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Lab exercise-2

List concept

1.WAP to interchange first and last elements in a list.

```
l1=eval(input("Enter list: "))
print("List: ",l1)
#interchanging
t=l1[0]
l1[0]=l1[-1]
l1[-1]=t
print("\nFirst element: ",l1[0],"\nLast element: ",l1[-1])
```

```
↵ Enter list: [10,20.3,30,"Hasitha",(3+4j)]
List: [10, 20.3, 30, 'Hasitha', (3+4j)]

First element: (3+4j)
Last element: 10
```

2. WAP to swap 2 elements in a list

```
l2=eval(input("Enter list: "))
print("List: ",l2)
#swapping
t=l2[0]
l2[0]=l2[3]
l2[3]=t
print("\nAfter swapping: ",l2)
```

```
↵ Enter list: [354,35.45,True,"Gojo Saturo",(5+6j)]
List: [354, 35.45, True, 'Gojo Saturo', (5+6j)]

After swapping: ['Gojo Saturo', 35.45, True, 354, (5+6j)]
```

3.WAP to Remove multiple elements from a list in Python

```
l3 = [1, 2, 3, 4, 5]
elements_to_remove = [2, 4]
for elem in elements_to_remove:
    if elem in l3:
        l3.remove(elem)
print(l3) # Output: [1, 3, 5]
```

```
↵ [1, 3, 5]
```

4.WAP to cloning or copying a list

```
l=[ 2, 5, 7, 9, 2]
c1=list(l)
c2=l[:]
c3=l.copy()
print("COPY USING list():",c1)
print("COPY USING slicing:",c2)
print("COPY USING copy():",c3)
```

```
↵ COPY USING list(): [2, 5, 7, 9, 2]
COPY USING slicing: [2, 5, 7, 9, 2]
COPY USING copy(): [2, 5, 7, 9, 2]
```

5.WAP to print reversing of a list

```
l=[10,20,30,40]
print("Original list: ",l)
l.reverse()
print("After reversing: ",l)
```

```
↵ Original list: [10, 20, 30, 40]
After reversing: [40, 30, 20, 10]
```

Double-click (or enter) to edit

6.WAP to print occurrences of an element in a list

```
l=[1,4,7,9,2,3,5,7,6,8,9,1,3,6,8,2]
print ("The List:",l)
y=int(input("Enter the search element:"))
print(f"{y} has occurred",l.count(y),"times in the list.")
```

```
↵ The List: [1, 4, 7, 9, 2, 3, 5, 7, 6, 8, 9, 1, 3, 6, 8, 2]
Enter the search element:2
2 has occurred 2 times in the list.
```

7.WAP to print SUM & AVERAGE of List in Python

```
l=list(map(int,input("Enter elements of the list with space:").split()))
s=0
for i in l:
    s+=i
print ("SUM of ELEMENTS is :",s)
print ("AVERAGE of ELEMENTS is:",s/len(l))
```

```
↵ Enter elements of the list with space:1 3 5 7 8 9
SUM of ELEMENTS is : 33
AVERAGE of ELEMENTS is: 5.5
```

8. WAP in Python to multiply all numbers in a list?

```
l = [2, 3, 4, 5]
product = 1
for num in l:
    product *= num
print("Product of all numbers in the list:", product)
```

```
↵ Product of all numbers in the list: 120
```

9. WAP in Python to find out smallest number in a list ?

```
l = [5, 3, 7, 2, 8]
smallest = l[0]
for num in l:
    if num < smallest:
        smallest = num
print("Smallest number in the list:", smallest)
```

```
↵ Smallest number in the list: 2
```

10. WAP in Python to find the largest number in a list ?

```
l = [5, 3, 7, 2, 8]
largest = l[0]
for num in l:
    if num > largest:
        largest = num
print("Largest number in the list:", largest)
```

```
↵ Largest number in the list: 8
```

11. WAP in Python to find the second largest number in the list?

```
l = [5, 3, 7, 2, 8]

largest = l[0]
second_largest = None

for num in l:
    if num > largest:
        second_largest = largest
        largest = num
    elif second_largest is None or num > second_largest:
        second_largest = num

print("Second largest number in the list:", second_largest)
```

↩ Second largest number in the list: 7

12. WAP in Python to print even numbers in a list ?

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

print("Even numbers in the list:")
for num in num_list:
    if num % 2 == 0:
        print(num)
```

↩ Even numbers in the list:
2
4
6
8
10

13. WAP in Python to print ODD numbers in a list ?

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

print("Odd numbers in the list:")
for num in num_list:
    if num % 2 != 0:
        print(num)
```

↩ Odd numbers in the list:
1
3
5
7
9

14. WAP in Python to print duplicates from a list of integers ?

```
num_list = [1, 2, 3, 4, 2, 5, 6, 3, 7, 8, 5]

print("Duplicates in the list:")
seen = set()
duplicates = set()
for num in num_list:
    if num in seen:
        duplicates.add(num)
    else:
        seen.add(num)

for duplicate in duplicates:
    print(duplicate)
```

↩ Duplicates in the list:
2
3
5

15. WAP in Python to remove empty tuples from a list ?

```
tuple_list = [(1, 2), (), (3, 4), (), (), (5,), (6, 7, 8), ()]
```

```
# Remove empty tuples using list comprehension  
filtered_list = [tup for tup in tuple_list if tup]
```

```
print("List after removing empty tuples:", filtered_list)
```

```
🔗 List after removing empty tuples: [(1, 2), (3, 4), (5,), (6, 7, 8)]
```