Program to traverse or iterate ArrayList

```java
import java.util.*;

public class MyClass {
    public static void main(String args[]) {
 ArrayList<Integer> al = new ArrayList<Integer>();
 al.add(3);
        al.add(10);
        al.add(20);
        al.add(30);
        al.add(40);

  for(int i=0;i<al.size();i++)
  {
      System.out.println(al.get(i));
  }
    }
}
```

Output:

```
10
20
30
40
```

Program to convert List to Array

```java
import java.util.ArrayList;
public class ListToArray {
   public static void main(String args[]){
      ArrayList<String> list = new ArrayList<String>();
      list.add("A");
      list.add("b");
      list.add("c");

      System.out.println("Contents of list :"+list);
      String[] myArray = new String[list.size()];
      list.toArray(myArray);

      for(int i=0; i<myArray.length; i++){
         System.out.println("Element at the index "+i+" is :"+myArray[i]);
      }
   }
}
```

Output

```
Contents of list :[A, b, c]
Element at the index 0 is :A
Element at the index 1 is :b
Element at the index 2 is :c
```

Program to check if element exist in ArrayList

```java
import java.util.ArrayList;
import java.util.List;
public class Demo {
   public static void main(String[] args) {
      List aList = new ArrayList();
      aList.add("A");
      aList.add("B");
      aList.add("C");
      aList.add("D");
      aList.add("E");
      System.out.println("The element C is available in ArrayList? " + aList.contains("C"));
      System.out.println("The element Z is available in ArrayList? " + aList.contains("Z"));
   }
}
```

Output

Result

CPU Time: 0.14 sec(s), Memory: 32864 kilobyte(s) compiled and execu

```
The element C is available in ArrayList? true
The element Z is available in ArrayList? false
```

Given an element write a program to check if element exits in HashSet

```java
import java.io.*;
import java.util.HashSet;

public class HashSetDemo {
    public static void main(String args[])
    {

        HashSet<String> set = new HashSet<String>();


        set.add("hello");
        set.add("To");
        set.add("hi");
        set.add("4");
        set.add("word");


        System.out.println("HashSet: " + set);

        System.out.println("Does the Set contains 'hello'? " + set.contains("hello"));


        System.out.println("Does the Set contains '4'? " + set.contains("4"));

        System.out.println("Does the Set contains 'No'? " + set.contains("No"));
    }
}
```

Output

Result

CPU Time: 0.12 sec(s), Memory: 35564 kilobyte(s)

```
HashSet: [hi, 4, hello, To, word]
Does the Set contains 'hello'? true
Does the Set contains '4'? true
Does the Set contains 'No'? false
```

Program to find the length of arraylist

```java
import java.util.ArrayList;
import java.util.List;
public class Demo {
   public static void main(String[] args) {
      List aList = new ArrayList();
      aList.add("Apple");
      aList.add("Mango");
      aList.add("Guava");
      aList.add("Orange");
      aList.add("Peach");
      System.out.println("The size of the ArrayList is: " + aList.size());
   }
}
```

Output

Result

CPU Time: 0.12 sec(s), Memory: 33548 kilobyte(s)

```
The size of the ArrayList is: 5
```

Note: