
python

Sample Program 8

- Write a program to find whether the given number is PRIME or NOT.

  Ex : Input : n = 23

  Output : PRIME NUMBER

Sample Program 8

```
n=int(input("Enter a number  : "))
i=1
count=0
while n>=i:
    if n%i==0:
        count=count+1
    i=i+1
if count==2:
    print("PRIME NUMBER")
else:
    print("NOT A PRIME NUMBER")
```

Sample Program 9

- Write a program to display the multiplication table for the number entered by the user.

  Ex : Input : n = 2

  Output : 2 * 1 = 2

  2 * 2 = 4

  2 * 3 = 6

  " " " "

  2 * 10 = 20

Sample Program 9

```
n=int(input("Enter the table number : "))
i=1
while i<=10:
    print(n," * ", i , " = ", n*i)
    i=i+1
```

Sample Program 10

- Write a program to display the staircase model based on the number of rows entered by the user.

  Ex : Input : n = 5

  Output :

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

```
n=int(input("Enter no. of rows : "))
i=1
while n>=1:
    print("* "*n)
    n=n-1
```

Range function

- The range() function returns a sequence of numbers, starting from 0 by default and increments by 1 by default and stops before the specified number. The syntax of range function is

  range(begin, end, step)

- Begin - first value in the range; if omitted the default value is 0
- End - one past the last value in the range; end value may not be omitted
- Step - the amount of increment, if omitted the default increment is 1
- Begin, End and Step values must be integers, floating values and other values are not allowed.

Range function

range(10) → 0,1,2,3,4,5,6,7,8,9

range(1, 10) → 1,2,3,4,5,6,7,8,9

range(1, 10, 2) → 1,3,5,7,9

range(10, 0, -1) → 10,9,8,7,6,5,4,3,2,1

range(10, 0, -2) → 10,8,6,4,2

range(2, 11, 2) → 2,4,6,8,10

range(-5, 5) → −5,−4,−3,−2,−1,0,1,2,3,4

range(1, 2) → 1

range(1, 1) → (empty)

range(1, -1) → (empty)

range(1, -1, -1) → 1,0

range(0) → (empty)

For loop statement

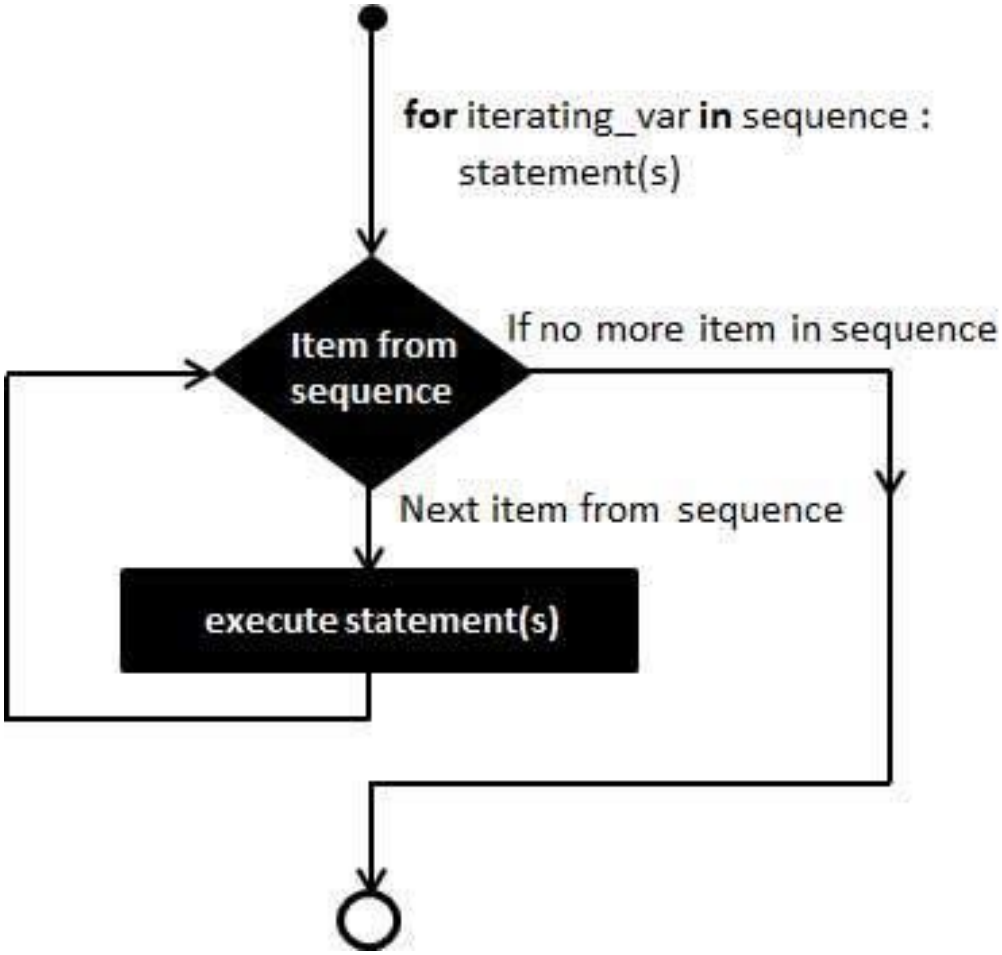
- The for loop in Python is used to iterate over a sequence (list, tuple, strubg) or other iterable objects. The syntax of range function is

```
for Val in Sequence:
    Statement(s)
```

- 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. The statement(s) of for loop is separated from the rest of the code using indentation.

For loop statement



For loop statement

- For loop with range function examples

```
n=range(1, 10)
for i in n:
    print(i, end=' ')

for i in range(0, 10, 2):
    print(i, end=' ')

for i in range(1,10,2):
     print(i, end=' ')
```

Sample Program 11

- Write a program to display either EVEN or ODD numbers based on the user input using for loop. Display the numbers in the same line.

  Ex : Input : n = 10 , Even = Yes/No

  Output : 2 4 6 8 10

```
n=int(input("Enter a number :"))
d=int(input("Enter 0 for EVEN, 1 for ODD :"))
for i in range(0, n+1):
    if d==0:
        if i%2==0:
            print(i, end=' ')
    else:
        if i%2==1:
            print(i, end=' ')
```

Sample Program 12

- Write a program to display first N PRIME numbers based on the user input. Display the numbers in the same line.

  Ex : Input : n = 6

  Output : 2 3 5 7 11 13

Sample Program 12

```
n=int(input("Enter no. of PRIME NUMBERS to display : "))
i=1;a=1
while i<=n:
    j=1; count=0
    while j<=a:
        if a%j==0:
            count=count+1
        j=j+1
    if count==2:
        print(a, end=' ')
        i=i+1
    a=a+1
```

Sample Program 12

- Write a program to display first N Fibonacii numbers based on the user input. Display the numbers in the same line.

  Ex : Input : n = 7

  Output : 0 1 1 2 3 5 8

```
n=int(input("Enter no. of PRIME NUMBERS to display : "))
num1=0;num2=1;sum=0;i=1
while i<=n:
    print(num1)
    sum=num1+num2
    num2=num1
    num1=sum
    i=i+1
```