String

In [1]:
```
# 1.

name = input("  ")
print("Hello {} !".format(name))
```

```
  Abhishek
Hello Abhishek !
```

In [2]:
```
# 2.

# From low string print count of "Is".

string = "He is Amol and she is chaital"
print(string.count("is"))
```

```
2
```

In [3]:
```
# 3.

# From low string split the word by space.

a = "Data is new oil"
splitted_list = a.split(" ")
print(splitted_list)
```

```
['Data', 'is', 'new', 'oil']
```

In [4]:
```
# 4.

# now from below, join all the words by "=" and create a sentence.

i = ["Data", "is", "new", "oil"]
new_string = "=".join(i)
print(new_string)
```

```
Data=is=new=oil
```

In [5]:
```
# 5.

# from below string replace "Java" with "Python"

sentence = "I love Programming in Java."
print(sentence.replace("Java","Python"))
```

```
I love Programming in Python.
```

In [6]:
```
# 6.

# from below string remove(strip) additional spaces and print it.

msg = " This a message with spaces."
strip_msg = msg.strip()
print(strip_msg)
```

```
This a message with spaces.
```

In [7]:
```
#7.

# From below string find postion(start index) of "sample"

sentence = "This is a sample sentence."
print(sentence.index("sample"))
```

```
10
```

In [8]:
```
#8.

#Given the string "Python is fun!", how can you calculate and print its

text = "Python is fun!"
print(len(text))
```

```
14
```

In [9]:
```
#9.

#Print below string in reverse order

string = "Pineapple"[ : :-1]
print(string)
```

```
elppaeniP
```

In [10]:
```
#10.

#Given the string "Welcome to Python Programming.", how can you capital

text = "Welcome to Python Programming."
print(text.upper())
```

```
WELCOME TO PYTHON PROGRAMMING.
```

In [11]:
```
#11.

#Convert all letter of string to Upper Case

text = "Data is new oil"
print(text.upper())
```

```
DATA IS NEW OIL
```

In [12]:
```
#12.

#From below string just convert first lettter of string to upper case

text = "i am learning python"
print(text.title())
```

```
I Am Learning Python
```

In [13]:
```
#13.

#Convert all uppper case to lower and lower case to upper

text = "DaTA is NeW oIL"
print(text.swapcase())
```

```
dAta IS nEw Oil
```

In [14]:
```
#14.

#rint the addition of below 2 strings

a = 10
b = 60
print(a+b)
```

```
70
```

In [15]:
```
#15.

#print the additiono of below 2 strings

a = "20"
b = "30"
print(a+b)
```

```
2030
```

List

In [16]:
```
#16.

#From belown list replace 4 with 44.

my_list=[1,2,3,4,5]
my_list[3]= 44
print(my_list)
```

```
[1, 2, 3, 44, 5]
```

In [17]:
```
#17.

#From belown list add(insert) 200 at index 3

my_list = [1, 2, 3, 4, 5]
my_list[3]=200
print(my_list)
```

```
[1, 2, 3, 200, 5]
```

In [18]:
```
#18.

#In below list add new number 66.

my_list = [1, 2, 3, 4, 5]
my_list.append(66)
print(my_list)
```

```
[1, 2, 3, 4, 5, 66]
```

In [19]:
```
#19.

#In below list insert new numbers 66,87,99.

my_list = [1, 2, 3, 4, 5]
my_list.extend([66,87,99])
print(my_list)
```

```
[1, 2, 3, 4, 5, 66, 87, 99]
```

In [20]:
```
# 20.

#rom below list remove number 3.

my_list = [1, 2, 3, 4, 5]
my_list.remove(3)
print(my_list)
```

```
[1, 2, 4, 5]
```

In [21]:
```
# 21.

#From below list print count of "cherry"
my_list = [1, 2.5, "cherry", 3, "banana", 4.0, "cherry"]
my_list.count("cherry")
2
```

Out[21]: 2

In [22]:
```
# 22.

#From below list print index of "banana"
my_list = [1, 2.5, "apple", 3, "banana", 4.0, "cherry"]
my_list.index("banana")
```

Out[22]: 4

In [23]:
```
# 23.

#From below list remove last item
my_list = ["Pune","Delhi","Mumbai","Indore","Jaipur","Dehradun"]
my_list.remove("Dehradun")
print(my_list)
```

```
['Pune', 'Delhi', 'Mumbai', 'Indore', 'Jaipur']
```

In [24]:
```
# 24.
# Sort the below list in Alphabetical order
my_list = ["Grapes","Apple","Cherry","Mango","Banana"]
my_list.sort()
print(my_list)
```

```
['Apple', 'Banana', 'Cherry', 'Grapes', 'Mango']
```

In [25]:
```
# 25 .
# Sort below list in reverse Alphabetical order
my_list = ["Grapes","Apple","Cherry","Mango","Banana"]
my_list.sort(reverse=True)
print(my_list)
```

```
['Mango', 'Grapes', 'Cherry', 'Banana', 'Apple']
```

Assignment

Problem 1

Create a list named myList that has three elements:

~The integer 3

~The string 'element number 2'

~Another list ['last','element']

in that order

In [27]:
```
mylist = [3,'elemet',['last','element']]
```

Problem 2

~Print the third element of the follwing list.

