

PRACTICAL NO. 1

Write a java program to create a list containing list of items and use Listiterator interface to print the items in the list. Also print the list in reverse / backward direction .

Code:-

```
package practical.aj;

import java.util.ArrayList;
import java.util.ListIterator;

public class IteratorPrak {

    public static void main(String[] args) {

        // TODO Auto-generated method stub

        ArrayList<String> str =new ArrayList<String>();

        str.add("b");    str.add("a");

        str.add("c");    str.add("d");

        str.add("e");

        System.out.println("contents are :"+str);

        ListIterator<String> ltr=str.listIterator() ;

        while(ltr.hasNext()) {

            String element=ltr.next();

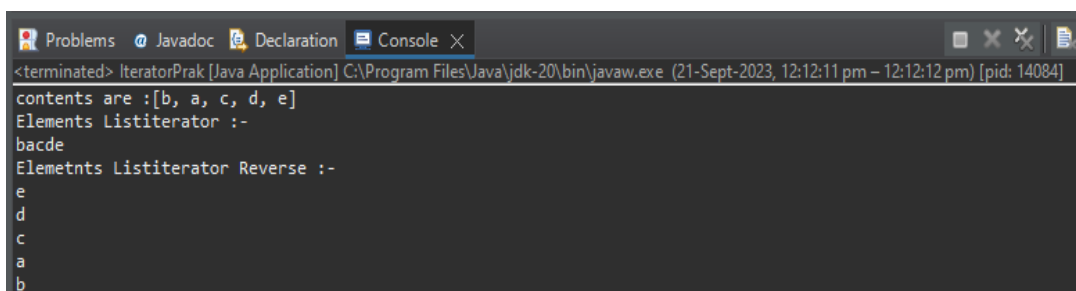
            System.out.print(element + " ");          }

        System.out.println();

        while(ltr.hasPrevious()) {String element = ltr.previous();

            System.out.println(element + " ")}}}
```

Output:-

A screenshot of a Java IDE's console window. The window has tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The 'Console' tab is active, showing the output of the program. The output text is: '<terminated> IteratorPrak [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (21-Sept-2023, 12:12:11 pm - 12:12:12 pm) [pid: 14084]' followed by 'contents are :[b, a, c, d, e]', 'Elements Listiterator :-', 'bacde', 'Elementnts Listiterator Reverse :-', and then the elements 'e', 'd', 'c', 'a', 'b' printed on separate lines.

```
<terminated> IteratorPrak [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (21-Sept-2023, 12:12:11 pm - 12:12:12 pm) [pid: 14084]
contents are :[b, a, c, d, e]
Elements Listiterator :-
bacde
Elementnts Listiterator Reverse :-
e
d
c
a
b
```

Create a lambda expression that takes a string as a parameter and returns the length of the String.

Code:-

```
package practical.aj;

interface DemoInt{

    public void sizeR(String a);

}

public class ReturnSize {

    public static void main(String[] args) {

        DemoInt objS =(a) -> {

            System.out.println("Length is : "+ a.length());

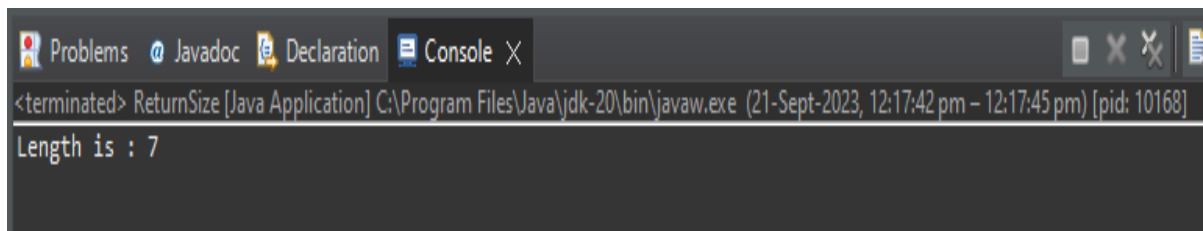
        };

        objS.sizeR("Bhushan");

    }

}
```

