

## Lab 7

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**Date :-** 01-08-2023

**Enrollment No :-** 92200133030

**CO1: To write, test, and debug simple Python programs**

**CO2: To implement Python programs with conditional, loops and functions**

### Task 1:- Abstract Character From String Using For Loop

#### Python Code:

```
A = "Aryan Langhanoja"
for var in A :
    print(var,end="")
print("")
for i in range(0,len(A)) :
    print(A[i],end="")
```

#### Output:

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:;
-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.pytho
launcher' '52435' '--' 'D:\Aryan\Semester - 3\Programming With Python\La
Aryan Langhanoja
Aryan Langhanoja
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> █
```

### Task 2:- Print Character Using end

#### Python Code:

```
A = "Aryan Langhanoja"
for i in range(0,len(A)) :
    print(A[i],end = " * ")
print("\n")
```

#### Output:

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:;
-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.pytho
launcher' '52373' '--' 'D:\Aryan\Semester - 3\Programming With Python\L
A * r * y * a * n *   * L * a * n * g * h * a * n * o * j * a *
```

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**Task 3:- Using Loops In A List****Python Code:**

```
list1 = ["A","R","Y","A","N"]
for i in list1 :
    print(i)
print("\n")
```

**Output:**

```
A
R
Y
A
N
```

**Task 4:- Find The Average of numbers in a List****Python Code:**

```
list2 = [1,6,7,8,34,56,78,4346,3432987]
for i in range(0,len(list2)) :
    sum = 0
    sum = sum + list2[i]
print(f"Avergae of {list2} is {sum/len(list2)}")
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab -6> d:;
b-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.python
\launcher' '50506' '--' 'D:\Aryan\Semester - 3\Programming With Python\La
Avergae of [1, 6, 7, 8, 34, 56, 78, 4346, 3432987] is 381443.0
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7>
```

**Task 5:- Use Loop In Tuple****Python Code:**

```
tuple1 = (1,2,345464,74543566,255456,89435)
for i in range(0,len(tuple1)) :
    sum = 0
    sum = sum + tuple1[i]
print(f"Avergae of {tuple1} is {sum/len(tuple1)}")
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab -6> d:;
b-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.python
\launcher' '50506' '--' 'D:\Aryan\Semester - 3\Programming With Python\La
Avergae of [1, 6, 7, 8, 34, 56, 78, 4346, 3432987] is 381443.0
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7>
```

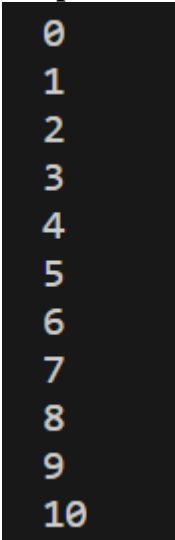
**Output:**

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**Task 6:- Use range in for loop****Python Code:**

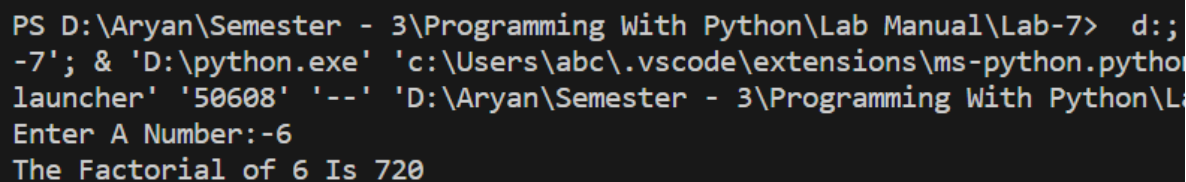
```
for i in range(0,11) :  
    print(i)
```

**Output**

```
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

**Task 7:- Find The Factorial****Python Code:**

```
num = int(input("Enter A Number:-"))  
ans = 1  
for i in range(1,num + 1) :  
    ans = ans * i  
print(f"The Factorial of {num} Is {ans}")
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:;  
-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.pytho  
launcher' '50608' '--' 'D:\Aryan\Semester - 3\Programming With Python\L  
Enter A Number:-6  
The Factorial of 6 Is 720
```

**Task 8:- List Using Range****Python Code:**

```
list1 = ["A","R","Y","A","N"]  
for i in range(0,len(list1)) :  
    print(list1[i])
```

**Output:**

