

Loop

1. Write a program that keeps number (integer) until that user enters -1. (use while or do- while loop)

```
#include <iostream>
using namespace std;
```

```
int main () {
int x;
```

```
    while (x != -1) {    /* when user enter -1 than stop loop */
        cout<<"Enter a integer Number =";
        cin>>x;
    }
```

```
    return 0;
}
```

```
/* using For loop */
```

```
#include <iostream>
using namespace std;
```

```
int main () {
int i, x;
x=1;
```

```
    for( i=0; x != -1; i=i+1 ){    /* when user enter -1 than stop loop */
        cout<<"Enter a integer Number =";
        cin>>x;
    }
```

```
    return 0;
}
```

**3. Write a program that display following number sequence.
Make sure there is no extra comma. 0,1,2,3,....99**

**/* Write a program that display following number sequence.
Make sure there is no extra comma. 0,1,2,3,....99
when we want stop , than we use this tipe of code*/**

```
#include <iostream>
using namespace std;

int main(){
    int i;

    for ( i=0; i<99; i=i+1 ){

        cout<<i<< ", " ;
    }

    cout<<i;

    return 0;
}
```

4. Write a program that display following number sequence.

Make sure there is no extra comma.2,2.25,2.50,2.75..4

```
/* Write a program that display following number sequence.  
Make sure there is no extra comma.2,2.25,2.50,2.75..4  
Must use float this is 0.25  
when we want stop , than we use this tipe of code*/
```

```
#include <iostream>  
using namespace std;
```

```
int main () {  
float i;
```

```
for ( i=2; i<4; i=i+0.25 ){
```

```
    cout<<i<< ",";  
}
```

```
    cout<<i;
```

```
return 0;  
}
```

**6. Write a program that display following number sequence.
Make sure there is no extra comma. 1,3,5,7...73**

```
/* Write a program that display following number sequence.  
Make sure there is no extra comma.1,3,5,7...73  
when we want stop , than we use this tipe of code*/
```

```
#include <iostream>  
using namespace std;
```

```
int main () {  
int i;
```

```
    for ( i=1; i<73; i=i+2 ){
```

```
        cout<<i<< ",";  
    }
```

```
        cout<<i;
```

```
return 0;
```

```
}
```

7. Take two integers from the user and display all the integers between them.

INPUT	OUTPUT
5 10	5, 6, 7, 8, 9, 10
19 27	19, 20, 21, 22, 23, 24, 25, 26, 27
0 0	0

```
/* Take tow integer from user and display all the integer between them */
```

```
#include <iostream>
using namespace std;

int main () {
    int n,m,i;

    cout<<"Enter Start Number=";
    cin>>n;
    cout<<"Enter End Number=";
    cin>>m;
    for ( i=n; i<m; i=i+1 ){

        cout<<i<<" ";
    }

    cout<<i;

    return 0;
}
```

8. Take two integers from the user and display all the odd numbers between them.

INPUT	OUTPUT
4 15	5, 7, 9, 11, 13, 15
8 8	
46 56	47, 49, 51, 53, 55

```
/* Take two integers from user and display all the ODD between them */
```

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

```
int n,m,i;
cout<<"Enter First Number =";
cin>>n;
cout<<"Enter End Number =";
cin>>m;
```

```
for(i=n; i<=m-2; i=i+1){ /* which number divisible (i<=m-2;)this number */
    if(i%2!=0){
```

```
        cout<<i<<" ";
```

```
    }
}
```

```
for(i=m-1; i<=m; i=i+1){
    if(i%2!=0){
        cout<<i;
    }
}
```

```
return 0;
}
```

9. Write a program that takes a positive number from the user and displays that many asterisks *.

INPUT	OUTPUT
7	* * * * *
10	* * * * *

```
/* Take one integer from user and display all the * between them */
```

```
#include <iostream>
using namespace std;
```

```
int main () {
int n,i;
```

```
    cout<<"Enter The Number how many stare you want=";
    cin>>n;
```

```
    for ( i=1; i<=n; i=i+1 ){
```

```
        cout<<" * ";
    }
```

```
    return 0;
}
```

```
/* Write a program that keeps number (integer) until that user enters 0.  
And display how many times loop work*/
```

```
#include <iostream>  
using namespace std;  
  
int main () {  
    int i, x;  
    x=1;  
  
    for ( i=0; x != 0; i=i+1 ){ /* when user enter 0 than stop loop */  
        cout<<"Enter an integer Number =";  
        cin>>x;  
    }  
    cout<<"You enter "<<(i-1) <<" Number of integers";  
    return 0;  
}
```

```
/* Many number when you want to sum in the loop */
```

```
#include <iostream>  
using namespace std;  
  
int main () {  
    int i, x, sum;  
    x = 1;  
    sum = 0;  
  
    for( i=0; x>0; i=i +1 ){ /* when user enter 0 and Negative than stop loop */  
        cout<<"Enter an integer Number =";  
        cin>>x;  
  
        sum = sum + x;  
    }  
    sum = sum - x;  
  
    cout<<"You enter "<<(i-1)<<" Number of integer"<<endl;  
    cout<<"The sum is ="<<sum;  
    return 0;  
}
```



```
/* Write a program that display the average of number */
```

```
#include <iostream>
using namespace std;
```

```
int main () {
int i,x;
float sum, average;
```

```
    x = 1;
```

```
    sum = 0;
```

```
    for( i=0; x!=0; i=i +1 ){        /* when user enter 0 than stop loop */
```

```
        cout<<"Enter an integer Number =";
```

```
        cin>>x;
```

```
        sum = sum + x;
```

```
    }
```

```
    average=sum / (i-1);
```

```
    cout<<"You enter "<<(i-1)<<" Number of integer"<<endl;
```

```
    cout<<"The Average is ="<<average;
```

```
    return 0;
```

```
}
```

