Python assignment 3

1. Create a list 'fruits' containing ["apple", "banana", "cherry"]. Add "orange" to the end of the list using the .append() method and print the list.

```
In [31]: fruits = ["apple", "banana", "cherry"]
    ...: fruits.append("orange")
    ...: print("Fruits list after append:", fruits)
Fruits list after append: ['apple', 'banana', 'cherry', 'orange']
```

2. Given the list 'numbers = [1, 2, 3, 4, 5]', insert the number '10' at index '2' using the '.insert()' method and print the list.

```
In [32]: numbers = [1, 2, 3, 4, 5]
    ...: numbers.insert(2, 10)
    ...: print("Numbers list after insert:", numbers)
Numbers list after insert: [1, 2, 10, 3, 4, 5]
```

3. Create a list 'colors' containing ["red", "green", "blue", "green"]. Remove the first occurrence of "green" using the '.remove()' method and print the list.

```
In [33]: colors = ["red", "green", "blue", "green"]
    ...: colors.remove("green")
    ...: print("Colors list after remove:", colors)
Colors list after remove: ['red', 'blue', 'green']
```

4. Given the list 'names = ["Alice", "Bob", "Charlie", "Bob"]', use the '.count()' method to count how many times "Bob" appears in the list and print the result.

```
In [34]: names = ["Alice", "Bob", "Charlie", "Bob"]
    ...: bob_count = names.count("Bob")
    ...: print("Count of 'Bob' in names:", bob_count)
Count of 'Bob' in names: 2

In [35]:
```

5. Create a list 'numbers' with the values '[5, 2, 9, 1, 5, 6]'. Use the '.sort()' method to sort the list in ascending order and print the sorted list.

```
In [35]: numbers = [5, 2, 9, 1, 5, 6]
    ...: numbers.sort()
    ...: print("Sorted numbers list:", numbers)
Sorted numbers list: [1, 2, 5, 5, 6, 9]
```

6. Given the list 'numbers = [1, 2, 3, 4, 5]', use the '.pop()' method to remove and print the last element of the list. Then, print the updated list.

```
In [36]: numbers = [1, 2, 3, 4, 5]
    ...: last_element = numbers.pop()
    ...: print("Popped element:", last_element)
    ...: print("Updated numbers list after pop:", numbers)
Popped element: 5
Updated numbers list after pop: [1, 2, 3, 4]
```

7. Create a list 'items' containing ["pen", "pencil", "eraser"]. Use the '.index()' method to find the index of "pencil" and print the result.

```
In [37]: items = ["pen", "pencil", "eraser"]
    ...: pencil_index = items.index("pencil")
    ...: print("Index of 'pencil' in items:", pencil_index)
Index of 'pencil' in items: 1
```
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English (India) keyboard

8. Given the list 'letters = ["a", "b", "c"]', use the '.extend()' method to add the elements of another list '["d", "e", "f"]' to letters and print the updated list.

```
In [39]: letters = ["a", "b", "c"]
    ...: letters.extend(["d", "e", "f"])
    ...: print("Updated letters list after extend:", letters)
Updated letters list after extend: ['a', 'b', 'c', 'd', 'e', 'f']
```

9. Create a list 'values' with the elements '[10, 20, 30, 40, 50]'. Use slicing to print the sublist '[20, 30, 40]'.

```
In [40]: values = [10, 20, 30, 40, 50]
    ...: sublist = values[1:4]
    ...: print("Sublist from values:", sublist)
Sublist from values: [20, 30, 40]
```

10. Given the list 'numbers = [1, 2, 3, 4, 5]', use list comprehension to create a new list 'squares' containing the squares of each number in numbers and print squares.

```
In [41]: numbers = [1, 2, 3, 4, 5]
    ...: squares = [number ** 2 for number in numbers]
    ...: print("List of squares:", squares)
List of squares: [1, 4, 9, 16, 25]
```