Iteration statements (loops)

for

Syntax of for loop

for(initialization; condition ; increment/decrement)

{

  C++ statement(s);

}

EX 1:

for(int i=1; i>=2; i++){

    cout<<"Value of variable i is: "<<i<<endl;

  }

EX 2:

 for (int n=10; n>0; n--) {

  cout << n << ", ";

 }

Jump statements

The break statement

Example:

for (int n=10; n>0; n--)

 {

  cout << n << ", ";

  if (n==3)

  {

   cout << "countdown aborted!";

   break;

  }

}

The continue statement

Example:

for (int n=10; n>0; n--) {

   if (n==5) continue;

   cout << n << ", ";

 }

Exercises

Write a program in C++ to print a square pattern with # character.

```
# # # #
# # # #
# # # #
# # # #
```

int size;

   cout << "\n\n Print a pattern like square with # character:\n";

   cout << "--\n";

   cout << " Input the number of characters for a side: ";

   cin >> size;

   for (int row = 1; row <= size; ++row)

   {

     for (int col = 1; col <= size; ++col)

     {

       cout << "# ";

     }

     cout << endl;

Write a program in C++ to display the pattern like right angle triangle using an asterisk. Go

*

**

```
***
****
*****
```

```cpp
int i,j,rows;
  for(i=1;i<=5;i++)
  {
        for(j=1;j<=i;j++)
            cout<<"*";
        cout<<endl;
  }
```

Write a program in C++ to display the pattern like right angle triangle with number.

```
1
12
123
1234
12345
```

```cpp
for(i=1;i<=rows;i++)
  {
        for(j=1;j<=i;j++)
            cout<<k++<<" ";
        cout<<endl;
  }
```

Write a program in C++ to make such a pattern like right angle triangle using number which will repeat the number for that row.

```
1
```

22

333

4444

55555

```
for(i=1;i<=5;i++)
  {
        for(j=1;j<=i;j++)
            cout<<i;
        cout<<endl;
  }
```

-Find sum of 10 numbers.

-Search for odd numbers between 1 to 21and print them.