

**Sri Sivasubramaniya Nadar College of Engineering,
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Kalavakkam – 603 110**

**Department of Computer Science & Engineering
UCS1313 – Object Oriented Programming Using Java Lab**

Exercise - 8 – Collection Framework

Objective:

1. To perform operations on ArrayList and LinkedList in Java

Sample Learning Outcome:

1. Usage of ArrayList and LinkedList in Java
2. Perform operations using Collection Framework
3. Perform merge, union, intersection and comparison on ArrayLists

Best Practices:

1. Class Diagram usage
2. Naming convention – for file names, variables
3. Comment usage at proper places
4. Prompt messages during reading input and displaying output
5. Incremental program development
6. Modularity
7. All possible test cases in output

1. Write a program to perform string operations using ArrayList. Write functions for the following (Note: Write a menu driven program)
 - a. Append - add at end
 - b. Insert – add at particular index
 - c. Find the index of a particular element (Search)
 - d. Display the list
 - e. List all string starts with given letter
 - f. List of all string contains the Substring
 - g. Sort the elements in ArrayList
 - h. Remove a particular element
 - i. Replace one string with another string in ArrayList
 - j. Remove duplicate elements
2. Write a program to get two integer arraylist. Perform the following operations (Note: Write a menu driven program)
 - a. Merge the two lists
 - b. Find Union of two lists
 - c. Find Intersection of two lists
 - d. Compare two lists
1. Using Collection framework, create a doubly linked list of integers and perform the following operations.
 - e. Insert element on both sides
 - f. Delete element on both sides
 - g. Insert an element at a particular position
 - h. Delete a particular element
 - i. Search for a particular element
 - j. Display list in forward order and backward order
 - k. Sort the elements in LinkedList
 - l. Replace one element in the list with another list
 - m. Remove duplicate elements