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Experiment 2.3

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Subject Name: Java Lab
Subject Code:21CSH-319

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:

- To learn about concept of ArrayList.
- To learn about various methods of List.

3. Algo. /Approach and output:

```
import java.util.ArrayList;

import java.util.Scanner;

class StringListOperations {

    private ArrayList<String> stringList;

    public StringListOperations() {

        stringList = new ArrayList<>();

    }

    public void insertItem(String item) {

        stringList.add(item);

        System.out.println("Inserted successfully");

    }

    public void searchItem(String item) {
```

```
        if (stringList.contains(item)) {
            System.out.println("Item found in the list.");
        } else {
            System.out.println("Item not found in the list.");
        }
    }
    public void deleteItem(String item) {
        if (stringList.contains(item)) {
            stringList.remove(item);
            System.out.println("Deleted successfully");
        } else {
            System.out.println("Item does not exist.");
        }
    }
    public void displayItems() {
        System.out.println("The Items in the list are :");
        for (String item : stringList) {
            System.out.println(item);
        }
    }
}
public class arraylist {
    public static void main(String[] args) {
        StringListOperations slist = new StringListOperations();
```

```
Scanner scanner = new Scanner(System.in);
while (true) {
    System.out.println("1. Insert");
    System.out.println("2. Search");
    System.out.println("3. Delete");
    System.out.println("4. Display");
    System.out.println("5. Exit");
    System.out.println("Enter your choice:");
    int choice = scanner.nextInt();
    scanner.nextLine(); // Consume newline character
    switch (choice) {
        case 1:
            System.out.println("Enter the item to be inserted:");
            String itemToInsert = scanner.nextLine();
            slist.insertItem(itemToInsert);
            break;
        case 2:
            System.out.println("Enter the item to search:");
            String itemToSearch = scanner.nextLine();
            slist.searchItem(itemToSearch);
            break;
        case 3:
            System.out.println("Enter the item to delete:");
            String itemToDelete = scanner.nextLine();
```

```
                slist.deleteItem(itemToDelete);
                break;
            case 4:
                slist.displayItems();
                break;
            case 5:
                System.out.println("Exiting program.");
                scanner.close();
                System.exit(0);
                break;
            default:
                System.out.println("Invalid choice. Please enter a valid option.");
                break;
        }
    }
}
```

Output:-

```
PS C:\Users\pavilion\Downloads\JavaLAb> cd "c:\Users\pavilion\Downloads\JavaLAb\" ; if ($?) { javac arraylist.java } ; if ($?) { java arraylist }
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
1
Enter the item to be inserted:
3
Inserted successfully
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
1
Enter the item to be inserted:
4
Inserted successfully
```

```
Inserted successfully
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
4
The Items in the list are :
3
4
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
2
Enter the item to search:
3
Item found in the list.
```

```
Enter your choice:
3
Enter the item to delete:
4
Deleted successfully
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
4
The Items in the list are :
3
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
```