Python List Programs

1. Create and Print a List

```
fruits = ["apple", "banana", "cherry"] print(fruits)
```

2. Access List Elements

```
fruits = ["apple", "banana", "cherry"] print(fruits[0]) # apple print(fruits[-1]) #
cherry
```

3. Modify List Elements

```
fruits = ["apple", "banana", "cherry"] fruits[1] = "orange" print(fruits)
```

4. Append and Insert

```
fruits = ["apple", "banana"] fruits.append("cherry") fruits.insert(1, "mango")
print(fruits)
```

5. Remove Elements

```
fruits = ["apple", "banana", "cherry", "mango"] fruits.remove("banana")
fruits.pop(1) print(fruits)
```

6. Loop Through List

```
fruits = ["apple", "banana", "cherry"] for fruit in fruits: print(fruit)
```

7. Check if Item Exists

```
fruits = ["apple", "banana", "cherry"] if "banana" in fruits: print("Yes, banana is
in the list")
```

8. List Length

```
fruits = ["apple", "banana", "cherry"] print(len(fruits))
```

9. Sort and Reverse

```
numbers = [5, 2, 9, 1] numbers.sort() print(numbers) numbers.sort(reverse=True)
print(numbers)
```

10. Nested Lists

```
matrix = [[1, 2, 3], [4, 5, 6], [7, 8, 9]] print(matrix[1][2])
```

11. List Comprehension

```
squares = [x**2 for x in range(1, 6)] print(squares)
```

12. Find Maximum and Minimum

```
numbers = [10, 20, 4, 45, 99] print("Max:", max(numbers)) print("Min:",
min(numbers))
```

13. Sum of Elements

```
numbers = [10, 20, 30, 40] print("Sum:", sum(numbers))
```

14. Copy a List

```
fruits = ["apple", "banana", "cherry"] copy_list = fruits.copy() print(copy_list)
```

15. Join Two Lists

```
list1 = [1, 2, 3] list2 = [4, 5, 6] combined = list1 + list2 print(combined)
```

16. Count Occurrences

```
fruits = ["apple", "banana", "apple", "cherry"] print(fruits.count("apple"))
```

17. Find Index of Item

```
fruits = ["apple", "banana", "cherry"] print(fruits.index("banana"))
```

18. Remove Duplicates

```
numbers = [1, 2, 2, 3, 4, 4, 5] unique = list(set(numbers)) print(unique)
```

19. Reverse a List

```
numbers = [1, 2, 3, 4, 5] numbers.reverse() print(numbers)
```

20. List of Even Numbers using Comprehension

```
evens = [x for x in range(1, 21) if x % 2 == 0] print(evens)
```

21. 2D List Traversal

```
matrix = [[1, 2], [3, 4], [5, 6]] for row in matrix: for val in row: print(val,
end=" ") print()
```

22. Find Second Largest Number

```
numbers = [10, 20, 4, 45, 99] numbers.sort() print("Second largest:", numbers[-2])
```