

Example 1:

```
i = 0 ;
while ( i < 10 )
{
    cout << i ;
    i ++ ;
}
```

Output:

0 1 2 3 4 5 6 7 8 9

Example 2:

```
i = 0 ;
while ( i < 10 )
{
    cout << i ;
    i += 2 ;
}
```

Output:

0 2 4 6 8

Example 3: Write a C++ program to read 10 numbers and print only even numbers.

```
#include<iostream.h>
# include<conio.h>
main ( )
{
    int x, i ;
    i = 0 ;
    while ( i < 10 )
    {
        cin >> x ;
        if ( x % 2 == 0 )
            cout << x << " is even \n" ;
        i = i + 1 ;
    }
    getch ( ) ;
}
```

Output:

1 3 5 6 8 8 2 9 0 6
6 is even
8 is even
8 is even
2 is even
0 is even
6 is even

Example 4: Write a C++ program to find the summation of the following series.

$$\text{sum} = 1 + 3 + 5 + 7 + \dots + 99.$$

```
#include<iostream.h>
# include<conio.h>
main ( )
{
int i, sum = 0 ;
    i = 1 ;
    while ( i <= 99 )
    {
        sum = sum + i ;
        i = i + 2 ;
    }
    cout << "sum=" << sum ;
getch ( ) ;
}
```

Output:
sum=2500

Example 5: Write a C++ program to find the summation of the following series.

$$\sum_{i=1}^n i^2 = 1^2 + 2^2 + 3^2 + \dots + n^2$$

```
#include<iostream.h>
# include<conio.h>
main ( )
{
int i=1, n, sum = 0 ;
cout << "enter positive number" ;
    cin >> n ;
    while ( i <= n )
    {
        sum += i * i ;
        i ++ ;
    }
    cout << "sum is: " << sum << endl ;
getch ( ) ; }
```

Output:
enter positive number 3
sum is:14

Example 6: Write a C++ program to read a sequence of numbers and print them, the program stops when the number equal to zero.

```
#include<iostream.h>
# include<conio.h>
main ( )
{
int x ;
cout << " Enter number" ;
cin >> x ;
while ( x != 0 )
{
cout << "x is" << "\t" << x << " \n" ;
cin >> x ;
}
getch ( ) ;
}
```

Output:

```
Enter number
4
x is  4
9
x is  9
7
x is  7
3
x is  3
0
```

Example 7: Write a C++ program to read the value of a and b and find the sum of the series.

$$s = \frac{2}{(ab)} + \frac{4}{(ab)^2} + \frac{6}{(ab)^3} + \frac{8}{(ab)^4} + \dots + \frac{20}{(ab)^{10}}$$

```
#include<iostream.h>
# include<conio.h>
main ( )
{
int i, a, b ;
float s = 0, k ;
cin >> a >> b ;
i = 2 ; k = a * b ;
while ( i <= 20 )
{
s = s + i / k ;
k = k * ( a * b ) ;
i += 2 ;
}
cout << s ;
getch ( ) ; }
```

Output:

```
a=1 ,b=1
s=110
```