# step 1: Create a list named “Subjects” by inserting 10 subjects into it through any loop

Subjects = []

for i in range(1, 11):

Subjects.append(f"Subject {i}")

print("Subjects list:", Subjects)

print()

# Step 2: create a list “Elective Subjects” with 5 subjects through direct initialization.

Elective\_Subjects = ["Elective 1", "Elective 2", "Elective 3", "Elective 4", "Elective 5"]

print("Elective Subjects list:", Elective\_Subjects)

print()

# Step 3: Extend list “Subject” by another list “Elective Subjects”.

Subjects.extend(Elective\_Subjects)

print("Extended Subjects list:", Subjects)

print()

# Step 4: Append 3 duplicate subjects into “Subject” list.

Subjects.append("Subject 1")

Subjects.append("Subject 3")

Subjects.append("Subject 7")

print("Subjects list with duplicates:", Subjects)

print()

# Step 5: Find the index of first occurrence of that duplicate value

duplicate\_value = "Subject 1"

index = Subjects.index(duplicate\_value)

print(f"Index of first occurrence of '{duplicate\_value}':", index)

print()

# Step 6: then remove all the occurrences of that specific subject through loop.

while duplicate\_value in Subjects:

Subjects.remove(duplicate\_value)

print("Subjects list after removing all duplicates of 'Subject 1':", Subjects)

print()

# Step 7: Define function remove range(i1,i2) to remove range of element from i1 to i2 through del keyword and return the resultant list.

def remove\_range(lst, i1, i2):

del lst[i1:i2]

return lst

# Example usage:

Subjects = remove\_range(Subjects, 2, 5)

print("Subjects list after removing elements from index 2 to 4:", Subjects)

print()

# Step 8: Pop 5th element after reversing and sorting your list.

Subjects.reverse()

Subjects.sort()

element = Subjects.pop(4)

print(f"Popped 5th element '{element}' after reversing and sorting:", Subjects)

print()

total\_elements = len(Subjects)

print("Total elements in Subjects list:", total\_elements)

print()

# Step 9: Count total elements in your list and finally clear the list.

Subjects.clear()

print("Subjects list after clearing:", Subjects)