Practical No. 7 : Write Python program to perform following operations on Lists: Create list, Access list, Update list (Add item, Remove item), and Delete list

- **Practical related questions**

1. Write syntax for a method to sort a list.

➔

In Python, to sort a list, you can use the `sort()` method for sorting in-place, or the `sorted()` function for returning a new sorted list.

a) Using `sort()` method

Syntax: `list_name.sort()`

b) Using `sorted()` method

Syntax: `sorted_list = sorted(list_name)`

2. Justify the statement "Lists are mutable" not.

➔

The statement "Lists are mutable" refers to the fact that in Python, lists can be changed after their creation. This means you can modify the contents of a list, such as adding, removing, or changing elements, without creating a new list.

3. Describe various list functions.

➔

a) append() -

Adds an element to the end of the list.

Syntax -

```
list.append(element)
```

b) insert() -

Inserts an element at a specified index in the list. Shifts the subsequent elements to the right.

Syntax -

```
list.insert(index, element)
```

c) remove() -

Removes the first occurrence of the specified element from the list.

Syntax -

```
list.remove(element)
```

d) pop() -

Removes and returns the element at the specified index. If no index is specified, it removes and returns the last element. Raises an `IndexError` if the list is empty .

Syntax -

1) `list.pop(index)`
2) `list.pop()`

e) clear() -

Removes all elements from the list, leaving it empty.

Syntax -

```
list.clear()
```

f) sort() -

Sorts the list in ascending order by default. You can pass the `reverse=True` argument to sort in descending order.

Syntax -

1) `list.sort()`
2) `ist.sort(reverse=True)`

g) reverse() -
Reverses the order of elements in the list.

Syntax -
```
list.reverse()
```

4. Write a Python program to find common items from two lists.

➔

```
list1 = [1, 2, 3, 4, 5]
list2 = [4, 5, 6, 7, 8]
common_items = list(set(list1) & set(list2))
print("Common items:", common_items)
```

Output:

```
Common items: [4, 5]
```

5. Write a Python program to reverse a list.

➔

```
my_list = [1, 2, 3, 4, 5]
print("Original list:", my_list)
my_list.reverse()
print("Reversed list:", my_list)
```

Output:

```
Original list: [1, 2, 3, 4, 5]
Reversed list: [5, 4, 3, 2, 1]
```