```
PS D:\Aryan\Semester - 3\Progr  
-7'; & 'D:\python.exe' 'c:\Use  
launcher' '50636' '--' 'D:\Ary  
A  
R  
Y  
A  
N
```

**Task 9:- Member Operator****Python Code:**

```
list3 = ["Meta","Apple","Amazon","Netflix","Google"]  
for i in range(0,len(list3)) :  
    print(f"The Letters of {list3[i]} Is :-")  
    for j in range(0,len(list3[i])) :  
        print(list3[i][j])
```

**Output:**

```
The Letters of Google Is :-  
G  
o  
o  
g  
l  
e
```

**Task 10:- For loop using else****Python Code:**

```
for i in range(0,10,1) :  
    if(i > 0) :  
        print(i)  
    else :  
        print("Loop Is Terminated")
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:;
-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.python
launcher' '50713' '--' 'D:\Aryan\Semester - 3\Programming With Python\La
0
1
2
3
4
5
6
7
8
9
```

### Task 11:- Nested Loops

#### Python Code:

```
list3 = ["Meta","Apple","Amazon","Netflix","Google"]
for i in range(0,len(list3)) :
    print(f"The Letters of {list3[i]} Is :-")
    for j in range(0,len(list3[i])) :
        print(list3[i][j])
```

#### Output:

```
PS D:\Aryan\Semester - 3\Programmi
-7'; & 'D:\python.exe' 'c:\Users\A
launcher' '56907' '--' 'D:\Aryan\S
The Letters of Meta Is :-
M
e
t
a
The Letters of Apple Is :-
A
p
p
l
e
The Letters of Amazon Is :-
A
m
a
z
o
n
```

```
The Letters of Netflix Is :-
N
e
t
f
l
i
x
The Letters of Google Is :-
G
o
o
g
l
e
```

---

**Task 12:- for loop using break****Python Code:**

```
for i in range(0,10,1) :  
    if(i > 5) :  
        print(i)  
        break
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:; cd 'd:\Aryan\Semester -  
-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.python-2023.14.0\pythonFiles\1  
launcher' '56956' '--' 'D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7\01-08-202  
6  
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7>
```

**Task 13:- for loop using continue****Python Code:**

```
for i in range(0,10,1) :  
    if(i > 5) :  
        continue  
    else :  
        print(i)
```

**Output:**

```
PS D:\Aryan\Semester - 3\Progra  
-7'; & 'D:\python.exe' 'c:\User  
launcher' '57110' '--' 'D:\Arya  
0  
1  
2  
3  
4  
5
```

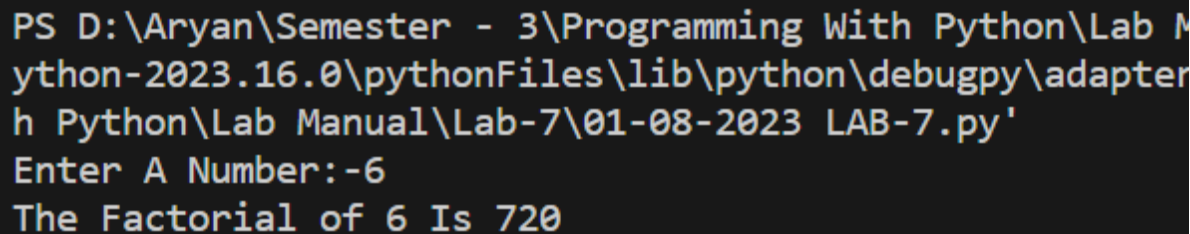
## Post Lab

**Task 1:-** Write a program in Python to display the Factorial of a number.

**Python Code:**

```
num = int(input("Enter A Number:-"))
ans = 1
for i in range(1,num + 1) :
    ans = ans * i
print(f"The Factorial of {num} Is {ans}")
```

**Output:**



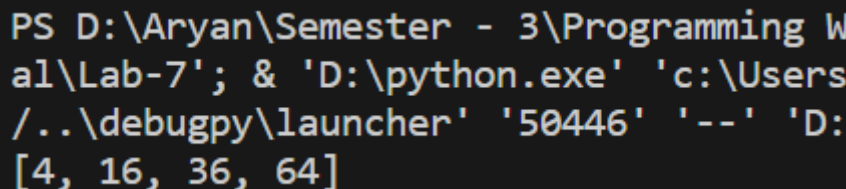
```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7\01-08-2023 LAB-7.py
Enter A Number:-6
The Factorial of 6 Is 720
```

**Task 2:-** Write a program that appends the square of each number to a new list.

**Python Code:**

