ASSIGNMENT 4

1. Write a Python program to create a list of 5 fruits. Print the first fruit, the last fruit, and the fruit at index 2.

list=["apple", "mango", "grape", "orange", "jackfruit"]

print(list[0])

print(list[2])

print(list[4])

apple

grape

jackfruit

2. Write a Python program that stores numbers 1 to 10 in a list. Print the first 3 numbers, the last 3 numbers, and every alternate number.

list=[]

for i in range(1,11):

    list.append(i)

print(list[:3])

print(list[7:10])

print(list[::2])

[1, 2, 3]

[8, 9, 10]

[1, 3, 5, 7, 9]

3. Write a Python program to create an empty list. Add numbers 1, 2, and 3 using append(). Then extend the list with [4, 5, 6]. Print the final list.

list=[]

for i in range(1,4):

    list.append(i)

list1=[4,5,6]

listf=list+list1

print(listf)

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

4. Write a Python program with a list of numbers [10, 20, 30, 40, 50]. Remove the number 30 using remove(). Remove the last element using pop(). Print the updated list after each step.

list=[10,20,30,40,50]

list.remove(30)

list.pop()

print(list)

[10, 20, 40]

5. Write a Python program to check if a given number is present in the list of numbers. If present, print ”Found”, otherwise ”Not Found”

n=int(input("Enter the last number to be in list:"))

list=[]

for i in range(n+1):

    list.append(i)

num=int(input("Enter the number to be searched:"))

if num in list:

    print("Found")

else:

    print("Not found")

Enter the last number to be in list:20

Enter the number to be searched:5

Found

6. Write a Python program to calculate the sum, average of numbers and also find the maximum and minimum numbers stored in the list.

n=int(input("Enter the last number:"))

list=[]

for i in range(1,n+1):

    list.append(i)

print("Sum of the numbers:")

print(sum(list))

print("Average of the numbers:")

print(sum(list)/len(list))

print("Maximum of the numbers:")

print(max(list))

print("Minimum of the numbers:")

print(min(list))

Enter the last number:5

Sum of the numbers:

15

Average of the numbers:

3.0

Maximum of the numbers:

5

Minimum of the numbers:

1

7. Write a Python program that counts how many times a given number appears in the list.

list=[1, 1, 2, 3, 4, 4, 4, 5, 3, 6, 7, 4]

list2=[]

for i in list:

    list2.append(i)

    if i in list:

        print("",i,":",list.count(i))

    else:

        break

1 : 2

1 : 2

2 : 1

3 : 2

4 : 4

4 : 4

4 : 4

5 : 1

3 : 2

6 : 1

7 : 1

4 : 4

8. Write a Python program to remove duplicates from the list [1, 2, 2, 3, 4, 4, 5] and print the unique values.

list=[1,2,2,3,4,4,5]

list1=[]

for i in list:

    if i not in list1:

        list1.append(i)

print(list1)

[1, 2, 3, 4, 5]

9. Write a Python program to reverse a list using list slicing.

list=["a", "b","c","d","e"]

print(list[::-1])

['e', 'd', 'c', 'b', 'a']

10. Concatenate two lists index-wise. list1 = [“M”, “na”, “i”, “Ku”] list2 = [“y”, “me”, “s”, “nal”] Expected output: [’My’, ’name’, ’is’, ’Kunal’]

*#. Concatenate two lists index-wise.*

*#list1 = ["M", "na", "i", "Ku"]*

*#list2 = ["y", "me", "s", "nal"]*

*#Expected output: [’My’, ’name’, ’is’, ’Kunal’]*

list1=["M","na","i","Ku"]

list2=["y","me","s","nal"]

result\_list = [i + j for i, j in zip(list1, list2)]

print(result\_list)

['My', 'name', 'is', 'Kunal']

11. Write a Python program using list comprehension to create a list of even numbers between 1 and 20

list=[i for i in range(1,21) if i%2==0]

print(list)

[2, 4, 6, 8, 10, 12, 14, 16, 18, 20]

12. Write a Python program to find the second largest number in a list of numbers.

list=[1,0,2,6,9,5,3,8,7]

list.sort()

print(list[-2])

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13. Write a Python program to check if the list [1, 2, 3, 2, 1] is a palindrome (same forwards and backwards).

list=[1,2,3,2,1]

list1=list

list.reverse()

if list==list1:

    print("True")

else:

    print("False")

True

14. Given a two Python list. Iterate both lists simultaneously such that list1 should display item in original order and list2 in reverse order list1 = [20, 35, 45, 78] list2 = [100, 200, 300, 400] Expected output: 20 400

35 300

45 200

78 100

list1=[20,35,45,78]

list2=[100,200,300,400]

list2.reverse()

b=zip(list1, list2)

for i in b:

    print(i)

(20, 400)

(35, 300)

(45, 200)

(78, 100)

15. Add item 7000 after 6000 in the following Python List list1 = [10, 20, [300, 400, [5000, 6000], 500], 30, 40] Expected output:[10, 20, [300, 400, [5000, 6000, 7000], 500], 30, 40]

list1=[10, 20, [300, 400, [5000, 6000], 500], 30, 40]

list1[2][2].append(7000)

print(list1)

[10, 20, [300, 400, [5000, 6000, 7000], 500], 30, 40]

16. Given a Python list, find value 20 in the list, and if it is present, replace it with 200. Only update the first occurrence of a value list1 = [5, 10, 15, 20, 25, 50, 20] Expected output: list1 = [5, 10, 15, 200, 25, 50, 20]

list=[5, 10, 15, 20, 25, 50, 20]

for i in list:

    if i==20:

        list.insert(list.index(i)+1,200)

        list.remove(20)

print(list)

[5, 10, 15, 200, 25, 50, 200]

17. Write a Python program to split a sentence ”Python is fun” into a list of words, and then join them back into a single string separated by -.

b="Python is fun"

list=b.split(*sep*=" ")

print(list)

a=""

for i in list:

    a=a+i

    if i!=list[-1]:

        a=a+"-"

print(a)

print(type(a))

['Python', 'is', 'fun']

Python-is-fun

<class 'str'>

18. Given a list of strings, display each string reversed. List = [“cat”, “dog”, “bird”] Expected output: [‘tac’, ‘god’, ‘drib’]

*#Given a list of strings, display each string reversed.*

*#List = [“cat”, “dog”, “bird”]*

*#Expected output: [‘tac’, ‘god’, ‘drib’]*

words = ['cat', 'dog', 'bird']

reversed\_list = [word[::-1] for word in words]

print(reversed\_list)

['tac', 'god', 'drib']

19. Given a nested list, flatten it into a single list. Input: [[1, 2], [3, 4], [5, 6]] Expected Output: [1, 2, 3, 4, 5, 6]

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

list2=[]

for i in list:

    for j in i:

        list2.append(j)

print(list2)

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

20. Given a list, find the index where the sum of the left part equals the sum of the right part. Input: [1, 7, 3, 6, 5, 6] Expected Output: 3 (because [1+7+3] = [5+6])

*# Given a list, find the index where the sum of the left part equals the sum of the*

*#right part.*

*#Input: [1, 7, 3, 6, 5, 6]*

*#Expected Output: 3 (because [1+7+3] = [5+6])*

list=[1,7,3,6,5,6]

for i in range(len(list)):

    if sum(list[:i])==sum(list[i+1:]):

        print(i)

        break

else:

    print(-1)

3