# For Loop

for Loop is used to iterate a variable over a sequence(i.e., list or string) in the order that they appear.

**Syntax:**

1. for <variable> in <sequence>:

**Output:**

1. 1
3. 7
5. 9

**Explanation:**

* Firstly, the first value will be assigned in the variable.
* Secondly all the statements in the body of the loop are executed with the same value.
* Thirdly, once step second is completed then variable is assigned the next value in the sequence and step second is repeated.
* Finally, it continues till all the values in the sequence are assigned in the variable and processed.

**Program to display table of Number:**

1. num=2
2. for a in range (1,6):
3. print  num \* a

**Output:**

1. 2
3. 4
5. 6
7. 8
9. 10

**Program to find sum of Natural numbers from 1 to 10.**

1. sum=0
2. for n in range(1,11):
3. sum+=n
4. print sum

**Output:**

1. 55

## Nested Loops

Loops defined within another Loop is called Nested Loop.

When an outer loop contains an inner loop in its body it is called Nested Looping.

**Syntax:**

1. for  <expression>:
2. for <expression>:
3. Body

**eg:**

1. for i in range(1,6):
2. for j in range (1,i+1):
3. print i,
4. print

**Output:**

1. >>>
2. 1
3. 2 2
4. 3 3 3
5. 4 4 4 4
6. 5 5 5 5 5
7. >>>

**Explanation:**

For each value of Outer loop the whole inner loop is executed.

For each value of inner loop the Body is executed each time.

**Program to print Pyramid:**

1. for i in range (1,6):
2. for j in range (5,i-1,-1):
3. print "\*",
4. print

**Output:**

1. >>>
2. \* \* \* \* \*
3. \* \* \* \*
4. \* \* \*
5. \* \*
6. \*