Assignment 3 : Functions and Modules

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Game of "Functions"

Write a Python function to sum all the numbers in a list.

In [4]:

```
# This function sums all the numbers in a list.
def sum_list(numbers):
  # Initialize a variable to store the sum of the numbers.
  sum = 0

  # Iterate through the list of numbers and add each number to the sum.
  for number in numbers:
    sum += number

  # Return the sum of the numbers.
  return sum


# Prompt the user to enter a list of numbers.
print("Enter a list of numbers (Space Separated): ")

# Initialize a list to store the numbers entered by the user.
numbers = []

# Iterate through the user input and convert each number to an integer.
# Then, add the number to the list of numbers.
for number in input().split():
    number = int(number)
    numbers.append(number)

# Print the sum of the numbers.
print("The sum of the numbers is: ", sum_list(numbers))
```

```
Enter a list of numbers (Space Separated):
8 2 3 0 7
The sum of the numbers is:  20
```

String inside the function

In [6]:

```
def reverse_string(string):
  # Initialize a new string to store the reversed string.
  reversed_string = ""

  # Iterate through the string in reverse order and add each character to the new string.
  for character in string[::-1]:
    # Add the character to the new string.
    reversed_string += character

  # Return the reversed string.
  return reversed_string


# Prompt the user to enter a string.
string = input("Enter a string: ")

# Reverse the string and print the result.
reversed_string = reverse_string(string)
print("The reversed string is: ", reversed_string)
```

```
Enter a string: 1234abcd
The reversed string is:  dcba4321
```

Write a Python function that accepts a string and calculate the number of upper case letters and lower case letters.

In [9]:

```
def count_upper_lower_case(string):
  # Initialize two variables to count the number of upper case and lower case letters.
  upper_case_letters = 0
  lower_case_letters = 0

  # Iterate through the string and check each character to see if it is an upper case let
  for character in string:
    # If the character is an upper case letter, increment the `upper_case_letters` variab
    if character.isupper():
      upper_case_letters += 1
    # If the character is a lower case letter, increment the `lower_case_letters` variabl
    elif character.islower():
      lower_case_letters += 1

  # Return a tuple of the two variables.
  return upper_case_letters, lower_case_letters


# Prompt the user to enter a string.
string = input("Enter String :")

# Count the number of upper case and lower case letters in the string.
upper_case_letters, lower_case_letters = count_upper_lower_case(string)

# Print the number of upper case and lower case letters.
print("No. of Upper case characters : ", upper_case_letters)
print("No. of Lower case characters : ", lower_case_letters)
```

```
Enter String :The quick Brow Fox
No. of Upper case characters :  3
No. of Lower case characters :  12
```

In [ ]:

```
```