



FOR LOOP

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WHAT IS LOOP

- A loop is a programming structure that repeats a block of code until a specified condition is met.
- Used to automate repetitive tasks and reduce redundancy.



TYPES OF LOOPS

- While Loop
- For Loop
- Do-While Loop




FOR LOOP

A for loop is used for iterating over a sequence (that is either a list, a tuple, a dictionary, a set, or a string).

This is less like the for keyword in other programming languages, and works more like an iterator method as found in other object-orientated programming languages.




With the for loop we can execute a set of statements, once for each item in a list, tuple, set etc.





ALGORITHM



1. Start
 2. Input Step: Take an integer input i from the user.
 3. Loop Setup: Use a for loop with a range from 1 to $i+1$: The `range(1, i+1)` ensures the loop runs from 1 to i
 4. Loop Execution: For each value `num` in the range and print value of `num`.
 5. Loop Ends: When all numbers from 1 to i are printed.
 6. Stop.
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EXAMPLE AND OUTPUT



The image shows the Programiz Python Online Compiler interface. At the top, there is a logo and the text "Programiz Python Online Compiler" and "Programiz PRO". Below this, there are tabs for "main.py" and "Output". The code editor shows the following code:

```
1 i=int(input("Enter the number: "))
2 for num in range(1,i+1):
3     print(num)
```

At the bottom right, there is a blue "Run" button.



The image shows the Programiz Python Online Compiler interface with the "Output" tab selected. The output displays the result of the code execution:

```
Enter the number: 10
1
2
3
4
5
6
7
8
9
10

=== Code Execution Successful ===
```




Thank You