Experiment Number - 7

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Section/Group: 20BCS_WM-703 / B
Semester: 5th
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Subject Name: PBLJ LAB
Subject Code: 20CSP-321

1. **Aim/Overview of the practical:** 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. Hardware and Software Requirements :

PC with windows installed, IntelliJ IDEA (IDE).

3. Program Code:

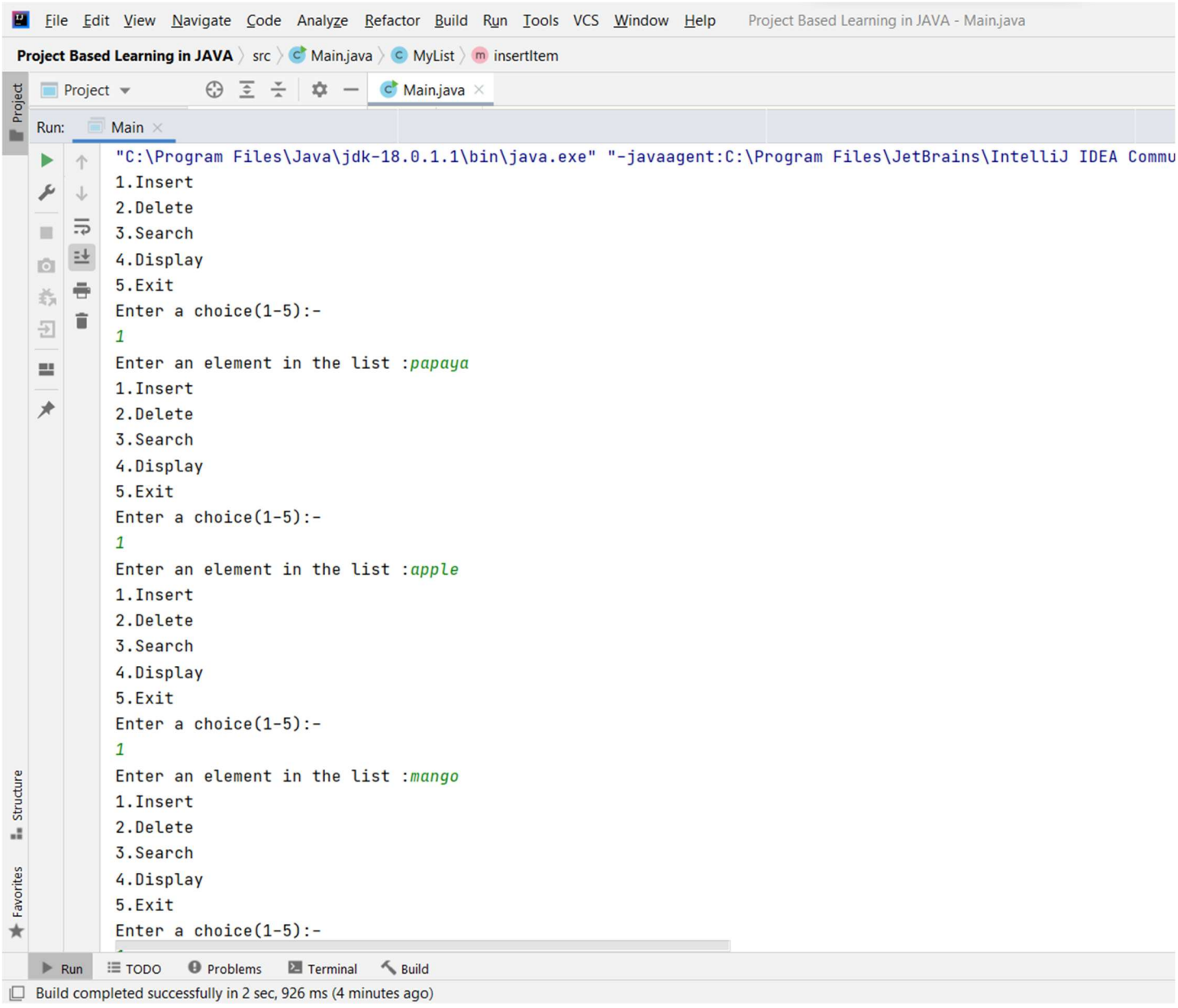
```
import java.util.ArrayList;

import java.util.Scanner;


class MyList{


   Scanner sc = new Scanner(System.in);


   ArrayList arrLi = new ArrayList<String>();
```