In [30]:
```
l = [1,2,3,4,5,6,7,8]
print(l[2])
```

```
3
```

Problem 3.

Modify the last element of this list so that its value is 16. Print the modified list so you know the opration was performed succefully.

In [31]:
```
listToModify = ['a', 'b', 'sixteen']
listToModify[2] = 16
print(listToModify)
```

```
['a', 'b', 16]
```

Problem 4.

Calculate the length of the following list.

In [32]:
```
listToFindLength = ['this ','is','the','list','whose','length','I','wan
len(listToFindLength)
```

Out[32]:
```
8
```

Problem 5.

Calculate the sum of the following list.

In [33]:
```
inList = [54,678,2890]
sum(inList)
```

Out[33]:
```
3622
```

Problem 6.

Find the maximum value of the following list.

In [34]:
```
maxList = [455,677,223,1467,24,34577,34]
max(maxList)
```

Out[34]:
```
34577
```

Problem 7.

Find the minimum value of the following list.

In [35]:
```
minList = [455,677,223,1467,24,34577,34]
min(minList)
```

Out[35]:
```
24
```

Problem 8.

Append the string 'Append me!' to the end of the following list. Print the list to ensure the operation has been completed succefully.

In [36]:
```
listToAppend = [1,2,3]
listToAppend.append('Append me!')
print(listToAppend)
```

```
[1, 2, 3, 'Append me!']
```

Python for Loop ques

In [38]:
```
#Example 1: Print the first 10 natural numbers using for loop.

for i in range(1,11):
    print(i)
```

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

In [39]:
```
#Example 2: Python program to print all the even numbers within the giv

given_range = 10
for i in range(10):
    if i%2==0:
        print(i)
```

```
0
2
4
6
8
```

In [40]:
```
#Example 3: Python program to calculate the sum of all numbers from 1 t

give_number = 10
sum = 0
for i in range(1,10+1):
    sum+=i
    print(sum)
```

```
1
3
6
10
15
21
28
36
45
55
```

In [41]:
```
#Example 4: Python program to calculate the sum of all the odd numbers

given_range = 10
sum = 0
for i in range(given_range):
    if i%2!=0:
        sum+=i
        print(sum)
```

```
1
4
9
16
25
```

In [42]:
```
# Example 5: Python program to print a multiplication table of a given

given_number = 5

for i in range(11):
    print(given_number,"x",i,"=",5*i)
```

```
5 x 0 = 0
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

In [43]:
```python
# Example 6: Python program to display numbers from a list using a for

list = [1,2,4,6,88,125]
for i in list:
    print(i)
```

```
1
2
4
6
88
125
```

In [44]:
```python
#Example 7: Python program to count the total number of digits in a num

num = 129475
count = 0

while num != 0:
    num //= 10
    count += 1

print("Number of digits: " + str(count))
```

```
Number of digits: 6
```

In [45]:
```python
#Example 8: Python program to check if the given string is a palindrome

given_string = "madam"

reverse_string =""
if(given_string == reverse_string):
    print("The string", given_string,"is a Palindrome.")
else:
    print("The string",given_string,"is NOT a Palindrome.")
```

```
The string madam is NOT a Palindrome.
```

In [48]:
```python
#Example 9: Python program that accepts a word from the user and revers

given_string = input()
reverse_string = ""
for i in given_string:
    reverse_string= i+reverse_string
print(reverse_string)
```

```
Abhishek
kehsihbA
```

In [49]:

```
#Example 10: Python program to check if a given number is an Armstrong

given_number=153
given_number=str(given_number)
string_length=len(given_number)
sum=0
for i in given_number:
    sum+=int(i)**string_length
if sum == int(given_number):
    print("The given number",given_number,"is an Amstrong number.")
else:
    print("The given number",given_number,"is Not an Amstrong number.")
```

```
The given number 153 is an Amstrong number.
```

In [50]:

```
#Example 11: Python program to count the number of even and odd numbers

num_list = [1,3,5,6,99,134,55]

for i in num_list:

    # if divided by 2, all even
    # number leave a remainder of 0
    if i%2==0:
        print(i,"is an even number.")
    else:
        print(i,"is an odd number.")
```

```
1 is an odd number.
3 is an odd number.
5 is an odd number.
6 is an even number.
99 is an odd number.
134 is an even number.
55 is an odd number.
```

In [51]:

```
#Example 12: Python program to display all numbers within a range excep

def is_not_prime(n):
    flag = False
    for i in range(2, int((n**0.5)) + 1):
        if n % i == 0:
            flag = True
    return flag

range_starts = int(input("enter the start range:"))

range_ends = int(input("enter the end range: "))
print("Non-prime numbers between",range_starts,"and", range_ends,"are:"

for number in filter(is_not_prime, range(range_starts, range_ends)):
    print(number)
```

