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# Empty List
empty_list = []
print ("Empty List ->", empty_list)

print
("-----------------------------------------------------------------------")

num_list = [1, 2, 3, 4, 5, [6, 7, 8]]
string_list = ["in", "im", "writing", "python", "script"]
mix_list = [1, "I", 2, "am", 3, "writing", 4, "python", 5, "script"]

print ("Number List ->", num_list)
print ("String List ->", string_list)
print ("Mix List ->", mix_list)

print
("-----------------------------------------------------------------------")

# Modify the Lists
# Append Method - adds the element at the end of the list
num_list.append(6)
print ("After Append 1 ->", num_list)
num_list.append(7)
print ("After Append 2 ->", num_list)
num_list.append(8)
print ("After Append 3 ->", num_list)

print
("-----------------------------------------------------------------------")

# Insert Method - adds the element at the given position
num_list.insert(0, 9)
print ("After Insert 1 ->", num_list)
num_list.insert(5, 10)
print ("After Insert 2 ->", num_list)
num_list.insert(8, 11)
print ("After Insert 3 ->", num_list)

print
("-----------------------------------------------------------------------")

# Extend Method - Adds the list of elements at the end of the list
another_list = [15, 14, 13, 12, 16]
num_list.extend(another_list)
print ("After Extend ->", num_list)

some_other_list = [19, 18, 17]
num_list += some_other_list
print ("After Concat ->", num_list)
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```
num_list.append(another_list)
print ("After Append ->", num_list)

print
("-----------------------------------------------------------------")

# POP Method - Removes the elements at the end
removed_element = num_list.pop()
print ("Removed Element ->", removed_element)
print ("After POP ->", num_list)

print
("-----------------------------------------------------------------")

# Remove Method
num_list.remove(9)
print ("After Remove ->", num_list)

print
("-----------------------------------------------------------------")

# Del Function
del (num_list[6:10]) # Removes num_list[6], num_list[7], num_list[8],
num_list[9]
print ("After DEL ->", num_list)

print
("-----------------------------------------------------------------")

# General Functions
# num_list.append([6, 7, 8])
print ("Length of the List ->", len(num_list))
print ("Maximum ->", max(num_list))
print ("Minimum ->", min(num_list))
print ("Maximum ->", max(string_list))
print ("Minimum ->", min(string_list))
print ("Sum ->", sum(num_list)) # works only on the lists that contains
only numbers
print ("Index of value 19 ->", num_list.index(19))
print ("Count of 19 ->", num_list.count(190))

print
("-----------------------------------------------------------------")

# Sorted Function
new_list = sorted(num_list, reverse=True)
print ("After Sorted Num List ->", num_list)
print ("New List Sorted ->", new_list)

print
("-----------------------------------------------------------------")

# Sort Method
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num_list.sort(reverse=True)
print ("Num List Sorted ->", num_list)

print
("----------------------------------------------------------------------")

# Repetition
num_list = [1, 2, 3, 4, 5]
print ("Repetition Operator ->", num_list * 2)

# Using Iterator
for number in num_list:
  print ("For Loop ->", number)

count = 0
while (count < len(num_list)):
  print ("While Loop ->", num_list[count])
  count += 1

print
("----------------------------------------------------------------------")

# Membership Operator
string = "I am writing python script"
if ("ting" in string):
  print ("Present")
else:
  print ("Not Present")

if ("ting1" not in string):
  print ("Not Present")
else:
  print ("Present")

print
("----------------------------------------------------------------------")

emp_loc = ["chennai", "bangalore", "pune", "mumbai", "noida"]
if ("chennai" in emp_loc):
  print ("Chennai is present in the list")
else:
  print ("Chennai is not present in the list")

print
("----------------------------------------------------------------------")

# List Comprehension
sqr_list = []
for num in range(1, 11):
  if (num % 2 == 0):
    sqr_list.append(num ** 2)

print ("Square List without comprehension ->", sqr_list)
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sqr_list_comp = [num ** 2 for num in range(1, 11) if (num % 2 == 0)]
print ("Square List with comprehension ->", sqr_list_comp)

chk_number = [(num > 3) for num in range(1, 6)]
print ("Check Number ->", chk_number)

print
("----------------------------------------------------------------------")

# Nested Lists
list_1 = [1, 2, 3]
list_2 = [4, list_1, 5, 6]

print ("List 1 ->", list_1)
print ("List 2 ->", list_2)

print ("list_2[1] ->", list_2[1])
print ("list_2[1][1] ->", list_2[1][1])

print
("----------------------------------------------------------------------")
```