

# EXPERIMENT 2

Aditya Patil  
19CE1107  
B/B1

## \* Aim

Write a menu driven Python program to check if number and string palindrome and find the factorial of the input number.

## \* Theory:

A function is a block of code which only runs when it is called. In python function is defined using the def keyword.

```
def function-name():  
    statements
```

To call function, use the function name followed by parenthesis.  
function-name()

### • For loop

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

General form of for loop is  
for <variable> in <sequence>:  
 statements-to-repeat

### • ~~while~~ loop

To loop through a set of code a specified number of times, we can use the `range()` function.

```
for x in range(5, 12):  
    print(x)
```

Above statement will print numbers from 5 to 11

### • The while Loop

With the while loop we can execute a set of statements as long as a condition is true.

For example:

```
i = 1
```

```
while i < 6:
```

```
    print(i)
```

```
    i += 1
```

Above code will print `i` as long as `i` is less than 6.

~~the~~ Using `break` statement we can stop the loop even if the while condition is true. Using `continue` statement we can stop the current iteration and continue with next. Using `else` statement we can run a block of code once when the condition no longer is true.



## \* Conclusion

In this experiment we learnt to define a function and calling it. We also learnt implementing for loop and while loop.

## Program:

```
8 def menu():
9     print("1. number is palindrome")
10    print("2. string is palindrome")
11    print("3. factorial")
12    print("4. exit")
13    a=int(input())
14    return(a)
15 def numpalin():
16     num = input("enter number ")
17     num1=num[::-1]
18     if(num == num1):
19         print("number is palindrome")
20     else:
21         print("number is not palindrome")
22
23 def strpalin():
24     st = input("enter the string ")
25     st1 = st[::-1]
26     if st == st1:
27         print("given string is palindrome")
28     else:
29         print("given string is not palindrome")
30
31
32 def factorial():
33     j = int(input("enter number "))
34     fact=1
35     for i in range(1,j+1):
36         fact=fact*i
37     print(fact)
38
39 b=0
40 while(b!=4):
41     b=menu()
42     if b == 1:
43         numpalin()
44     elif b == 2:
45         strpalin()
46     elif b == 3:
47         factorial()
48
```

## Output:

```
In [5]: runfile('C:/Users/sai/Documents/Python Scripts/exp2.py', w
```

```
1. number is palindrome
2. string is palindrome
3. factorial
4. exit
```

```
3
```

```
enter number 5
```

```
120
```

```
1. number is palindrome
2. string is palindrome
3. factorial
4. exit
```

```
1
```

```
enter number 99899
```

```
number is palindrome
```

```
1. number is palindrome
2. string is palindrome
3. factorial
4. exit
```

```
2
```

```
enter the string python
```

```
given string is not palindrome
```

```
1. number is palindrome
2. string is palindrome
3. factorial
4. exit
```

```
|
```