

```
In [1]: newlists = ["apple", "orange", "banana"]
print(type(newlists))

<class 'list'>
```

```
In [2]: list1 = ["man", 45, True, 56, "male"]
print(len(list1))

5
```

```
In [4]: fruit = list(("apple", "orange", "banana"))
print(fruit)

['apple', 'orange', 'banana']
```

```
In [7]: list1 = ["apple", "orange", "banana"]
print(list1[-2])

orange
```

```
In [8]: list2 = ["apple", "orange", "banana", "mango", "cherry", "kiwi", "melon"]
if "mango" in list2:
    print("yes")

yes
```

```
In [9]: list1 = ["apple", "orange", "banana"]
list1[1] = "kiwi"
print(list1)

['apple', 'kiwi', 'banana']
```

```
In [14]: list2 = ["apple", "orange", "banana", "mango", "cherry", "kiwi", "melon"]
#List2[1:3] = ["brinjal", "tomato"]
print(list2[2:5])

['banana', 'mango', 'cherry']
```

```
In [15]: list1 = ["apple", "orange", "banana"]
list1[1:2] = ["aaa", "bbb"]
print(list1)

['apple', 'aaa', 'bbb', 'banana']
```

```
In [16]: list1 = ["apple", "orange", "banana"]
list1.insert(2, "berry")
print(list1)

['apple', 'orange', 'berry', 'banana']
```

```
In [17]: list1 = ["apple", "orange", "banana"]
list1[2] = "berry"
print(list1)

['apple', 'orange', 'berry']
```

```
In [18]: list1 = ["apple", "orange", "banana"]
list1.append("cherry")
print(list1)

['apple', 'orange', 'banana', 'cherry']
```

```
In [19]: list1 = ["apple", "orange", "banana"]
#List2 = ["aaa", "bbb", "ccc"]
tuple1 = ("mango", "cherry")
list1.extend(tuple1)
#List1.extend(List2)
print(list1)

['apple', 'orange', 'banana', 'mango', 'cherry']
```

```
In [20]: list1 = ["apple", "orange", "orange", "banana"]
list1.remove("orange")
print(list1)

['apple', 'orange', 'banana']
```

```
In [21]: list1 = ["apple", "orange", "banana"]
list1.pop(1)
print(list1)

['apple', 'banana']
```

```
In [22]: list1 = ["apple", "orange", "banana"]
list1.clear()
print(list1)

[]
```

```
In [23]: list1 = ["apple", "orange", "banana"]
for x in list1:
    print(x)

apple
orange
banana
```

```
In [25]: list1 = ["apple", "orange", "banana"]
for i in range(len(list1)):
    print(list1[i])

apple
orange
banana
```

```
In [29]: ▶ list1 = ["apple", "orange", "banana"]
          i = 0
          while i < len(list1):
              print(list1)
              i = i + 1
```

```
['apple', 'orange', 'banana']
['apple', 'orange', 'banana']
['apple', 'orange', 'banana']
```

```
In [30]: ▶ list1 = ["apple", "orange", "banana"]
          [print(x) for x in list1]
```

```
apple
orange
banana
```

Out[30]: [None, None, None]

```
In [31]: ▶ list1 = ["apple", "orange", "banana"]
          list1.reverse()
          print(list1)
```

```
['banana', 'orange', 'apple']
```

```
In [35]: ▶ list1 = ["apple", "orange", "banana"]
          list2 = list1
          print(list2)
          print(list1)
```

```
['apple', 'orange', 'banana']
['apple', 'orange', 'banana']
```

```
In [34]: ▶ list1 = ["apple", "orange", "banana"]
          list2 = ["mango", "kiwi"]
          list3 = list1 + list2
          print(list3)
```

```
['apple', 'orange', 'banana', 'mango', 'kiwi']
```

```
In [36]: ▶ thisList = ["apple", "orange", "banana"]
          print(len(thisList))
```

```
3
```

```
In [37]: ▶ list1 = ["apple", "orange", "banana"]
          print(list1[-2])
```

```
orange
```

```
In [38]: list2 = ["apple", "orange", "banana", "mango", "cherry", "kiwi", "melon"]
list2.sort()
print(list2)

['apple', 'banana', 'cherry', 'kiwi', 'mango', 'melon', 'orange']
```

```
In [39]: #List Comprehension
list5 = [x for x in range(1,11)]
print(list5)

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

