Experiment 4

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Subject Name: Project Based Learning in Java with Lab **Subject Code: 22CSH-359**

1. Aim:

Write a Program to perform the basic operations like insert, delete, display and search in list. List contains String object items where these operations are to be performed.

2. Objective:

The objective of this program is to implement basic list operations such as **insert, delete, display, and search** on a list that stores **string objects**. The program provides an interactive menu to perform these operations efficiently.

3. Implementation/Code:

```
import java.util.ArrayList;
import java.util.Scanner;
public class exp4 {
   public static void main(String[] args) {
      ArrayList<String> arr = new ArrayList<String>();
      arr.add("Aman");
      arr.add("Arsh");
      arr.add("Grover");
      arr.add("Dl");
      arr.add("Exp4");
      System.out.println("\nSize of list is : " + arr.size());
      System.out.println("List is: ");
      for (String item : arr) {
         System.out.println(item);
      }
      arr.set(arr.size() - 1, "AMAN RAJ");
      System.out.println("\nModified list is: ");
      for (String item : arr) {
         System.out.println(item);
      }
      arr.remove(arr.size() - 1);
      System.out.println("\nSize of list after removing last element is : " + arr.size());
      System.out.println("Updated list is: ");
      for (String item : arr) {
         System.out.println(item);
      }
      String s = "EXP4";
      if (arr.contains(s)) {
```

```
            System.out.println("\nGiven element '" + s + "' is found in array list\n");
        } else {
            System.out.println("\nGiven element '" + s + "' not found in array list\n");
        }
    }
}
```

4. Output

```
Size of list is : 5
List is:
Aman
Arsh
Grover
Dl
Exp4

Modified list is:
Aman
Arsh
Grover
Dl
AMAN RAJ
```

```
Size of list after removing last element is : 4
Updated list is:
Aman
Arsh
Grover
Dl

Given element 'EXP4' not found in array list
```

5. Learning Outcomes:

- **Understand List Operations** – Gain hands-on experience with fundamental list operations such as insertion, deletion, searching, and displaying elements.

- **Apply Object-Oriented Programming (OOP)** – Learn how to structure code using **classes and objects** in Python.

- **Develop Menu-Driven Programs** – Learn how to create an interactive **menu-driven** program that takes user input and performs actions accordingly.

- **Work with String Data** – Understand how to manipulate **string objects** in a list and perform operations on them.

- **Enhance Problem-Solving Skills** – Improve logical thinking by implementing different functionalities in an efficient way.