**#Author - Soumitra Das Date - 15/12/2022**

**#(a) Create a list**

list1 = [1,2,5,'hello',41,'world'] print(list1)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\create.py"

[1, 2, 5, 'hello', 41, 'world']

**#Author - Soumitra Das Date - 05/01/2023**

**#(b) Concatenate two lists**

li1 = ['Soumitra'] li2 = ['Das'] print(li1) print(li2) print(li1 + li2)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\concatenate.py"

['Soumitra']

['Das']

['Soumitra', 'Das']

**#Author - Soumitra Das Date - 05/01/2023**

**#(c) Extend another list in a list**

a = [1,2,3,4] b = [5,6,7,8] print("Tuple 'a' is =",a) print("Tuple 'b' is =",b)

a.extend(b)

print("Extend tuple is =",a)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\extend.py"

Tuple 'a' is = [1, 2, 3, 4]

Tuple 'b' is = [5, 6, 7, 8]

Extend tuple is = [1, 2, 3, 4, 5, 6, 7, 8]

**#Author - Soumitra Das Date - 05/01/2023**

**#(d) Append an item in a list**

a = [1,2,4,57,6]

print("Before Append List is : ",a)

n=int(input("Enter the number which can be append : "))

a.append(n)

print("After append() tuple is : ",a)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\append.py"

Before Append List is : [1, 2, 4, 57, 6]

Enter the number which can be append : 99

After append() tuple is : [1, 2, 4, 57, 6, 99]

**#Author - Soumitra Das Date - 05/01/2023 #(e) Insert an item in the 3rd position of a list.**

li = ['python','is','a','language'] print("Before insert an item the list is : ",li) pos=int(input("Enter the position where can be insert : ")) ele=input("Enter the element : ") li.insert(pos-1,ele)

print("After insert an item the list is : ",li)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\insert.py"

Before insert an item the list is : ['python', 'is', 'a', 'language']

Enter the position where can be insert : 4

Enter the element : scripting

After insert an item the list is : ['python', 'is', 'a', 'scripting', 'language']

**#Author - Soumitra Das Date - 05/01/2023 #(f) Pop an item.**

a = [1,2,4,7,5,4] print("Before pop , list is : ") print(a)

a.pop(3)

print("After pop , list is : ") print(a)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\pop.py"

Before pop , list is :

[1, 2, 4, 7, 5, 4]

After pop , list is :

[1, 2, 4, 5, 4]

**#Author - Soumitra Das Date - 05/01/2023 #(g) Find the index of a given item by using index() method.**

a = [5,8,4,2,1] print("List is : ") print(a)

ele=int(input("Enter the element from above list : ")) ind=a.index(ele)

print("Index of {} is : {}".format(ele,ind))

OUTPUT:

PS D:\Python> python -u "d:\Python\Assignment List\index.py"

List is :

[5, 8, 4, 2, 1]

Enter the element from above list : 8

Index of 8 is : 1

**#Author - Soumitra Das Date - 05/01/2023 #(h) Count number of items in the list.**

a = [1,2,5,7,5,8,4,1,4,5] print("Before count the list : ",a) ele=int(input("Enter the element : ")) co=a.count(4)

print("After count,an item of {} is = {} times".format(ele,co))

**OUPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\count.py"

Before count the list : [1, 2, 5, 7, 5, 8, 4, 1, 4, 5]

Enter the element : 4

After count,an item of 4 is = 2 times

PS D:\Python> python -u "d:\Python\Assignment List\count.py"

Before count the list : [1, 2, 5, 7, 5, 8, 4, 1, 4, 5]

Enter the element : 5

After count,an item of 5 is = 2 times

**#Author - Soumitra Das Date - 05/01/2023 #(i) Sort the list.**

a = [6,5,4,3,2,1]

print("Before sort , list is : ",a)

a.sort()

print("After sort , list is : ",a)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\sort.py"

Before sort , list is : [6, 5, 4, 3, 2, 1]

After sort , list is : [1, 2, 3, 4, 5, 6]

**#Author - Soumitra Das Date - 05/01/2023 #(j) Reverse the list using reverse() function.**

a = [5,4,1,9,4,2,4]

print("Before reverse , the list is : ",a)

a.reverse()

print("After reverse , the list is : ",a)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\reverse.py"

Before reverse , the list is : [5, 4, 1, 9, 4, 2, 4]

