Fundamentals of Programming

Lab Task: 5

Name: Malik Haseeb

Section: B

Roll no: 468333

Submitted to : Sir M. Affan

Task:1

Code:

```cpp
#include <iostream>

using namespace std;

int main() {

  int x=1;

  do {

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

    cin>>x;

  }

  while (x>0) ;

  return 0;

}
```
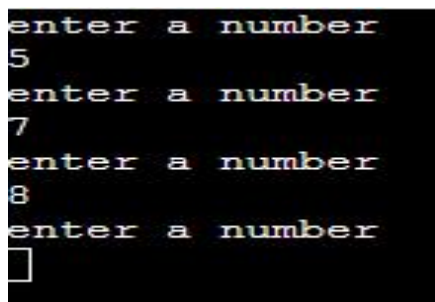
Output:

```
enter a number
5
enter a number
7
enter a number
8
enter a number
```

Task: 2

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
  float x, y , ans=0 ,i;
  char operation;
  do {
    cout<<"Enter the First number"<<endl;
    cin>>x;
    cout<<"Enter the Second number"<<endl;
    cin>>y;
    cout<<"Enter any Arithemetic operation."<<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<<"0 can't be a denominator."<<endl;
       }
       ans=x/y;
       break;
       default:
       cout<<"invalid operation try again"<<endl;
    }
        cout<<ans <<endl;

    cout<<"Press 1 to continue or 0 to end operation."<<endl;
    cin>>i;
  }
  while (i==1);
  return 0;
}
```

Output:

```
Enter the First number
98
Enter the Second number
23
Enter any Arithemetic operation.
/
4.26087
Press 1 to continue or 0 to end operation.
```

Task: 3(a)

Code:

```cpp
#include <iostream>

using namespace std;

int main() {

int x=2,sum=0;

while (x<=100) {

    if (x%2==0) {

      sum =sum+x;

    }

    x++;

}

cout<<"The sum of all even numbers between 2 and 100 is: "<<sum<<endl;

  return 0;

}
```
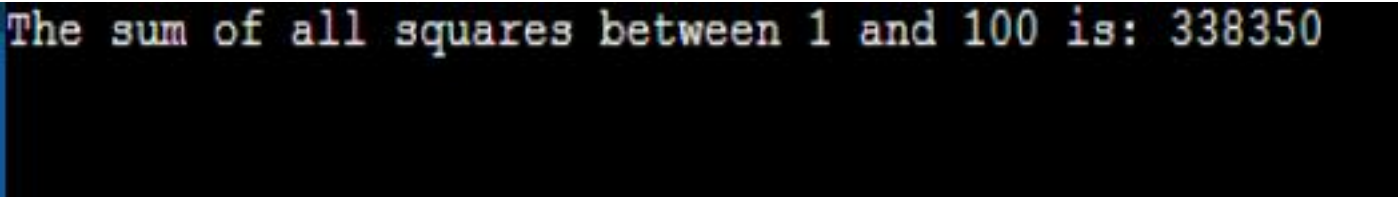
Output:

```
The sum of all even numbers between 2 and 100 is: 2550
```

Task: 3(b)

Code:

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

    }
  cout << "The sum of all squares between 1 and 100 is: " << sum << endl;
  return 0;
}
```

Output:

```
The sum of all squares between 1 and 100 is: 338350
```

Task: 4(a)

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

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

  return 0;
}
```

Output:

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

Task: 4(b)

```cpp
#include <iostream>

using namespace std;
Int main ()
{
  int x, y, sum = 0;
  cout << "Enter the First number." << endl;
  cin >> x;
  cout << "Enter the Second number." << endl;
  cin >> y;

  while (x <= y){
     if (x % 2 == 1){
         sum = sum + x;}
       x++;}
  cout << "The sum of all odd numbers between these numbers is: " << sum << endl;

  return 0;}
```

Output:

```
Enter the First number.
12
Enter the Second number.
89
The sum of all odd numbers between these numbers is: 1989
```