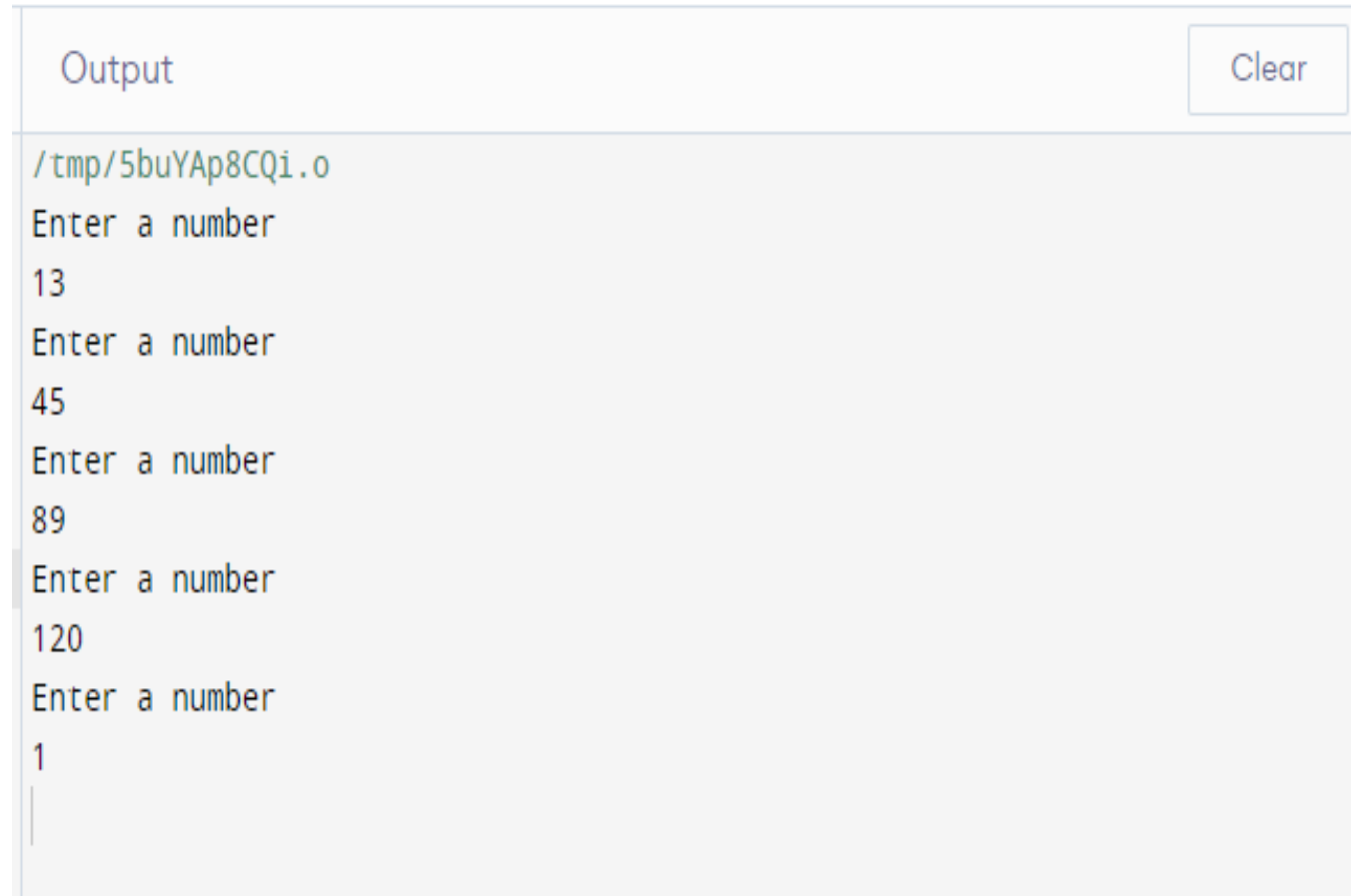


# TASK # 01

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

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



```
Output
/tmp/5buYAp8CQi.o
Enter a number
13
Enter a number
45
Enter a number
89
Enter a number
120
Enter a number
1
```

# 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.

```
#include <math.h>
#include<iostream>
using namespace std;
int main(){
double x,y, power,sum,diff,r,division,product;  char z,repeat;
cout<<"Enter first number"<<endl;cin>>x;cout<<"Enter second
number"<<endl;cin>>y;
cout<<"enter the symbol denoting the operation to be performed"<<endl;
cin>>z;
do{
switch (z){
case '+':
sum = x+y;  cout<<"x+y = "<<sum<<endl;  break;
case '-':
diff= x-y;  cout<<"x-y = "<<diff<<endl;  break;
case '*':
product = x*y;  cout<<"x*y = "<<product<<endl;  break;
```

