1.Read and store ‘n’ no. of integer values to Array List object, sort the elements.

Find the frequency of a specific element inside the array list. (while store storing element give duplicate entities)

E.g.:

12,1,45,12,56,-34,56,0,23,13,12,56

Frequency of 12 : 3

```
package assessment; import
java.util.Scanner; public
class testcase {
     public static void main(String[] args) {
          // TODO Auto-generated method stub
          int i,n;
          ArrayList a1 = new ArrayList();
var obj = new Scanner(System.in);
          System.out.println("Enter number of elements: ");
  n =  obj.nextInt();   for(i=0;i<=n;i++) {
               System.out.println("Enter "+i+"element :");
               a1.add(obj.nextInt());
          }
  System.out.println("Enter element for searching duplicate:
");
          int k= obj.nextInt();
int freq =0;        int value;
for(i=0;i<=k;i++) {
Object key =a1.get(i);
value = (int)key;
if(value==n) {
                    freq++;
               }

          }
          System.out.print("element"+n+"is repeated"+freq);
```

```
	}

}
```

Output:

```
Enter number of elements:
6
Enter 0element : 12
Enter 1element :
34
Enter 2element :
2
Enter 3element : 12
Enter 4element : 78
Enter 5element : 12
Enter 5element :
21

Enter element for searching duplicate:
12
Repeated 3
```

2. Create a user defined class to store Books information

(bookid, title, author name, price)

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

```
package assessment;
import java.util.*; public
class vectorclass {
	public static void main(String[] args) {
		// TODO Auto-generated method stub
Book obj[] = new Book[5];

		obj[0]= new Book("1","animal farm", "george orwell",
324f);
		obj[1]= new Book("2","C progrmming", "Dennis",
3340f);
		obj[2]= new Book("3","Arthashastra ", "kautilya",
200f);
		obj[3]= new Book("4","time machine", "H.G.wells",
227f);
```

```
            obj[4]= new Book("5","java programming", "Gosling",
2209f);



            Vector<Book> v = new Vector<Book>();

            v.add(obj[0]);
            v.add(obj[1]);
            v.add(obj[2]);
            v.add(obj[3]);
            v.add(obj[4]);



            for(Book obj: v) {

                  System.out.println(obj.bkid +" "+ obj.bktitle +
" "+obj.author +" "+obj.price);
            }



      }
}
```

Output:

```
1,animal farm, george orwell, 324;
2,C progrmming, Dennis, 3340;
3,Arthashastra , kautilya, 200;
4,time machine, H.G.wells, 227;
5,java programming, Gosling, 2209;
```

3. use Hastable to Store key and value pair of book title and category. Store 10 records and display the same.

```
package assessment; import
java.util.enumeration; import
java.util.Hashtable; public
class Hashtable {   public
static void main(String[]
args) {      Hashtable ht
= new Hashtable();
ht1.put("ECE","Diploma");
     ht1.put("JAVA","CSE");
     ht1.put("C","Coding");
     ht1.put("English
","learning");
ht1.put("Hindi","language");

ht1.put("Telugu","MOTHER
TONGUE");
ht1.put("Maths","Calculation
s");
ht1.put("Science","Interstin
g");
ht1.put("Python","Civil");
     ht1.put("RRR",
"Rajamouli");
Enumeration keys =
ht1.keys();
while(keys.hasMoreElements()
) {
                String key = (String)keys.nextElement();
                Object val= ht1.get(key);
                System.out.println(key+"="+val);

          }
          Enumeration ele=ht1.elements();
while(ele.hasMoreElements()) {
Object el= ele.nextElement();
                System.out.println(ele);
          }
          }


}
```

Output:

ECE=Diploma

JAVA=CSE

C=Coding

English=learning

Hindi=Language

Telugu=MOTHER TONGUE

Maths=Calculations

Science=Intersting

Python=Civil

RRR=Rajamouli