

PYTHON PROGRAMS – LISTS AND TUPLE

1. Create and Print a List

```
# Creating a list
fruits = ["Apple", "Banana", "Cherry", "Date"]

# Printing the list
print("List of fruits:", fruits)
```

2. Access Elements in a List

```
# Accessing elements by index
print("First fruit:", fruits[0])
print("Last fruit:", fruits[-1])
```

3. Update Elements in a List

```
# Updating an element in the list
fruits[1] = "Blueberry"
print("Updated list of fruits:", fruits)
```

4. Append and Insert Elements in a List

```
# Appending an element to the list
fruits.append("Elderberry")
print("List after appending:", fruits)

# Inserting an element at a specific position
fruits.insert(2, "Coconut")
print("List after inserting:", fruits)
```

5. Remove Elements from a List

```
# Removing an element by value
fruits.remove("Date")
print("List after removing 'Date':", fruits)

# Removing an element by index
del fruits[0]

print("List after removing the first element:",
fruits)
```

6. List Comprehension

```
# Creating a list of squares using list
comprehension
squares = [x**2 for x in range(1, 11)]

print("List of squares:", squares)
```

7. Create and Print a Tuple

```
# Creating a tuple
colors = ("Red", "Green", "Blue", "Yellow")

# Printing the tuple
print("Tuple of colors:", colors)
```

8. Access Elements in a Tuple

```
# Accessing elements by index
print("First color:", colors[0])
print("Last color:", colors[-1])
```

9. Tuple Unpacking

```
# Unpacking a tuple
(red, green, blue, yellow) = colors

print("Red:", red)
print("Green:", green)
print("Blue:", blue)
print("Yellow:", yellow)
```

10. Concatenate and Repeat Tuples

```
# Concatenating tuples
more_colors = ("Purple", "Orange")
all_colors = colors + more_colors
print("Concatenated tuple:", all_colors)

# Repeating tuples
repeated_colors = colors * 2

print("Repeated tuple:", repeated_colors)
```