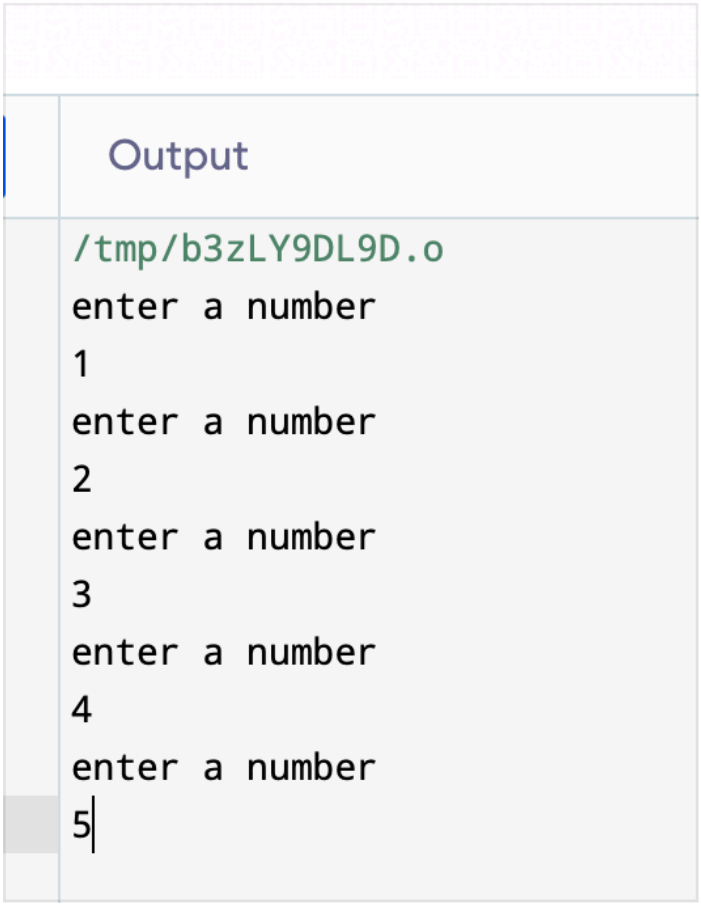
Lab manual # 5

task 1:

```
#include <iostream>
using namespace std;
int main() {
  int x=1;
  do {
     cout<<"enter a number " << endl;
     cin>>x;
  }
  while (x>0) ;
  return 0;
}
```



task 2:

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
  int x, y , ans=0 ,i;
  char operation;
  do {
     cout<<"enter first number"<<endl;
     cin>>x;
     cout<<"enter second number"<<endl;
     cin>>y;
     cout<<"enter operation(+for addition,- for subtaction, * for multiplication, /
for division , % for modulus , ^ for power"<<endl;
     cin>>operation;
     switch (operation) {
        case '+':
        ans=x+y;
        break;
        case '-':
        ans=x-y;
        break;
         case '*':
        ans=x*y;
        break;
         case '/':
         if (y==0) {
            cout<<"invalid denominator"<<endl;
         }
        ans=x/y;
        break;
           case '%':
         if (y==0) {
            cout<<"invalid second number"<<endl;
         }
        ans=x%y;
        break;
        case '^':
        ans=pow(x,y);
```

```
        default:
        cout<<"invalid operation try again"<<endl;
     }
          cout<<ans <<endl;

     cout<<"press 1 to continue and 0 for termination"<<endl;
    cin>>i;
  }
  while (i==1);
  return 0;
}
```

```
enter first number
7
enter second number
8
enter operation(+for addition,- for subtaction, * for multiplication, / for division , % for modulus ,
 ^ for power
+
15
press 1 to continue and 0 for termination
1
enter first number
4
enter second number
8
enter operation(+for addition,- for subtaction, * for multiplication, / for division , % for modulus ,
 ^ for power
\
invalid operation try again
15
press 1 to continue and 0 for termination
0


