



# For loops



By Jayesh Karvir



# Introduction

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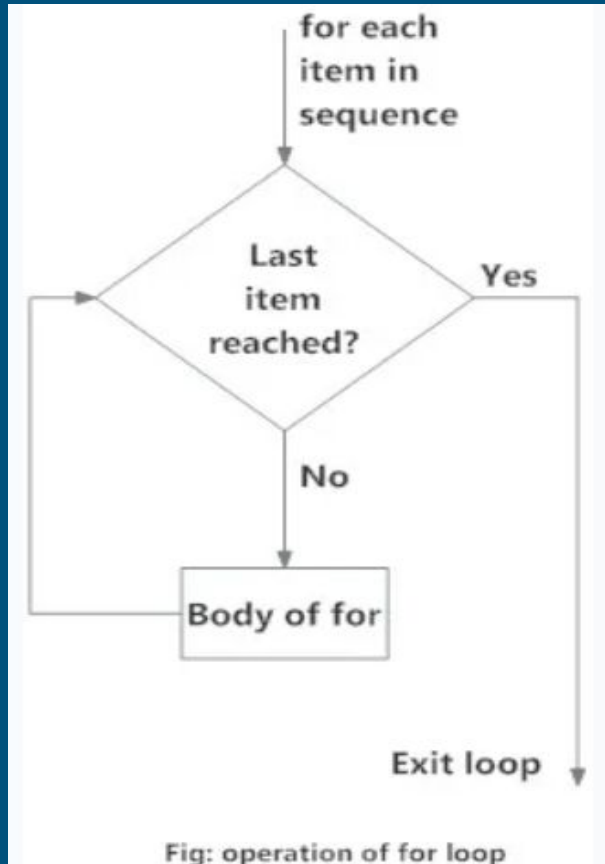
The for loop in Python is used to iterate over a sequence (list, tuple, string) or other iterable objects. Iterating over a sequence is called traversal.

## Syntax

```
for val in sequence:  
    loop body
```

# Flowchart

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# Example

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```
# for loop
string_var = "Lets iterate over this."
for i in string_var:
    print(i)
print("We are outside the loop now.")
```

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We are outside the loop now.
```

# range() function

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- `range(n)` means iterate from 0 to  $n - 1$
- `range(m, n)` means iterate from  $m$  to  $n - 1$
- `range(m, n, k)` means iterate from  $m$  to  $n - 1$  and increment by  $k$  in every iteration  $\Rightarrow m, m + k, m + 2k, m + 3k$  and so on...
- If  $m < n$ , you can use positive  $k$  to iterate in ascending order
- If  $m > n$ , you can use negative  $k$  to iterate in descending order

# References

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[https://www.w3schools.com/python/ref\\_func\\_range.asp](https://www.w3schools.com/python/ref_func_range.asp)

<https://www.programiz.com/python-programming/for-loop>