**Python Data Structures Assignment**

**Section 1: Lists**

1. **Create a List:**  
   Create a list containing the numbers 1 through 15. Print the list.
2. **List of Strings:**  
   Create a list of your five favorite fruits. Print the list.
3. **Accessing Elements:**  
   Given the list [10, 20, 30, 40, 50], print the first and last element using positive and negative indexing.
4. **List Length:**  
   Create a list of any 5 items and print its length using the len() function.
5. **Appending Elements:**  
   Start with an empty list and append the numbers 1, 2, and 3. Print the list.
6. **Inserting an Element:**  
   Given a list [1, 3, 4], insert the number 2 at the correct position so that the list becomes [1, 2, 3, 4].
7. **Removing an Element:**  
   Remove the number 3 from the list [1, 2, 3, 4, 5] using a list method and print the new list.
8. **Popping an Element:**  
   Given the list [10, 20, 30, 40], pop the last element and print the element and the updated list.
9. **Slicing a List:**  
   Given the list [0, 1, 2, 3, 4, 5], print a slice that contains the elements from index 2 to 4.
10. **List Concatenation:**  
    Concatenate two lists, e.g., [1, 2, 3] and [4, 5, 6], and print the resulting list.
11. **Repeating a List:**  
    Create a list [1, 2] and print the list repeated three times.
12. **Copying a List:**  
    Create a copy of a given list and print both the original and the copy.
13. **Clearing a List:**  
    Given any list, use a method to clear all its elements and then print the empty list.

### Section 2: Tuples

1. **Create a Tuple:**  
   Create a tuple containing the numbers 1, 2, and 3. Print the tuple.
2. **Tuple of Strings:**  
   Create a tuple of three different color names and print it.
3. **Accessing Tuple Elements:**  
   Given the tuple (10, 20, 30, 40), print the second element.
4. **Tuple Slicing:**  
   Using the tuple (0, 1, 2, 3, 4), print a slice that contains elements from index 1 to 3.
5. **Concatenating Tuples:**  
   Concatenate two tuples, e.g., (1, 2) and (3, 4), and print the result.
6. **Tuple Unpacking:**  
   Store the tuple ("Alice", 25, "New York") into three variables and print them.
7. **Convert List to Tuple:**  
   Convert the list [1, 2, 3, 4] into a tuple and print the tuple.
8. **Counting Occurrences:**  
   Given the tuple (1, 2, 2, 3, 2), count how many times the number 2 appears.
9. **Finding an Index:**  
   In the tuple (10, 20, 30, 40), find the index of the element 30 and print it.