EXERCISE-1:-

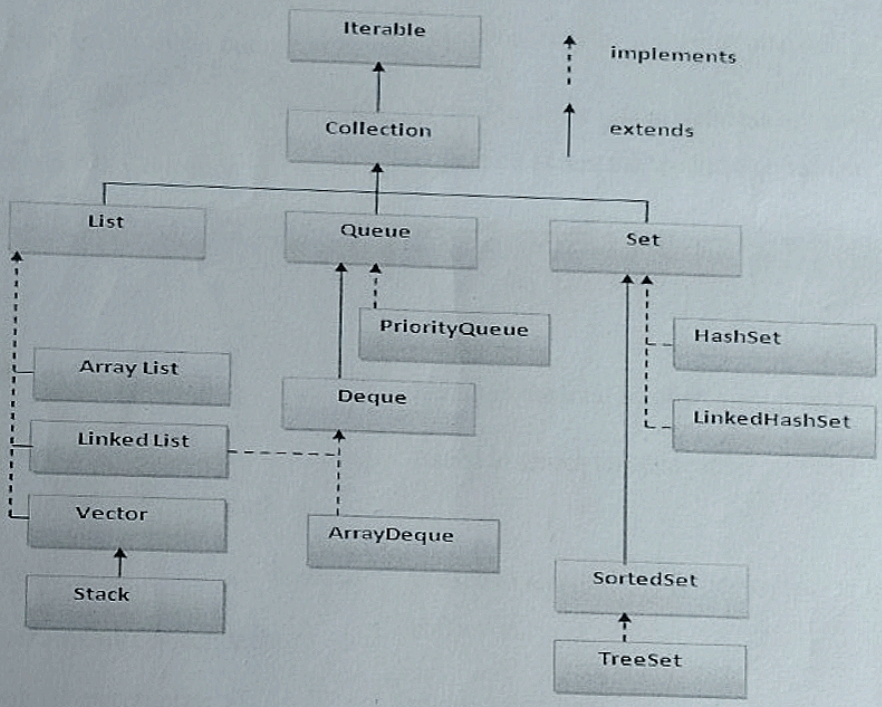
AIM:-

Implement the following Data Structures in Java

a)Linked Lists b)Stacks c)Queues d)Set e)Map

DESCRIPTION:

The **java.util** package contains all the classes and interfaces for Collection framework.



Methods of Collection interface

There are many methods declared in the Collection interface. They are as follows:

No.	Method	Description

1	public boolean add(Objectelement)	isusedtoinsert anelementinthiscollection.
2	public boolean addAll(Collectionc)	Is used to insert the specified collectionelementsintheinvokingcollection.
3	publicbooleanremove(Object element)	Is used to delete an element from this collection.
4	public boolean removeAll(Collectionc)	Is used to delete all the elements of specified collection from the invoking collection.
5	public boolean retain All(Collection c)	Is used to delete all the elements of invoking collection except the specified collection.
6	Public int size()	return total number of elements in the the collection.
7	Public void clear()	Removes the total no of element from the collection.
8	public boolean contains(Objectelement)	Issued to search an element.
9	public boolean containsAll(Collectionc)	Is used to search the specified collection in this collection.
10	publicIteratoriterator()	returnsaniterator.
11	publicObject[]toArray()	convertscollectionintoarray.
12	publicbooleanisEmpty()	checksifcollectionisempty.

SKELTONOFJAVA.UTIL.COLLECTIONINTERFACE

```
publicinterfaceCollection<E>extends
        Iterable<E>{int size();
        booleanisEmpty();

        boolean contains(Object
        o);Iterator<E>
        iterator();Object[]
        toArray();
        <T>T[]toArray(T[]a);b
        ooleanadd(Ee);
        booleanremove(Objecto);

        boolean addAll(Collection<? extends E>
        c);boolean removeAll(Collection<?>
        c);booleanretainAll(Collection<?> c);
        voidclear();

        booleanequals(Objecto);i
        nt hashCode();
}
```

ALGORITHMforAllCollectionDataStructures:-

StepsofCreationof Collection

1. CreateanObjectofGeneric TypeE,T,KorV

2. CreateaModel classorPlainOldJavaObject(POJO)oftype.

3. GenerateSettersandGetters

4. CreateaCollection ObjectoftypeeitherSetorList orMaporQueue

5. Add Objects to the collectionBooleanadd(Ee)
6. AddCollectiontotheCollection.

   BooleanaddAll(Collection)

7. Remove or retain data from CollectionRemove(Collection)retailAll(Collection)
8. IterateObjectsusingEnumerationorIteratororListIteratorIter atorlistIterator()
9. DisplayObjects from Collection

10. END

SAMPLEINPUT:

SampleEmployeeDataSet:(
employee.txt)

e100,james,asst.prof,cse,8000,16000,4000,8.7e1
01,jack,asst.prof,cse,8350,17000,4500,9.2e102,j
ane,assoc.prof,cse,15000,30000,8000,7.8e104,j
ohn,prof,cse,30000,60000,15000,8.8e105,peter,
assoc.prof,cse,16500,33000,8600,6.9e106,david
,assoc.prof,cse,18000,36000,9500,8.3e107,danie
l,asst.prof,cse,9400,19000,5000,7.9e108,ramu,a
ssoc.prof,cse,17000,34000,9000,6.8e109,rani,as
st.prof,cse,10000,21500,4800,6.4e110,murthy,p
rof,cse,35000,71500,15000,9,3

EXPECTEDOUTPUT:-

Printstheinformationofemployeewithallitsattributes