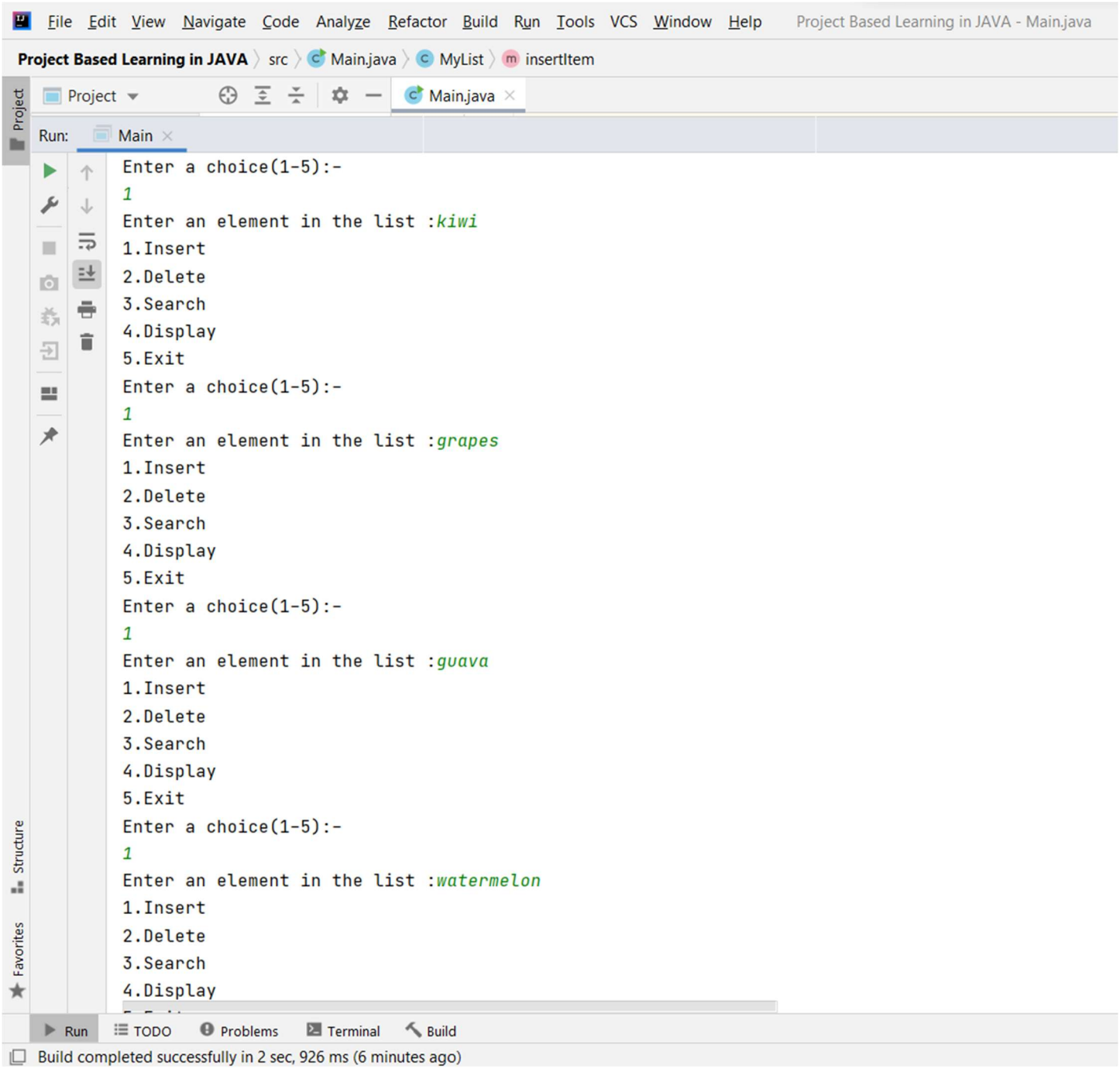
```
public void insertItem(){
    System.out.print("Enter an element in list :");
    String element = sc.next();
    arrLi.add(element);
}
public void displayElement(){
    System.out.print("List elements are - ");
    for(int i=0; i<arrLi.size(); i++){
        System.out.print(arrLi.get(i) +" ");
    }
}
public void deleteElement(){
    System.out.print(" Enter index of list you want to remove :");
    int i = sc.nextInt();
    arrLi.remove(i);
}
public void searchElement(){
    System.out.print("Enter key value you want to search in the given list :");
    String key = sc.next();
    int found = 0;
    for(int i=0; i<arrLi.size(); i++){
        if(key.equals(arrLi.get(i))){
            found = 1;
```