```
list4 = [2,4,6,8]
square = []
for i in list4 :
    square.append(i**2)
print(square)
```

**Output:**



```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7\01-08-2023 LAB-7.py
D:\python.exe
[4, 16, 36, 64]
```

**Task 3:-** WAP to separate positive and negative number from a list.

**Python Code:**

```
list5 = [9,-5,4,-83,45,78,-45,-345,342345,-54,-224552]
pos = []
neg = []
```

```
for i in list5 :
    if i >= 0 :
        pos.append(i)
    else :
        neg.append(i)
print(pos)
print(neg)
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\
al\Lab-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extension
..\debugpy\launcher' '50482' '--' 'D:\Aryan\Semester - 3\Pr
[9, 4, 45, 78, 342345]
[-5, -83, -45, -345, -54, -224552]
```

**Task 4:-** Write a program to filter even and odd number from a list.

**Python Code:**

```
list6 = range(1,101)
even = []
odd = []
for i in list6 :
    if i % 2 == 0 :
        even.append(i)
    else :
        odd.append(i)
print(even)
print(odd)
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:; cd '
al\Lab-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.pyth
..\debugpy\launcher' '50526' '--' 'D:\Aryan\Semester - 3\Programming With P
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40,
8, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100]
[1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39,
, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99]
```

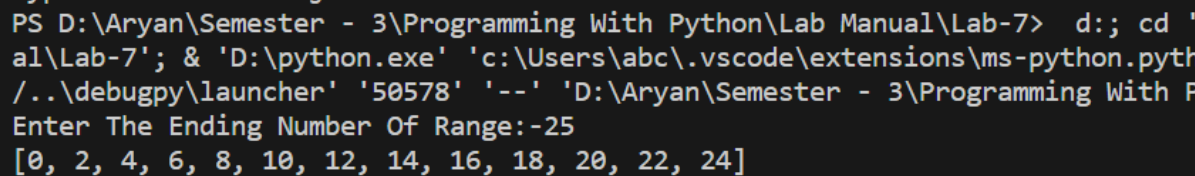


**Task 5:-** Python program to print all the even numbers within the given range.

**Python Code:**

```
range = int(input("Enter The Ending Number Of Range:-"))
list7 = range(0,range+1)
evenlist = []
for i in list7 :
    if i % 2 == 0 :
        evenlist.append(i)
print(evenlist)
```

**Output:**



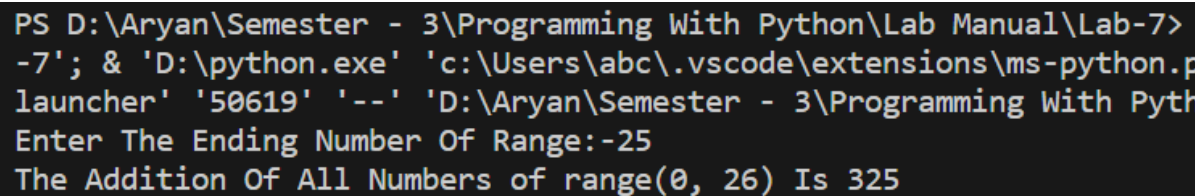
```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:; cd '
al\Lab-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.pyth
..\debugpy\launcher' '50578' '--' 'D:\Aryan\Semester - 3\Programming With P
Enter The Ending Number Of Range:-25
[0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24]
```

**Task 6:-** Python program to calculate the sum of all numbers from 1 to a given number.

**Python Code:**

```
addrange = int(input("Enter The Ending Number Of Range:-"))
sum = 0
for i in range(1,addrange+1) :
    sum = sum + i
print(f"The Addition Of All Numbers of {range(0,addrange+1)} Is {sum}")
```

**Output:**