...Program finished with exit code 0
Press ENTER to exit console.
```

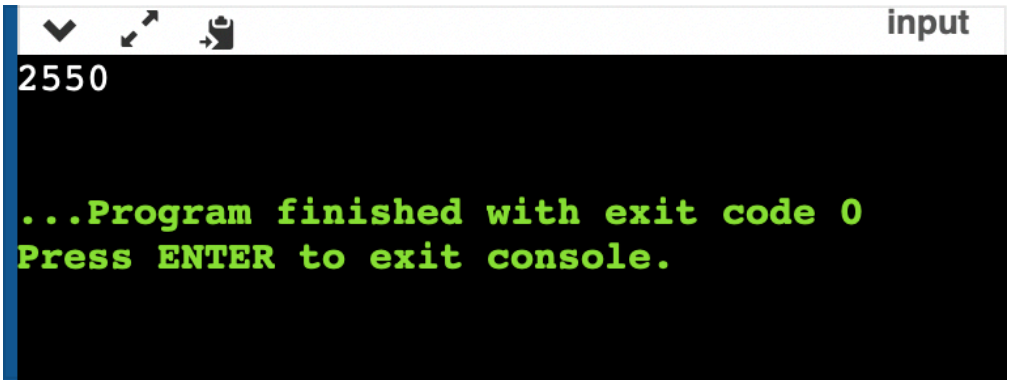
task 3:

a)

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
int x=2,sum=0;
while (x<=100) {
   if (x%2==0) {
     sum =sum+x;
   }
   x++;

}
cout<<sum<<endl;
```

```
 return 0;
}
```



b)

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
int x=1,sum=0;
while (x<=100) {
   sum=sum + x*x;
   x++;

}
cout<<sum<<endl;
 return 0;
}
```

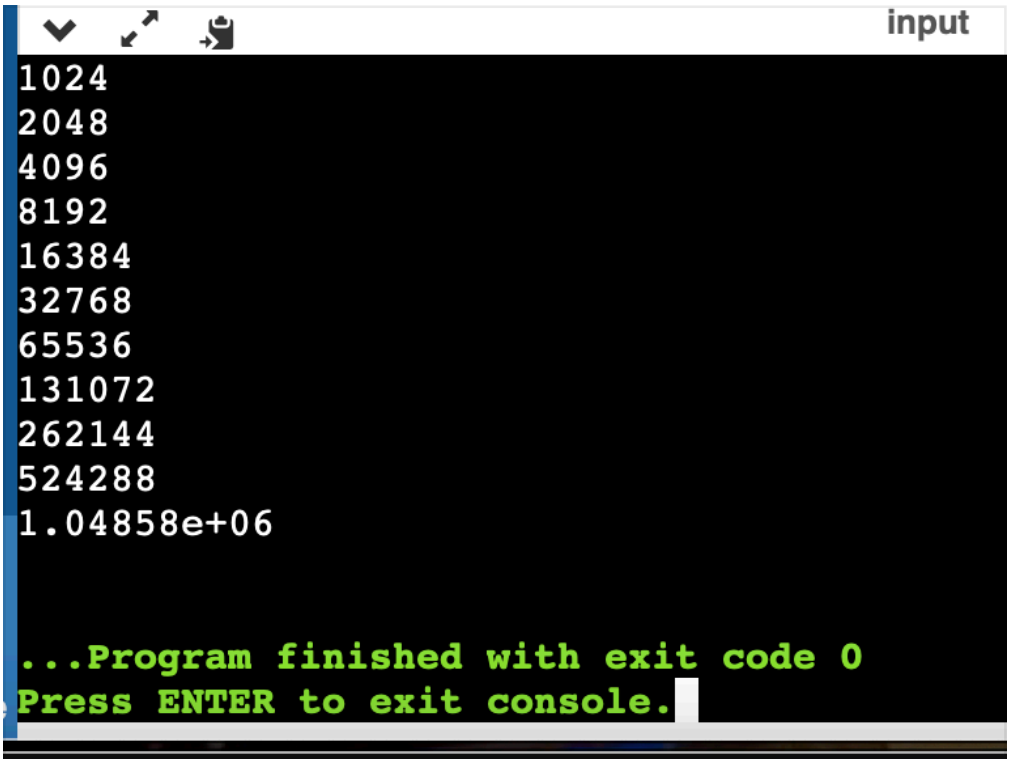
task 4:

a)

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
int x=0;
while (x<=20) {

   cout<<pow(2,x)<<endl;
    x++;
}

  return 0;
}
```



b)

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
int a,b , sum=0 ;
cout<<"enter 1st number"<<endl;
cin>>a;
cout<<"enter 2nd number"<<endl;
cin>>b;

while (a<=b ) {
```

```
    if (a%2==1 ) {
        sum=sum+a;
    }
    a++;
}
cout<<sum<<endl;


  return 0;
}
```