**Python Assignment: Lists, Tuples & Sets**

### 🐍 Part 1: Python Lists –Questions

1. Create a list of 5 fruits and print the list.
2. Add “grapes” to the end of the list using append().
3. Insert “watermelon” at the 2nd position in the list.
4. Extend the list with another list ["pineapple", "papaya"].
5. Remove “banana” from the list using remove().
6. Pop the last element from the list and print it.
7. Sort the list in alphabetical order using sort().
8. Reverse the list using reverse().
9. Count how many times “apple” occurs in the list.
10. Slice the list and print only the first three elements.

### 📦 Part 2: Python Tuples –Questions

1. Create a tuple of 5 city names and print it.
2. Access the 3rd item from the tuple using indexing.
3. Check if “Mumbai” exists in the tuple.
4. Try to change the second item and observe the result.
5. Concatenate two tuples: ("cat", "dog") and ("parrot", "rabbit").
6. Repeat a tuple 3 times using the \* operator.
7. Use len() to find the length of the tuple.
8. Convert a tuple to a list and print it.
9. Unpack a tuple of 3 values into 3 variables.
10. Create a nested tuple and access the inner element.

### 🧺 Part 3: Python Sets –Questions

1. Create a set of colors and print it.
2. Add “black” to the set using add().
3. Add multiple items {"white", "purple"} using update().
4. Remove “red” from the set using remove().
5. Safely discard “orange” from the set using discard().
6. Use pop() to remove a random item and print the set.
7. Find the union of two sets: set1 = {1, 2, 3}, set2 = {3, 4, 5}.
8. Find the intersection of two sets.
9. Find the difference between set1 and set2.
10. Clear all items from a set using clear() and print it.