**1.Read and store 'n' no. of integer values to Array list objects, sort the elements. Find the frequency of a specific element inside the Array list.(while storing element give duplicate values)** package Tsgol.com; import java.util.*;

```java
 public class Intarraylist {
public static void main(String[] args) { Scanner
sc = new Scanner(System.in);
System.out.print("Enter the number of integers: "); int
n = sc.nextInt();
ArrayList<Integer> al= new ArrayList<Integer>();
System.out.println("Enter " + n + " integers:");
for(int i=0; i<n; i++) { int
num = sc.nextInt();
al.add(num);
}
Collections.sort(al); // Sorts the elements in ascending order
System.out.print("Enter an integer to find its frequency: "); int
element = sc.nextInt();
int freq = Collections.frequency(al, element);
System.out.println(element + " appears " + freq + " times in the list.")
```

**Output:**
Enter the number of integers: 8 Enter
8 integers:
10 12 15 20 4 24 20 6
Enter an integer to find its frequency: 20 20
appears 2 times in the list.

## 2. Create a user-defined class to store Books information (book id, title, author name, price)

## Add 5 books records into vector and display the same information from vector.

```
package Collections.test; public
class Books {
public String bookid,booktitle,author;
public float price;
public Books(String id,String title, String author,float pr)
{ bookid=id; booktitle=title; this.author=author; price=pr;
}
}
package Collections.test;
import java.util.Vector; public
class Vector_book {
public static void main(String[] args) {
Vector<Books> v = new Vector<Books>();
v.add(new Books("1" ,"Java Programming", "James Gosling", 380f));
v.add(new Books("2" ,"HTML","Tim Berners-Lee",430f));
v.add(new Books("3" ,"CSS","Hakon",640f));
v.add(new Books("4" ,"JavaScript","Brenden",567f));
v.add(new Books("5" ,"Angular", "Misko Hevery",489f)); for(Books
b: v) {
System.out.println("bookid:" +b.bookid + "\n" + "booktitle:"
+b.booktitle +"\n"+ "Author:" +b.author+"\n"+ "Price:" +b.price);
}
}
}
```

## Output:

```
Bookid:1
Booktitle:Java Programming
Author:James Gosling
Price:380.0
```

Bookid:2
Booktitle:HTML
Author:Tim Berners-Lee
Price:430.0
Bookid:3
Booktitle:CSS
Author:Hakon
Price:640.0
Bookid:4
Booktitle:JavaScript
Author:Brenden
Price:567.0 Bookid:5

Booktitle:Angular

Author:Misko Hevery

Price:489.0

## 3. Use Hashtable to store key and value pair of booktitle and category.Store 10 records and display the same

```
package Collections.test; import
java.util.Enumeration; import
java.util.Hashtable; public class
Hashtable_demo {
public static void main(String[] args) {
// TODO Auto-generated method stub
Hashtable ht=new Hashtable(); ht.put("C
language", "ComputerScience"); ht.put("The
girl in the room 105", "Mystery"); ht.put("The
way of Kings", "Fantasy"); ht.put("The Silent
```

```java
Patient", "Thriller"); ht.put("Frankenstein ",
"ScienceFiction"); ht.put("Heart of Darkness",
"Adventure"); ht.put("The Art of War",
"Philosophy"); ht.put("The Water Dancer",
"Fantasy"); ht.put("Bird Box", "Horror");
ht.put("The Queen of Hearts", "Women's Fiction");
Enumeration e = ht.keys(); while
(e.hasMoreElements()) Enumeration e = ht.keys();
while (e.hasMoreElements())
{
String key = (String) e.nextElement();
Object value = ht.get(key);
System.out.println(key + " - " + value);
}
Enumeration values = ht.elements(); ht.elements();
}
}
```

## Output:
The Silent Patient - Thriller
Heart of Darkness - Adventure
The Queen of Hearts - Women's Fiction
The Art of War - Philosophy
The girl in the room 105 - Mystery
Bird Box - Horror
The way of Kings - Fantasy
Frankenstein - ScienceFiction
C language - ComputerScience
The Water Dancer - Fantasy