```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7>
-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.p
launcher' '50619' '--' 'D:\Aryan\Semester - 3\Programming With Pyth
Enter The Ending Number Of Range:-25
The Addition Of All Numbers of range(0, 26) Is 325
```

### Python Code:

### Output:

### Python Code:

**Output:**

---

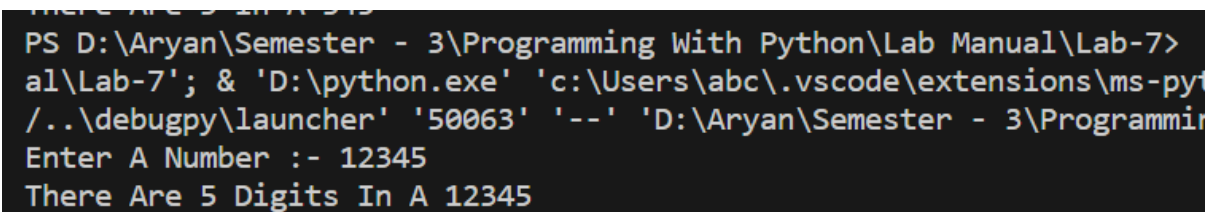
| 1

**Task 9:-** Python program to count the total number of digits in a number.

**Python Code:**

```
number = input("Enter A Number :- ")
print(f"There Are {len(number)} Digits In A {number}")
```

**Output:**

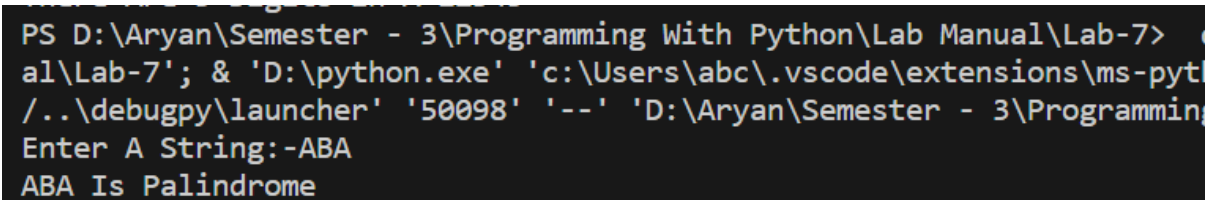


**Task 10 :-** Python program to check if the given string is a palindrome.

**Python Code:**

```
string = input("Enter A String:-")
revstring = string[::-1]
if(string == revstring):
    print(f"{string} Is Palindrome")
else:
    print(f"{string} Is Not Palindrome")
```

**Output:**



**Task 11:-** Python program to find the factorial of a given number.

**Python Code:**

```
num = int(input("Enter A Number:-"))
ans = 1
for i in range(1,num + 1):
    ans = ans * i
print(f"The Factorial of {num} Is {ans}")
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> python-2023.16.0\pythonFiles\lib\python\debugpy\adapter\python_launcher.py Python\Lab Manual\Lab-7\01-08-2023 LAB-7.py'
Enter A Number:-6
The Factorial of 6 Is 720
```

**Task 12 :-** Python program that accepts a string and calculates the number of digits and letters.

**Python Code:**

```
string = input("Enter A Number:-")
digit = char = 0
for i in string :
    if i.isdigit() :
        digit += 1
    elif i.isalpha() :
        char += 1
    else :
        continue
print(f"The Number Of Digits Is {digit} And Characters Is {char} In The String {string}")
```

**Output:**

```
PS D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7> d:; cd 'd:\Aryan\Lab-7'; & 'D:\python.exe' 'c:\Users\abc\.vscode\extensions\ms-python.python-2023.16.0\pythonFiles\lib\python\debugpy\launcher' '50181' '--' 'D:\Aryan\Semester - 3\Programming With Python\Lab Manual\Lab-7\01-08-2023 LAB-7.py'
Enter A Number:-Aryan123de45
The Number Of Digits Is 5 And Characters Is 7 In The String Aryan123de45
```

**Task 13:-** Print the following pattern

**Python Code:**

```
for i in range(0,5) :
    for j in range(0,i+1) :
        print("* ",end=" ")
    for j in range(i,6) :
        print(" ",end=" ")
    print("\n")
for i in range(0,4) :
    for j in range(0,4-i) :
```

---

```
print("* ",end=" ")
for j in range(0,i) :
    print(" ",end=" ")
print("\n")
```

**Output:**



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