```
enter the start range:0
enter the end range: 24
Non-prime numbers between 0 and 24 are:
4
6
8
9
10
12
14
15
16
18
20
21
22
```

In [52]:

```
#Example 13: Python program to get the Fibonacci series between 0 to 50


num = 50
first_value, second_value = 0, 1
for n in range(0, num):
    if n <= 1:
        next_value = n
    else:
        next_value = first_value + second_value
        first_value = second_value
        second_value = next_value
    if next_value > num:
        break
    print(next_value)
```

```
0
1
1
2
3
5
8
13
21
34
```

In [53]:

```
#Example 14: Python program to find the factorial of a given number.

given_number= 5

factorial = 1

for i in range(1, given_number + 1):
    factorial = factorial * i

print("The factorial of ", given_number, " is ", factorial)
```

```
The factorial of  5  is  120
```

In [55]:

```
#Example 15: Python program that accepts a string and calculates the nu

user_input = input("Enter the string: ")
digits = 0
letters =0
for i in user_input:
    if i.isdigit():
        digits = digits+1
    elif i.isalpha():
        letters = letters+1
print(" The input string",user_input, "has", letters, "letters and", di
```

```
Enter the string: Abhi123
 The input string Abhi123 has 4 letters and 3 digits.
```

Dictionary

In [57]:
```
#1. Given the following dictionary, print all the keys.
my_dict1 = {"name":"abhi","add":"gaya","pin":824209,"state":"bihar"}
print(my_dict1.keys())
```

```
dict_keys(['name', 'add', 'pin', 'state'])
```

In [60]:
```
#2. Print all values of dictionary
my_dict2 = {"name":"abhi","add":"gaya","pin":824209,"state":"bihar"}
print(my_dict2.values())
```

```
dict_values(['abhi', 'gaya', 824209, 'bihar'])
```

In [62]:
```
#3. Print all values except "gaya"
my_dict2 = {"name":"abhi","add":"gaya","pin":824209,"state":"bihar"}
my_dict2.pop("add")
print(my_dict2)
```

```
{'name': 'abhi', 'pin': 824209, 'state': 'bihar'}
```

In [64]:
```
#4.  Delete key "pin" from below dict
my_dict2 = {"name":"abhi","add":"gaya","pin":824209,"state":"bihar"}
del my_dict2["pin"]
print(my_dict2)
```

```
{'name': 'abhi', 'add': 'gaya', 'state': 'bihar'}
```

In [67]:
```
#5. Print value of "state" from below dictionary.
my_dict2 = {"name":"abhi","add":"gaya","pin":824209,"state":"bihar"}
print(my_dict2["state"])
```

```
bihar
```

Function

In [3]:
```
# 1. Write a python function for addition of 2 number
def add_num(num1,num2):
    sum = num1 + num2
    return sum
```

In [4]:
```
add_num(34,56)
```

Out[4]:
```
90
```

In [10]:
```
# 2. Write function to add all numbers of list and print

def sum(*numbers):
    total = 0
    for x in numbers:
        total += x
        return total
```

In [11]:
```
total = sum(5,6,7,4,8)
print(total)
```

```
5
```

In [18]:
```
# 3 . Write a fucntion to check if number is even or odd and print it.

def even_odd(num):
    if num%2 == 0:
        print("{} is even Number".format(num))
```

In [24]:
```
print(even_odd(22))
print(even_odd(21))
```

```
22 is even Number
None
None
```

In [51]:
```
# 4. Take any no of inputs in functions and print them.
def sum(*args):
    total = 0
    for x in args:
        total += x
    return total
```

In [52]:
```
total = sum(1,2,5,7,8,9)
print(total)
```

```
32
```

In [58]:
```python
# 5 . Write a python function which will take N number of inputs and pr
def add_number(*numbers):
  sum=0
  for num in numbers:
    sum = sum + num
  return sum

addition = add_number(3,5,7,86,8)
print(addition)
```

```
109
```

In [67]:
```python
# 6 .Write python function which will take N number of string as inputs
def upper_string(*words):
  upper_list=[]
  for word in words:
    upper_list.append(word.upper())
  return upper_list

upper_words= upper_string("Enter the lower_name")
print(upper_words)
```

```
['ENTER THE LOWER_NAME']
```

In [63]:
```python
# 7.write a python function which takes multiple keyword arguments.

def print_kwargs(**kwargs):
    for key, value in kwargs.items():
        print("{},{}".format(key,value))

print_kwargs(name="Alice", age=30, city="New York")
```

```
name,Alice
age,30
city,New York
```

In [56]:
```python
# 8 .write a python function which takes keyword agruments and find max

def find_max(**kwargs):
    return max(kwargs.values())

result = find_max(a=10, b=5, c=15)
print(result)
```

```
15
```

In [ ]:
```python

```