10. Write a program that display the following series and computes its sum.

Display all the terms and sum. Make sure there is no extra plus sign at the end 1+2+3+...+100

```
#include <iostream>
using namespace std;

int main () {
    int i, sum;

    sum = 0;

    for ( i=1; i<100; i=i +1 ){    /* when user enter 0 and Negative than stop loop */

        cout<<i<< " + ";
        sum = sum + i;
    }
    cout<<i;

    cout<<" = "<<sum;    sum +i;
    return 0;
}
```

11. Write a program that display the following series and computes its sum.

Display all the terms and sum. Make sure there is no extra plus sign at the end 2+4+8+...+1024

```
#include <iostream>
using namespace std;

int main () {
    int i, sum;

    sum = 0;

    for ( i=2; i<1024; i=i * 2 ){    /* when user enter 0 and Negative than stop loop */

        cout<<i<< " + ";
        sum = sum + i;
    }
    cout<<i;

    cout<<" = "<<sum;

    return 0;
}
```

12. Write a program that counts the number of digits in a given integer.

INPUT	OUTPUT
579	Number of digits: 3
0	Number of digits: 1
1784012	Number of digits: 7

```
#include <iostream>
using namespace std;

int main() {

    int num,i;
    cout << "Enter any number : ";
    cin >> num;

    while(num>=10) {

        num=num/10;
        i=i+1;

    }

    cout<<"Number of digits: "<<i+1;

    return 0;
}
```

13. Write a program that takes a number (integer) from the user and displays the reversed number.

INPUT	OUTPUT
528	Reversed number: 825
25	Reversed number: 52
1	Reversed number: 1

```
#include <iostream>
using namespace std;
```

```
int main () {
```

```
    int x,r;
    cout << "Enter any number : ";
    cin >> x;
    cout<<"Reversd Number:";
```

```
    while(x>=10){
```

```
        r= x % 10;
```

```
        x= x / 10;
```

```
        cout<<r;
```

```
    }
```

```
    cout<<x;
```

```
    return 0;
```

```
}
```

14. Take two integers from the user and display all the numbers between them that are divisible by 7.

INPUT	OUTPUT
10 50	14, 21, 28, 35, 42, 49
1 5	
0 7	0, 7

```
/* Take two integer number from user and display all the number divisible by 7 */
```

```
#include <iostream>
using namespace std;
```

```
int main () {
int n,m,i;
```

```
    cout<<"Enter First Number =";
    cin>>n;
    cout<<"Enter End Number =";
    cin>>m;
```

```
    for ( i=n; i<=m-7; i=i+1 ){ /* which number divisible (i<=m-7;)this number */
    if(i%7==0){ /* if n=10 m=50 i<=50-7 =43 loop work from 43 */
```

```
        cout<<i<<" ";
    }
}
```

```
for ( i=m-6; i<=m; i=i+1 ){ /* i=50-6 =44 loop work from 44 */
if(i%7==0){
```

```
    cout<<i;
}
}
```

```
return 0;
}
```

15. Write a program that takes 10 numbers from the user and find their average (you must use a loop).

INPUT	OUTPUT
1 2 3 4 5 6 7 8 9 10	Average: 5
23 54 65 11 0 92 55 75 41 82	Average: 49.8

```
#include <iostream>
using namespace std;
```

```
int main () {
int i,x;
float sum, average;
    x = 1;
    sum = 0;
```

```
    for ( i=0; x<10; i=i +1 ){
        cout<<"Enter an integer Number =";
        cin>>x;
```

```
        sum = sum + x;
```

```
    }
```

```
    average=sum / (i-1);
```

```
    cout<<"The Average is ="<<average;
return 0;
}
```

Here use $i < 10$