For Loop in Python

- The for loop in Python is used to iterate over a sequence (list, tuple, string) or other iterable objects.

- For loop should be used when you need to do something for some predefined number of steps.

For Loop in Python

- Syntax:

    for iterating_var in sequence:

    statements(s)

- Here, iterating_val is the variable that takes the value of the item inside the sequence on each iteration.

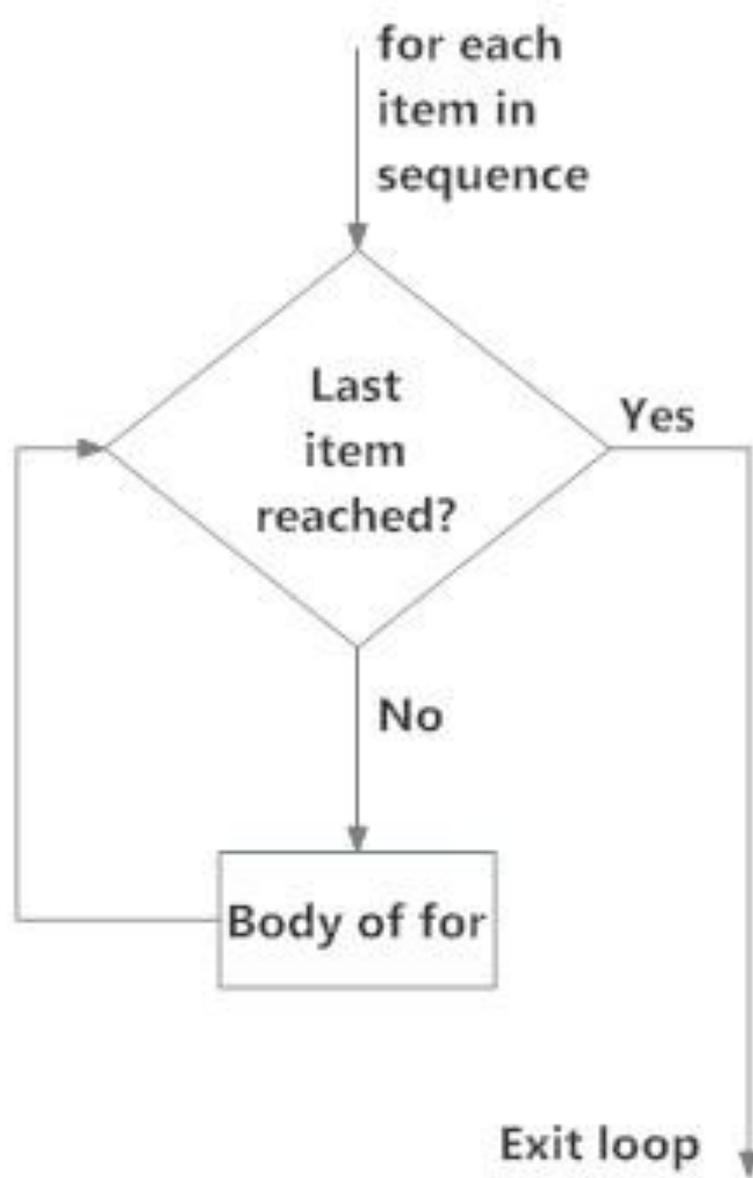- Loop continues until we reach the last item in the sequence.

for each
item in
sequence

Last
item
reached?

Yes

No

Body of for

Exit loop

Fig: operation of for loop

Example of for loop

```
languages = ["C", "C++", "Perl", "Python"]
for x in languages:
    print(x)
```

The range() function

- We can generate a sequence of numbers using range() function. range(10) will generate numbers from 0 to 9 (10 numbers).

- We can also define the start, stop and step size as range(start, stop, step size). Step size defaults to 1 if not provided.

- To force this function to output all the items, we can use the function list()

For Loop in Python

- We can use the range() function in for loops to iterate through a sequence of numbers.

- It can be combined with the len() function to iterate though a sequence using indexing.