



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

Experiment -2.3

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Section/Group: 616- B

Semester: 5th

Subject Name: PBLJ LAB

UID: 20BCS9256

Branch: CSE

Date of Performance: 06/10/2022

Subject Code: 20CSP-321

1. **Aim:** Write a program to perform the basic operations like insertion, deletion, display and search in list. List contains String object items where these operations are to be performed.

2. Software Requirements:

Eclipse IDE - (Java), NetBeans.

3. Code:

```
package exp.six;

import java.util.ArrayList;
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        ArrayList<String> list = new ArrayList<String>();
        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");
            Scanner sc = new Scanner(System.in);
            String str;
            System.out.print("Enter your choice: ");
            int choice = sc.nextInt();
```



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```
switch (choice) {
case 1:
    System.out.print("Enter the item to be inserted: ");
    str = sc.next();
    list.add(str);
    System.out.println("Inserted successfully!");
    break;
case 2:
    System.out.print("Enter the item to search: ");
    str = sc.next();
    if (list.contains(str))
        System.out.println("Item found in the list.");
    else
        System.out.println("Item not found in the list.");
    break;
case 3:
    System.out.print("Enter the item to delete: ");
    str = sc.next();
    if (list.contains(str)) {
        list.remove(str);
        System.out.println("Deleted successfully");
    } else
        System.out.println("Item does not exist.");
    break;
case 4:
    System.out.print("The Items in the list are: ");
    System.out.println(list);
    break;
case 5:
    System.exit(0);
}
sc.close();
}
}
}
```



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4. Output:

a) Inserting the elements:

```
Console | Project | Coverage
Main (10) [Java Application] C:\Program Files\Eclipse Foundation\jdk-16.0.2.7-hotspot\bin\java.exe (16-Oct-2022, 9:44:19 pm)

1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 1
Enter the item to be inserted: Water
Inserted successfully!
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 1
Enter the item to be inserted: Air
Inserted successfully!
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
```

b) Searching the elements:

```
Console | Project | Coverage
Main (10) [Java Application] C:\Program Files\Eclipse Foundation\jdk-16.0.2.7-hotspot\bin\java.exe (16-Oct-2022, 9:46:51 pm)

1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 2
Enter the item to search: Fire
Item not found in the list.
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 2
Enter the item to search: Water
Item found in the list.
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
```



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c) Deleting the elements:

1. List before deleting the elements:

```
Console | Program | Coverage
Main (10) [Java Application] C:\Program Files\Eclipse Foundation\jdk-16.0.2-hotspot\bin\java.exe (16-Oct-2022, 9:49:51 pm)
Enter your choice: 1
Enter the item to be inserted: Air
Inserted successfully!
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 4
The Items in the list are: [Water, Air]
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 3
Enter the item to delete: Air
Deleted successfully
1. Insert
2. Search
3. Delete
4. Display
5. Exit
```

2. Deleting the elements:

```
Console | Program | Coverage
Main (10) [Java Application] C:\Program Files\Eclipse Foundation\jdk-16.0.2-hotspot\bin\java.exe (16-Oct-2022, 9:49:51 pm)
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 4
The Items in the list are: [Water, Air]
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 3
Enter the item to delete: Air
Deleted successfully
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 4
The Items in the list are: [Water]
1. Insert
2. Search
3. Delete
4. Display
5. Exit
```



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3. List after deleting the elements:

```
Console [C:\Program Files\Iqoo Foundation\jdk-16.0.2-hotspot\bin\java.exe (16-Oct-2021, 94011 pm)]
Main (C:\Users\Man (C) [Java Application] C:\Program Files\Iqoo Foundation\jdk-16.0.2-hotspot\bin\java.exe (16-Oct-2021, 94011 pm))
The Items in the list are: [Water, Air]
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 3
Enter the item to delete: Air
Deleted successfully
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 4
The Items in the list are: [Water]
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice:
```

d) Displaying the elements:

```
Console [C:\Program Files\Iqoo Foundation\jdk-16.0.2-hotspot\bin\java.exe (16-Oct-2021, 95235 pm)]
Main (C:\Users\Man (C) [Java Application] C:\Program Files\Iqoo Foundation\jdk-16.0.2-hotspot\bin\java.exe (16-Oct-2021, 95235 pm))
Deleted successfully
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 4
The Items in the list are: [Water]
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 4
The Items in the list are: [Water]
1. Insert
2. Search
3. Delete
4. Display
5. Exit
Enter your choice: 5
```



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Learning outcomes (What I have learnt):

- 1. Learn about Array List implementation.**
- 2. Learn about various methods associated with Array List.**
- 3. Learn to insert elements to Array List using add() function.**
- 4. Learn about contains() method which returns Boolean value.**
- 5. Learn about menu driven program.**
- 6. I have understood this experiment very well.**



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Evaluation Grid:

	Parameters	Marks Obtained	Maximum Marks
1.	Student Performance (Conduct of experiment) objectives/Outcomes.		12
2.	Viva Voce		10
3.	Submission of Work Sheet (Record)		8
	Total		30