

Lab Exercise - 2 i) LIST · Create a LIST with your domain attributes, insert the elements using the append (), insert(), extend() and add any iterables (tuples, sets, dictionaries etc.) to the list (Use all the methods ).

```
In [ ]: # Creating a list with domain attributes
school_attri = ['Students', 'Teachers', 'Courses', 'Classes', 'Fees', 'Timetable']

# Inserting elements using append()
school_attri.append('Library')
print("After append:", school_attri)

# Inserting elements using insert()
school_attri.insert(2, 'Exams')
print("After insert:", school_attri)

# Inserting elements using extend() with a tuple
school_attri.extend(('Transportation', 'Sports'))
print("After extend with tuple:", school_attri)

# Inserting elements using extend() with a set
school_attri.extend({'Cafeteria', 'Events'})
print("After extend with set:", school_attri)

# Inserting elements using extend() with a dictionary
school_attri.extend({'Grades': ['A', 'B', 'C']})
print("After extend with dictionary:", school_attri)
```

After append: ['Students', 'Teachers', 'Courses', 'Classes', 'Fees', 'Timetable', 'Library']

After insert: ['Students', 'Teachers', 'Exams', 'Courses', 'Classes', 'Fees', 'Timetable', 'Library']

After extend with tuple: ['Students', 'Teachers', 'Exams', 'Courses', 'Classes', 'Fees', 'Timetable', 'Library', 'Transportation', 'Sports']

After extend with set: ['Students', 'Teachers', 'Exams', 'Courses', 'Classes', 'Fees', 'Timetable', 'Library', 'Transportation', 'Sports', 'Events', 'Cafeteria']

After extend with dictionary: ['Students', 'Teachers', 'Exams', 'Courses', 'Classes', 'Fees', 'Timetable', 'Library', 'Transportation', 'Sports', 'Events', 'Cafeteria', 'Grades']

Create a list with numeric and perform the following operations. · Write a program to swap the first and last elements in a list. · Write a program to find the sum of the digits in a list. · Write a program to find the smallest element in a list.

```
In [ ]: # Creating a list with numeric values
num_list = [10, 5, 8, 15, 20]

# Swapping the first and last elements in the list
num_list[0], num_list[-1] = num_list[-1], num_list[0]
print("After swapping first and last elements:", num_list)

# Finding the sum of the digits in the list
sum_digit = sum(int(digit) for num in num_list for digit in str(num))
print("Sum of digits in the list:", sum_digit)

# Finding the smallest element in the list
smallest_element = min(num_list)
print("Smallest element in the list:", smallest_element)
```

After swapping first and last elements: [20, 5, 8, 15, 10]

Sum of digits in the list: 22

Smallest element in the list: 5

ii) Dictionaries · Sort the dictionaries in ascending order based on the Key of the dictionary. · Create the dictionary with Numeric as Value in Key – Value pair and find the sum of all the values in the Dictionary. · Write a Python code to demonstrate the sorting in descending order of values with lambda function.

```
In [ ]: student_marks = {
    101: 85,
    102: 92,
    103: 78,
    104: 95,
    105: 80
}
sorted_student_marks = {k: v for k, v in sorted(student_marks.items())}
print("Dictionary after sorting in ascending order based on keys:", sorted_stude

total_marks = sum(student_marks.values())
print("Sum of all the values in the dictionary:", total_marks)

student_scores = {
    "manoj": 85,
    "chris": 92,
    "sneha": 78,
    "ramya": 95,
    "chigaa": 80
}

sorted_student_scores = {k: v for k, v in sorted(student_scores.items(), key=lambda
print("Dictionary sorted in descending order based on values:", sorted_student_s
```

Dictionary after sorting in ascending order based on keys: {101: 85, 102: 92, 103: 78, 104: 95, 105: 80}

Sum of all the values in the dictionary: 430

Dictionary sorted in descending order based on values: {'ramya': 95, 'chris': 92, 'manoj': 85, 'chigaa': 80, 'sneha': 78}