1.Read and store ‘n’ no. of integer values to Arraylist objects,sort the elements.Find the frequency of a specific element inside the Arraylist.(while storing element give duplicate values)

```
package collections.test;
import java.util.*;
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:
5
Enter 5 integers:
5 6 5 9 10
Enter an integer to find its frequency: 5
5 appears 2 times in the list.
```

2. Create a user-defined class to store Books information (bookid,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 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())
		{
		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
```