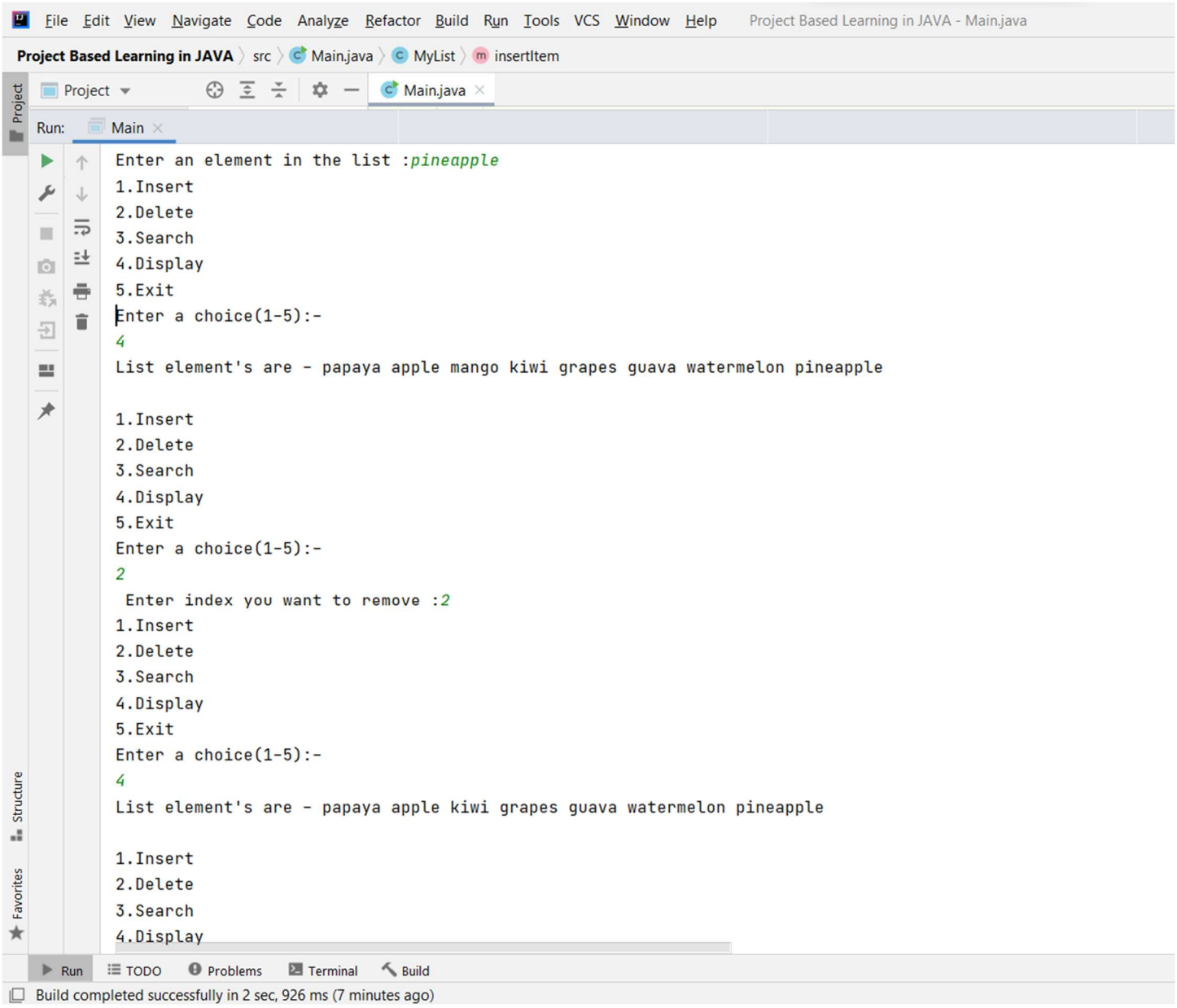
```
            System.out.println(key+" is found at index "+i);
            break;
        }
    }
    if(found != 1) {
        System.out.println(key + " is not found in the given list");
    }
  }
}

public class Main{
  public static void main(String[] args) {
    MyList li = new MyList();
    Scanner sc = new Scanner(System.in);
    int temp = 1;
    while(temp != 0) {
        System.out.println("1.Insert");
        System.out.println("2.Delete");
        System.out.println("3.Search");
        System.out.println("4.Display");
        System.out.println("5.Exit");

        System.out.println("Enter a choice(1-5):-");
```