Output :-

A screenshot of a Java IDE's console window. The window has a dark background and a light-colored title bar. The title bar contains several icons: a person icon, a magnifying glass, a document icon, and a close button. Below the title bar, there is a tab labeled 'Console' with a close button. The console area shows the output of the program: '<terminated> ReturnSize [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (21-Sept-2023, 12:17:42 pm - 12:17:45 pm) [pid: 10168]' followed by 'Length is : 7' on the next line.

```
<terminated> ReturnSize [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (21-Sept-2023, 12:17:42 pm - 12:17:45 pm) [pid: 10168]
Length is : 7
```

Write a Java program using Set interface containing list of items and perform the following operations:

- a. Add items in the set.**
- b. Insert items of one set into other set.**
- c. Print the list in reverse/backward direction.**
- d. Remove items from the set**
- e. Search the specified item in the set**

Code:-

```
public class SetPrac {  
    public static void main(String[] args) {  
        // TODO Auto-generated method stub  
        HashSet<Integer> hst =new HashSet<Integer>();  
        //Adding items in set using add method  
        hst.add(1);  
        hst.add(2);  hst.add(3);  
        hst.add(4);  hst.add(5);  
        //To display elements  
        System.out.println("Elements are :" + hst);  
        HashSet<Integer> hst1 =new HashSet<Integer>();  
        //Inserting items from one set to another set  
        hst1.addAll(hst);  
        System.out.println("Elements of copied Hashset are :" + hst1);  
        System.out.println();  
        //Removing item for a set using Remove method  
        System.out.println("set before removing 4: "+hst);  
        hst.remove(4);  
        System.out.println("set after removing 4 :"+hst);  
    }  
}
```

```

        System.out.println();

//Searching for a item using Contains method

        System.out.println("Searching for item 5");

        System.out.println(hst.contains(5));

        System.out.println();

//Reversing an set

        ArrayList<Integer> lst = new ArrayList<Integer>();

        lst.addAll(hst);

        ListIterator<Integer> ltr1 = lst.listIterator();

        while(ltr1.hasPrevious()) {

            Integer element =ltr1.previous();

            System.out.println(element + "");

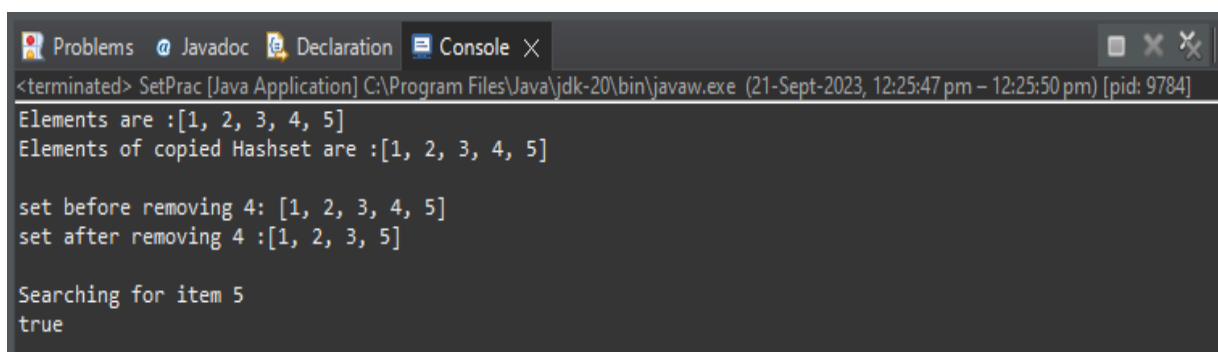
        }

    }

}

```

Output :-



The screenshot shows a Java IDE window with a console tab. The console output is as follows:

```

<terminated> SetPrac [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (21-Sept-2023, 12:25:47 pm - 12:25:50 pm) [pid: 9784]
Elements are :[1, 2, 3, 4, 5]
Elements of copied HashSet are :[1, 2, 3, 4, 5]

set before removing 4: [1, 2, 3, 4, 5]
set after removing 4 :[1, 2, 3, 5]

Searching for item 5
true

```