```
In [40]: list2 = ["apple", "orange", "banana", "mango", "cherry", "kiwi", "melon"]
del list2[3]
print(list2)

['apple', 'orange', 'banana', 'cherry', 'kiwi', 'melon']
```

Question 1

Wap to create a list and display it, perform append and delete operation and display list.

```
In [42]: list1 = ["Utkrist", "Jaiswal", 21051526]
print(list1)
list1.append(22)
print(list1)
del list1[3]
print(list1)

['Utkrist', 'Jaiswal', 21051526]
['Utkrist', 'Jaiswal', 21051526, 22]
['Utkrist', 'Jaiswal', 21051526]
```

Question 2

WAP to create a list and display it, perform adding on element at particular position and delete at a particular position and display the updated list.

```
In [46]: list1 = ["Utkrist", "Jaiswal", 21051526]
print(list1)
list1.insert(3, "CSE36")
print(list1)
del list1[3]
print(list1)

['Utkrist', 'Jaiswal', 21051526]
['Utkrist', 'Jaiswal', 21051526, 'CSE36']
['Utkrist', 'Jaiswal', 21051526]
```

Question 3

WAP to create a list and display it, delete all occurrences of a particular number and display the updated list

```
In [54]: ▶ list1 = ["Utkrist", "Jaiswal", 22, 21051526, "CSE36"]
print(list1)
i = 0
while i < len(list1):
    if list1[i] == 22:
        list1.remove(22)
        print(list1)
    i += 1
```

```
['Utkrist', 'Jaiswal', 22, 21051526, 'CSE36']
['Utkrist', 'Jaiswal', 21051526, 'CSE36']
```

Question 4

WAP to create a list and display it, store unique number in another list and display new list.

```
In [71]: ▶ list1 = ["Utkrist", "Jaiswal", 22, 21051526, "CSE36", 22, 21051526, "CSE36"]
print(list1)
list2 = []
for str in list1:
    if str not in list2:
        list2.append(str)
print(list2)
```

```
['Utkrist', 'Jaiswal', 22, 21051526, 'CSE36', 22, 21051526, 'CSE36']
['Utkrist', 'Jaiswal', 22, 21051526, 'CSE36']
```

Question 5

WAP to create a list and display it, delete falsy values, and display updated list.

```
In [89]: ▶ list1 = ["Utkrist", "Jaiswal", 22, 21051526, "CSE36", 22, 21051526, "CSE36"]
print(list1)
list2 = list(filter(lambda x: x == "Utkrist", list1))
print(list2)
```

```
['Utkrist', 'Jaiswal', 22, 21051526, 'CSE36', 22, 21051526, 'CSE36', '']
['Utkrist']
```

Question 6

Python program to interchange first and last elements in a list

```
In [92]: list1 = ["Utkrist", "Jaiswal", 22, 21051526, "CSE36"]
i = len(list1) - 1
j = 0
temp = list1[i]
list1[i] = list1[j]
list1[j] = temp
print(list1)

['CSE36', 'Jaiswal', 22, 21051526, 'Utkrist']
```

Question 7

Python program to swap two elements in a list

```
In [113]: def swapp(x, y):
temp = x
x = y
y = temp
return x, y

list1 = [1,2,3,4,5,6]
n = int(input("Enter Element to swap: "))
k = int(input("Enter Element to swap with: "))

list1[n], list1[k] = swapp(list1[n], list1[k])
print(list1)