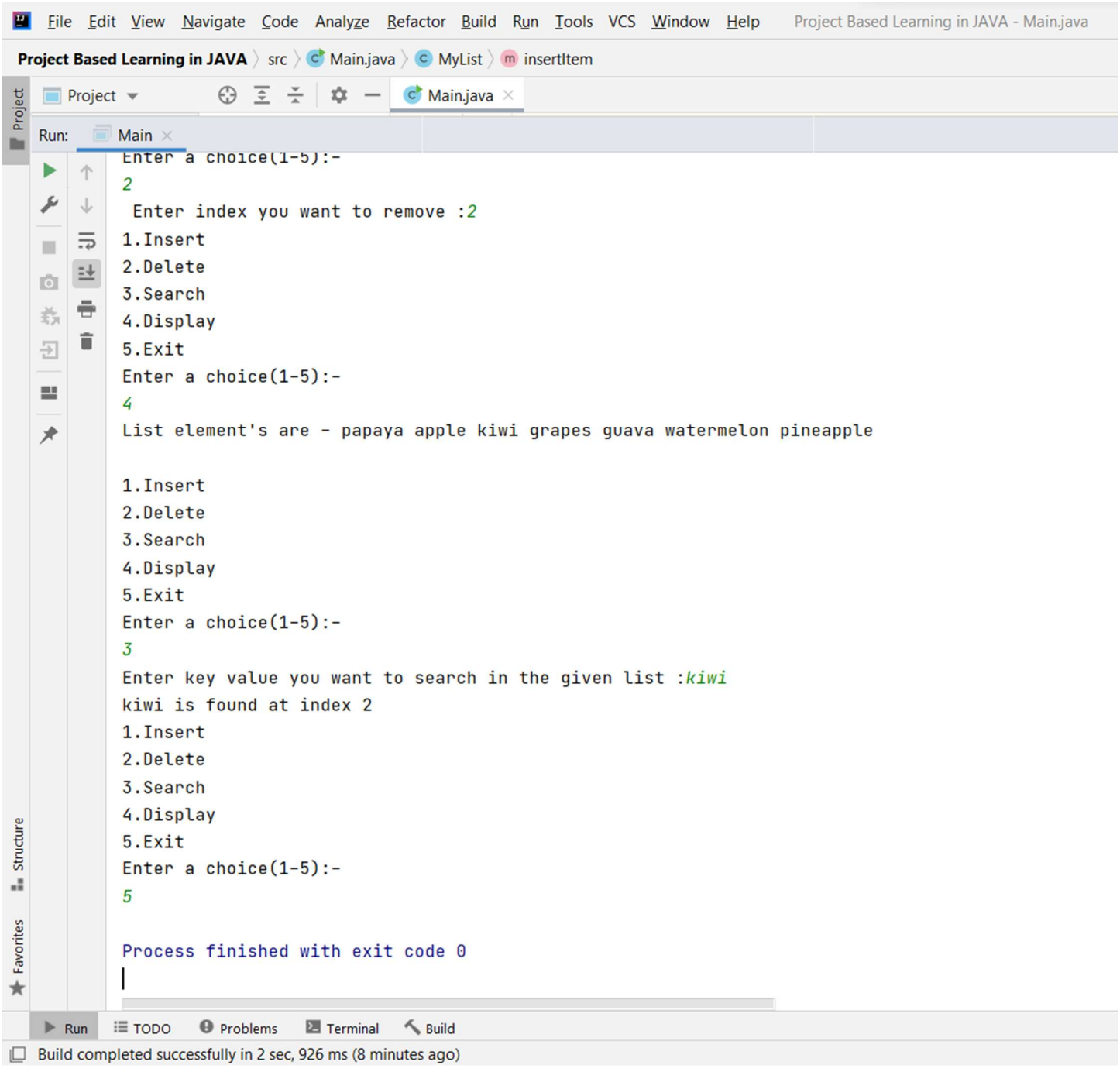
```
        int choice = sc.nextInt();
        switch (choice){
            case 1:
                li.insertItem();
                break;
            case 2:
                li.deleteElement();
                break;
            case 3:
                li.searchElement();
                break;
            case 4:
                li.displayElement();
                break;
            case 5:
                temp = 0;
                break;
            default:
                System.out.println("Incorrect choice! Please enter a correct choice.");
        }
    }
  }
}
```

