



## Python for Data Science - 2305CS303

### Lab - 7

Roll No. : 135

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#### 1. WAP to count simple interest using function.

```
In [2]: def simple_interest(p,r,n):  
        return (p*r*n)/100  
        simple_interest(5000,2,3)
```

Out[2]: 300.0

#### 2. Write a function to calculate BMI given mass and height. (BMI = mass/h\*\*2)

```
In [3]: def BMI(m,h):  
        return m/(h**2)  
        BMI(200,5)
```

Out[3]: 8.0

#### 3. WAP that defines a function to add first n numbers.

```
In [22]: def sumofn(n):  
        total = 0  
        for i in range(1, n + 1):  
            total += i  
        return total  
        sumofn(5)
```

Out[22]: 15

#### 4. WAP to find maximum number from given two numbers using function.

```
In [6]: def maxnum(num1,num2):  
        if num1>num2:
```

```
        return num1
    else:
        return num2
maxnum(10,20)
```

Out[6]: 20

## 5. Write a function that returns True if the given string is Palindrome or False otherwise.

```
In [10]: def palidrone(s):
          if s==s[::-1]:
              return "String is Palindrone"
          else:
              return "String is NOT Palindrone"
          palidrone("nayan")
```

Out[10]: 'String is Palindrone'

## 6. Write a function that returns the sum of all the elements of the list.

```
In [1]: def sumoflist(numbers):
          total = 0
          for num in numbers:
              total += num
          return total
l = [10, 20, 30, 40]
print("Sum of list:", sumoflist(l))
```

Sum of list: 100

## 7. WAP that defines a function which returns 1 if the number is prime otherwise return 0.

```
In [24]: def isPrime(n):
          if n <= 1:
              return False
          for i in range(2, n):
              if n % i == 0:
                  return False
          return True
          isPrime(15)
```

Out[24]: False

## 8. Write a function that returns the list of Prime numbers between given two numbers.

```
In [32]: l1 = []
          def PrimeRange(m,n):
              for i in range(m,n+1):
                  if (isPrime(i)):
                      l1.append(i)
```

```
print(l1)
PrimeRange(2,50)
```

[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47]

## 9. WAP to generate Fibonacci series of N given number using function name fibbo. (e.g. 0 1 1 2 3 5 8...).

```
In [46]: def fibo(n):
          for i in range(n):
              a = 0
              b = 1
              print(a,end=" ")
              n = a + b
              a = b
              b = n
          fibo(8)
```

0 0 0 0 0 0 0 0

## 10. WAP to find the factorial of a given number using recursion.

```
In [2]: def factorial(n):
          if n == 0 or n == 1:
              return 1
          else:
              return n * factorial(n - 1)

          num = int(input("Enter a number: "))

          if num < 0:
              print("Not Allowed")
          else:
              print(f"The factorial of {num} is {factorial(num)}")
```

The factorial of 5 is 120

## 11. WAP to implement simple calculator using lamda function.

```
In [4]: add = lambda a, b: a + b
          sub = lambda a, b: a - b
          mul = lambda a, b: a * b
          div = lambda a, b: a / b if b != 0 else "Division by zero not allowed"
          choice = input("Enter operator (+, -, *, /): ")
          num1 = float(input("Enter first number: "))
          num2 = float(input("Enter second number: "))

          if choice == '+':
              print("Result:", add(num1, num2))
          elif choice == '-':
              print("Result:", sub(num1, num2))
          elif choice == '*':
              print("Result:", mul(num1, num2))
          elif choice == '/':
              print("Result:", div(num1, num2))
```

```
else:  
    print("Invalid operator")
```

Result: 30.0

In [ ]: