**Experiment No: 2.3**

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**Subject Name**: Project Based Learning in Java with Lab

**Subject Code:** 21CSH-319

**Aim:** Create a program to perform the basic operations like insert, delete, display, and search in List.

# Objective:

1. To learn about Classes.
2. To learn about List in java.

**Input/Apparatus Used:** IntelliJ / VS Code.

# Procedure/Algorithm/Pseudocode

1. Create a class named Operations with a private List<String> named list.
2. Define a method insert in the Operations class:
   1. Accept a string parameter str.
   2. Add the string str to the list.
   3. Print "Inserted successfully."
3. Define a method search in the Operations class:
   1. Accept a string parameter str.
   2. Iterate through the elements of the list.
   3. If an element is equal to the input string str, return true.
   4. If no match is found, return false.
4. Define a method delete in the Operations class:
   1. Accept a string parameter str.
   2. Iterate through the elements of the list.
   3. If an element is equal to the input string str, remove it from the list and return "Item Deleted."
   4. If no match is found, return "Item does not exist."
5. Define a method display in the Operations class:
   1. Iterate through the elements of the list.
   2. Print each element.
6. Define a method start in the Operations class:
   1. Create an infinite loop.
   2. Display a menu with options: Insert, Search, Delete, Display, Exit.
   3. Accept an integer choice from the user.
   4. Based on the choice, perform the corresponding operation using a switch statement.
   5. For Insert:

Accept a string from the user and call the insert method.

* 1. For Search:

Accept a string from the user, call the search method, and print the result.

* 1. For Delete:

Accept a string from the user, call the delete method, and print the result.

* 1. For Display:

Call the display method to show the items in the list.

* 1. For Exit:

Exit the program using System.exit(0).

1. Create a class named Main with a main method:
   1. Create a new Scanner object.
   2. Create an instance of the Operations class.
   3. Call the start method of the Operations class, passing the Scanner object.
   4. Close the Scanner object.

# Code:

package University.Java\_Using\_Project.Experiment6;

import java.util.\*; import java.util.Scanner;

class Operations {

private final List<String> list = new ArrayList<>();

void insert(String str) { list.add(str);

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

}

boolean search(String str) { for (String s : list) {

if (s.equals(str)) { return true;

}

}

return false;

}

String delete(String str) {

for (String s : list) { if (s.equals(str)) {

list.remove(str); return "Item Deleted";

}

}

return "Item dose not exist";

}

void display() {

for (String s : list) { System.out.println(s);

}

}

void start(Scanner in) { while (true) {

System.out.println("\nEnter 1 for Insert"); System.out.println("Enter 2 for Search"); System.out.println("Enter 3 for Delete"); System.out.println("Enter 4 for Display"); System.out.println("Enter 5 for Exit\n"); int choice = in.nextInt();

in.nextLine(); switch (choice) {

case 1: {

System.out.print("Enter the item to be inserted: "); String str = in.nextLine();

insert(str);

}

break; case 2: {

System.out.print("Enter the item to be searched: "); String str = in.nextLine();

boolean result = search(str); if (result) {

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 be deleted: "); String str = in.nextLine(); System.out.println(delete(str));

}

break; case 4: {

System.out.println("The items in the list are:");

display();

}

break; case 5: {

System.out.println("Exiting ");

System.exit(0);

}

default:

System.out.println("Wrong Choice");

}

}

}

}

public class Main {

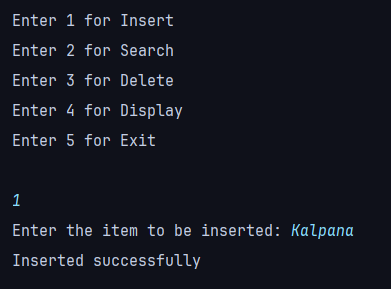
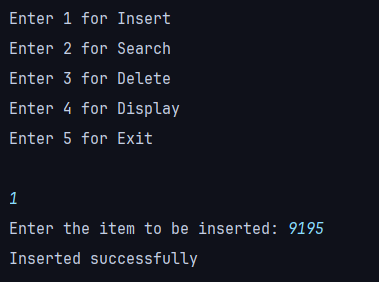
public static void main(String[] args) { Scanner in = new Scanner(System.in); Operations operations = new Operations(); operations.start(in);

in.close();

}

}

# Result/Output:

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