4. Output :


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Project Based Learning in JAVA - Main.java
Project Based Learning in JAVA src Main.java MyList insertItem
Project
Main.java
Run: Main
"C:\Program Files\Java\jdk-18.0.1.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Commu
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
1
Enter an element in the list :papaya
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
1
Enter an element in the list :apple
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
1
Enter an element in the list :mango
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
Run TODO Problems Terminal Build
Build completed successfully in 2 sec, 926 ms (4 minutes ago)


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Project Based Learning in JAVA - Main.java
Project Based Learning in JAVA
src
Main.java
MyList
insertItem
Project
Main.java
Run:
Main
Enter a choice(1-5):-
1
Enter an element in the list :kiwi
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
1
Enter an element in the list :grapes
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
1
Enter an element in the list :guava
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
1
Enter an element in the list :watermelon
1.Insert
2.Delete
3.Search
4.Display
Structure
Favorites
Run
TODO
Problems
Terminal
Build
Build completed successfully in 2 sec, 926 ms (6 minutes ago)


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Project Based Learning in JAVA - Main.java
Project Based Learning in JAVA src Main.java MyList insertItem
Project
Main.java
Run: Main
Enter an element in the list :pineapple
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
4
List element's are - papaya apple mango kiwi grapes guava watermelon pineapple
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
2
Enter index you want to remove :2
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
4
List element's are - papaya apple kiwi grapes guava watermelon pineapple
1.Insert
2.Delete
3.Search
4.Display
Run TODO Problems Terminal Build
Build completed successfully in 2 sec, 926 ms (7 minutes ago)


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Project Based Learning in JAVA - Main.java
Project Based Learning in JAVA
src
Main.java
MyList
insertItem
Project
Main.java
Run:
Main
Enter a choice(1-5):-
2
Enter index you want to remove :2
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
4
List element's are - papaya apple kiwi grapes guava watermelon pineapple
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
3
Enter key value you want to search in the given list :kiwi
kiwi is found at index 2
1.Insert
2.Delete
3.Search
4.Display
5.Exit
Enter a choice(1-5):-
5
Process finished with exit code 0
Structure
Favorites
Run
TODO
Problems
Terminal
Build
Build completed successfully in 2 sec, 926 ms (8 minutes ago)

Learning outcomes (What I have learnt):

1. I have learnt how to write program in JAVA.
2. I have learnt how to create classes and its objects in JAVA.
3. I have learnt how to take input from user using Scanner class.
4. I have learnt how to create Array in JAVA and traverse each elements using loop.
5. I have learnt how to create an application to perform the basic operations like insert, delete, display and search in list.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			