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

Question 8

Swap elements in String list.

```
In [123]: ▶ def swapp(x, y):
            temp = x
            x = y
            y = temp
            return x, y

            list1 = ["Utkrist", "Jaiswal", "CSE36"]
            n = int(input("Enter Element to swap: "))
            k = int(input("Enter Element to swap with: "))

            list1[n], list1[k] = swapp(list1[n], list1[k])
            print(list1)

            ['Jaiswal', 'Utkrist', 'CSE36']
```

Question 9

Maximum of 2 numbers

```
In [114]: ▶ num1 = int(input("enter Number 1: "))
            num2 = int(input("Enter Number 2: "))

            if num1 > num2:
                print("Element is greater: ", num1)
            else:
                print("Element is greater: ", num2)

            Element is greater: 3
```

Question 10

Python program to check if element exists in a list.

```
In [122]: ▶ list1 = [1,2,3,4,5]
            x = 5
            if x == list1[i]:
                print("Element exists")

            Element exists
```

Question 11

Python program to Reversing a List

```
In [124]: ▶ list1 = [1,2,3,4,5]
            list1.reverse()
            print(list1)

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

Question 12

Count occurrences of an element in a list.

```
In [127]: ▶ list1 = [1,2,3,3,4,3,3,5,1,2,7,8,9,0]
n = int(input("Enter element: "))
count = 0
for i in range (len(list1)):
    if n == list1[i]:
        count += 1

print(count)
```

4

Question 13

Python program to find second largest number in a list.

```
In [130]: ▶ list1 = [1,2,3,4,5,2,3,7,1,9]
list1.sort()
print(list1)
list1.reverse()
print(list1)
print("Second Largest number: ", list1[1])
```

```
[1, 1, 2, 2, 3, 3, 4, 5, 7, 9]
[9, 7, 5, 4, 3, 3, 2, 2, 1, 1]
Second Largest number: 7
```

Question 14

Python program to count Even and Odd numbers in a List.


```
In [135]: ▶ def oddEven(list1):
            evenCount = 0
            oddCount = 0

            for num in list1:
                if num % 2 == 0:
                    evenCount += 1
                else:
                    oddCount += 1
            return evenCount, oddCount

list1 = [1,2,3,4,5,6]

evenCount, oddCount = oddEven(list1)
print("Even Count: ", evenCount)
print("Odd Count: ", oddCount)
```

```
Even Count: 3
Odd Count: 3
```

Question 15

Python program to count positive and negative numbers in a list.

```
In [136]: ▶ def counting(list1):
            posCount = 0;
            negCount = 0
            zeroes = 0

            for num in list1:
                if num > 0:
                    posCount += 1
                elif num < 0:
                    negCount += 1
                elif num == 0:
                    zeroes += 1

            return posCount, negCount, zeroes

list1 = [0,1,2,3,4,5,6,-1,-9,0,-8]

posCount, negCount, zeroes = counting(list1)

print("Positive: ", posCount)
print("Negative: ", negCount)
print("Zeroes: ", zeroes)
```

```
Positive: 6
Negative: 3
Zeroes: 2
```

Question 16

Remove multiple elements from a list in Python.

```
In [137]: ▶ list1 = [1,2,3,4,5,1,2,3]
          for str in list1:
              if str in list1:
                  list1.remove(str)

          print(list1)
```

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

Question 17

Program to print duplicates from a list of integers.

```
In [138]: ▶ list1 = [2,1,0,5,1,5,2,3,6,3,4,1,2,8]
          print(list1)
          seen = set()
          duplicates = set()
          for element in list1:
              if element in seen:
                  duplicates.add(element)
              seen.add(element)
          print("Duplicate elements:", duplicates)
```

```
[2, 1, 0, 5, 1, 5, 2, 3, 6, 3, 4, 1, 2, 8]
```

```
Duplicate elements: {1, 2, 3, 5}
```