Output Clear

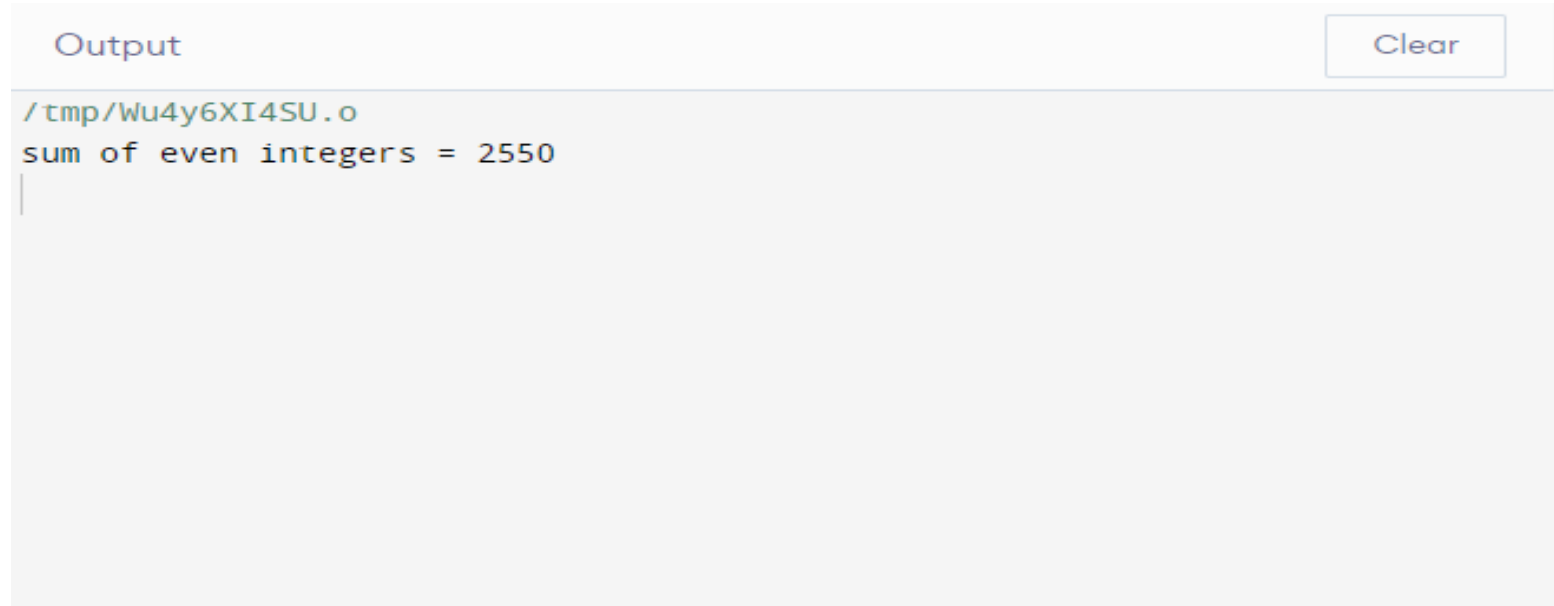
```
/tmp/fxmVbcSQoo.o
Enter first number
3.45
Enter second number
5.78
enter the symbol denoting the operation to be performed
%
x%y = 3.45
do you want to repeat this procedure?
enter y for yes and n for no
y
Enter first number
7.89
Enter second number
5.67
enter the symbol denoting the operation to be performed
^
x^y = 122019
do you want to repeat this procedure?
enter y for yes and n for no
n
```

```
case '/':
    division = x/y;  cout<<"x/y = "<<division<<endl;  break;
case '%':
    r= fmod( x,y);  cout<<"x%y = "<<r<<endl;  break;
case '^':
    double power = pow(x,y);  cout<<"x^y = "<<power<<endl;  break;
}
cout<<"do you want to repeat this procedure?"<<endl;
cout<<"enter y for yes and n for no"<<endl;
cin>>repeat;
cout<<"Enter first number"<<endl;
cin>>x;
cout<<"Enter second number"<<endl;
cin>>y;
cout<<"enter the symbol denoting the operation to be performed"<<endl;
cin>>z;}
while (repeat=='y');
return 0;}
```

# TASK # 03

- Write programs with while or do while loops that compute:
- a. The sum of all even numbers between 2 and 100 (inclusive).
- b. The sum of all squares between 1 and 100 (inclusive).

```
#include <iostream>
using namespace std;
int main (){
    int x,sum;
    x=2;  sum=0;
    while (x<101){
        sum=sum+x;
        x= x+2;}
    cout<<"sum of even integers = "<<sum<<endl;
    return 0;
}
```

A screenshot of a C++ program's output window. The window has a title bar that says "Output" and a "Clear" button in the top right corner. The output text shows the file path "/tmp/Wu4y6XI4SU.o" followed by the line "sum of even integers = 2550".

```
Output
/tmp/Wu4y6XI4SU.o
sum of even integers = 2550
```

```
#include <iostream>
#include <math.h>
using namespace std;
int main (){
    double x,power,sum;
    x=1;  sum=0;
    while (x<=100){
        power=pow(x,2);
        sum = sum+power;
        x= x+1;
    }
    cout<<"sum of squares = "<<sum<<endl;
    return 0;
}
```

Output

Clear

```
/tmp/Wu4y6XI4SU.o
sum of squares = 338350
```

# TASK # 04

- Write programs with while or do while loops that compute:
- a. All powers of 2 from 20 up to 220.
- b. The sum of all odd numbers between a and b (inclusive), where a and b are inputs.

```
#include <iostream>
#include <math.h>
using namespace std;
int main (){
    double x,power;
    x=0;
    while(x<=20){
        power=pow(2,x);
        cout<<power<<" ";
        x=x+1;
    }
    return 0;
}
```

Output Clear

```
1
2
4
8
16
32
64
128
256
512
1024
2048
4096
8192
16384
32768
65536
131072
262144
524288
1.04858e+06
```

```
#include <iostream>
using namespace std;
int main (){
    int x,y,sum;
    sum=0;
    cout<<"Enter first odd integer"<<endl;
    cin>>x;
    cout<<"Enter second odd integer"<<endl;
    cin>>y;
    while (x<=y){
        sum=sum+x;
        x=x+2;}
    cout<<"sum of odd integers = "<<sum;
    return 0;
}
```

Output

Clear

```
/tmp/Wu4y6XI4SU.o
Enter first odd integer
5
Enter second odd integer
27
sum of odd integers = 192
```