

Function

HIS and MMH
Dept. of SDS, JU

```
# print string
def fun(name):
    print(f"Hi, {name}")
```

```
# Calling a Function:
fun("Ali")
```

```
##### def fun(name):
# This defines a function named fun
# name is a parameter of the function —
# it acts as a placeholder for any value passed into the function when it's called.
# The colon : indicates the start of the function body, which must be indented.
```

```
##### print(f"Hello, {name}!")
# This is the function body — the code that runs when the function is called.
# f"Hello, {name}!" is an f-string (formatted string literal).
# It dynamically inserts the value of the name variable into the string.
# If name = "Ali", then the output will be: "Hello, Ali"
# The print() function displays the result in the console.
```

```
# sum of two number
def add(x, y):
    return x + y
```

```
add(5, 4)
```

```
# Square of a Number
def sq(x):
    return x * x
```

```
sq(5)
```

```
#
def cal(x, y):
    return x+y, x*y
```

```
cal(10,15)
```

```

#
def rect_a_p(length, width):
    area = length * width
    perimeter = 2 * (length + width)
    return area, perimeter

rect_a_p(2,6)

#####
# Example usage
length = 10
width = 5

area, perimeter = rect_a_p(length, width)

print(f"Area: {area}")
print(f"Perimeter: {perimeter}")

##### Compute the area of a circle
import math

def area_circle(radius):
    return math.pi * radius ** 2

area_circle(3)

### check even

def even(n):
    return n % 2 == 0

print(even(4))
print(even(7))

##### max
def m(a, b):
    return a if a > b else b

print(m(7, 12))

# Factorial
def fact(n):
    if n == 0:
        return 1
    return n * fact(n-1)

```

```
print(fact(10))
```

```
##### count vowels
def count_vowels(text):
    vowels = 'aeiouAEIOU'
    return sum(1 for char in text if char in vowels)
```

```
print(count_vowels("Statistics and Data Science"))
```

```
print(count_vowels("Jahangirnagar University"))
```

```
# Reverse a String
```

```
def rev_string(st):
    return st[::-1]
```

```
print(rev_string("python"))
```

```
##### Count Words in a Sentence
```

```
def count_words(sentence):
    return len(sentence.split())
```

```
# sentence.split() breaks the sentence into a list of words using spaces as separators.
```

```
# len(...) counts how many words are in that list.
```

```
print(count_words("More para in the Dept of SDS"))
```

```
##### Count Occurrence of a Character
```

```
def count_charecter(text, ch):
    return text.count(ch)
```

```
print(count_charecter("mango", "a"))
```

```
print(count_charecter("Jahangirnagar", "a"))
```

```
# sum of a list
```

```
def sum_list(lst):
    return sum(lst)
```

```
print(sum_list([1, 2, 3, 4, 5]))
```

```
## Find the Largest in a List
```

```
def largest(lst):
    return max(lst)

print(largest([4, 10, 20, 50, 15, 7]))
```

```
### find ave
def ave(nums):
    return sum(nums) / len(nums)

print(ave([10, 20, 30]))
```

Check if Number is Positive, Negative or Zero

```
def check_number(n):
    if n > 0:
        return "Positive"
    elif n < 0:
        return "Negative"
    else:
        return "Zero"
```

```
print(check_number(-5))
print(check_number(5))
print(check_number(0))
```

```
##### lamda
square = lambda x: x * x
square(5)
#
```

```
numbers = [1, 2, 3, 4]
squares = list(map(lambda x: x ** 2, numbers)) # map() is useful for transformations like
squaring numbers, etc.
print(squares)
#
```