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CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

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Laboratory Manual

Academic Year	:	2022- 23	Semester	:	4th
Course code	:	CE259	Course name	:	Programming In Python

PRACTICAL – 2

A) Create a list and apply methods (append, extend, remove, reverse), arrange the created list in ascending and descending order.

```
list1 = [13, 22, 18, 12, 2, 11]
print("Original : ", list1)

#extend and append in list
list1.append(25)
print("After append : ",list1)

list2 = [15, 7]
list1.extend(list2)
print("After extend : ",list1)

#remove element from list
list1.remove(15)
print("Remove 15 : ",list1)

#reverse a list
list3 = list1[ : :-1]
print("Reverse list : ",list3)

#ascending and descending sort
list1.sort()
print("Ascending : ",list1)
list1.sort(reverse=True)
```

Output: -

```
Original :  [13, 22, 18, 12, 2, 11]
After append :  [13, 22, 18, 12, 2, 11, 25]
After extend :  [13, 22, 18, 12, 2, 11, 25, 15, 7]
Remove 15 :  [13, 22, 18, 12, 2, 11, 25, 7]
Reverse list :  [7, 25, 11, 2, 12, 18, 22, 13]
Ascending :  [2, 7, 11, 12, 13, 18, 22, 25]
Descending :  [25, 22, 18, 13, 12, 11, 7, 2]
>
```

B) List1 = [1, 2, 3, 4, ["python", "java", "c++", [10,20,30]], 5, 6, 7, ["apple", "banana", "orange"]] From above list get word “orange” and “Python” & repeat this list five times without using loops.

List1 =[1,2,3,4,["python","java","c++",[10,20,30]],5,6,7,["apple","banana","orange"]]

```
# orange
print("List1[8][2] : ", List1[8][2])

# python
print("List1[4][0] : ", List1[4][0])

# print 5 times
print("5 times : \n", List1 * 5)
```

Output: -

```
List1[8][2] :  orange
List1[4][0] :  python
5 times :
 [1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7, ['apple', 'banana',
     'orange'], 1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7, ['apple',
     'banana', 'orange'], 1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7,
     ['apple', 'banana', 'orange'], 1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5
     , 6, 7, ['apple', 'banana', 'orange'], 1, 2, 3, 4, ['python', 'java', 'c++', [10, 20,
     30]], 5, 6, 7, ['apple', 'banana', 'orange']]
>
```

C) Create a list and copy it using slice function

```
list1 = [13, 22, 18, 12, 2, 11]
print("Original : ", list1)

# Copying list
list2 = list1[:]  # Copying list1 to list2 using list slicing
print("Copied list : ", list2)
```

Output: -

```
Original :  [13, 22, 18, 12, 2, 11]
Copied list :  [13, 22, 18, 12, 2, 11]
>
```

D) Create a tuple and apply different types of mathematical operation on it (Sum, Maximum, minimum etc.).

```
# Create a tuple
my_tuple = (10, 20, 30, 40, 50)

# Sum of all elements in the tuple
total_sum = sum(my_tuple)
print("Sum of the tuple elements:", total_sum)

# Maximum element in the tuple
max_value = max(my_tuple)
print("Maximum value in the tuple:", max_value)

# Minimum element in the tuple
min_value = min(my_tuple)
print("Minimum value in the tuple:", min_value)

# Length of the tuple
tuple_length = len(my_tuple)
print("Length of the tuple:", tuple_length)
```

Output: -

```
Sum of the tuple elements: 150
Maximum value in the tuple: 50
Minimum value in the tuple: 10
Length of the tuple: 5
```