After reverse , the list is : [4, 2, 4, 9, 1, 4, 5]

**#Author - Soumitra Das Date - 05/01/2023 #(k) Copy the list into another list.**

list1 = [4,7,5,8,7,2,4]

print("Before copy , list1 is : ",list1) list2 =list1.copy()

print("After copy , list2 is : ",list2) print(id(list1)) print(id(list2))

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\copy.py"

Before copy , list1 is : [4, 7, 5, 8, 7, 2, 4]

After copy , list2 is : [4, 7, 5, 8, 7, 2, 4]

2024036710336 2024036964288

#**Author - Soumitra Das Date - 05/01/2023 #(l) Create a multi-dimensional list.**

a = [1,2,[3,4,5,],[6,7,8,9],10] print("A multi-dimensional list is :\n ") print(a)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\multi\_list.py" A multi-dimensional list is :

[1, 2, [3, 4, 5], [6, 7, 8, 9], 10]

**#Author - Soumitra Das Date - 05/01/2023 #(m) illustrate join() and split() method.**

li = ['python','is','a','object','oriented','language'] stg = '\*'

print("Before join method , list is : ",li) stg = stg.join(li)

print("After join method , list is : ",stg)

msg = "I Love My Parents" print("Before split: ",msg) li = msg.split()

print("After split, list is : ",li)

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\join\_split.py"

Before join method , list is : ['python', 'is', 'a', 'object', 'oriented', 'language']

After join method , list is : python\*is\*a\*object\*oriented\*language

Before split: I Love My Parents

After split, list is : ['I', 'Love', 'My', 'Parents']

**#Author - Soumitra Das Date - 05/01/2023 #(n) create list alias.**

a = [1,4,5,7,3,2] b = a

print("List 'a' is :",a) print("List 'b' is :",b) if (id(a)==id(b)): print("Alias is occurred") else:

print("Not occurred")

**OUTPUT:**

PS D:\Python> python -u "d:\Python\Assignment List\alias.py"

List 'a' is : [1, 4, 5, 7, 3, 2]

List 'b' is : [1, 4, 5, 7, 3, 2]

Alias is occurred

**#Author - Soumitra Das Date - 05/01/2023**

**(o) illustrate shallow copy and deep copy**

import copy

s5= [1,2,[3,4,5],6,[7,8,9,10],11]

print("The original list is :",s5)

s6=copy.copy(s5)

print("The copied list is :",s6)

s5[4][2]=99#add 99 in inner list s5[4][2]

print("After add item in inner list :: ")

print("The original list is: ",s5)

print("The copied list is :",s6)

OUTPUT:

The original list is : [1, 2, [3, 4, 5], 6, [7, 8, 9, 10], 11]

The copied list is : [1, 2, [3, 4, 5], 6, [7, 8, 9, 10], 11]

After add item in inner list ::

The original list is: [1, 2, [3, 4, 5], 6, [7, 8, 99, 10], 11]

The copied list is : [1, 2, [3, 4, 5], 6, [7, 8, 99, 10], 11]

s5= [1,2,[3,4,5],6,[7,8,9,10],11] #deepcopy

print("The original list is :",s5)

s6=copy.deepcopy(s5)

print("The copied list is :",s6)

s5[4][2]=99#add 99 in inner list s5[4][2]

print("After add item in inner list s5[4][2]:: ")

print("The original list is: ",s5)

print("The copied list is :",s6)

OUTPUT:

The original list is : [1, 2, [3, 4, 5], 6, [7, 8, 9, 10], 11]

The copied list is : [1, 2, [3, 4, 5], 6, [7, 8, 9, 10], 11]

After add item in inner list s5[4][2]::

The original list is: [1, 2, [3, 4, 5], 6, [7, 8, 99, 10], 11]

The copied list is : [1, 2, [3, 4, 5], 6, [7, 8, 9, 10], 11]

**#Author - Soumitra Das Date - 05/01/2023 #(p) unpack list itmes into variables.**

li = [4,5,1,2,7,8]

print("Before unpack , list is : ") print(li)

print("After unpack : ")

a,b,c,d,e,f = li print(a) print(b) print(c) print(d) print(e)

print(f)

OUTPUT:

PS D:\Python> python -u "d:\Python\Assignment List\unpack.py" Before unpack , list is :

[4, 5, 1, 2, 7, 8] After unpack :

4

5

1 2

7

8