1. **ArrayList:**

package com.arraylist;

import java.util.ArrayList;

import java.util.Collections;

import java.util.Iterator;

import java.util.List;

/\*

class Employee

{

int id;

String name;

int salary;

public Employee(int id, String name, int salary)

{

this.id = id;

this.name = name;

this.salary = salary;

}

public String toString()

{

return id+" "+name+" "+salary;

}

}

class NameComparator implements Comparator<Employee>

{

public int compare(Employee o1, Employee o2)

{

return o1.name.compareTo(o2.name);

}

}

class IdComparator implements Comparator<Employee>

{

public int compare(Employee o1, Employee o2)

{

return o1.id-o2.id;

}

}

public class TestUserDefinedArrayList

{

public static void main(String[] args)

{

Employee e1=new Employee(102,"Vijay",66000);

Employee e2=new Employee(101,"Jay",76000);

Employee e3=new Employee(103,"Ajay",26000);

List<Employee> list=new ArrayList<Employee>();

list.add(e1);

list.add(e2);

list.add(e3);

Iterator<Employee> itr=list.iterator();

while(itr.hasNext())

{

Employee e=itr.next();

System.out.println(e);

}

Collections.sort(list,new SalaryComparator());

System.out.println();

System.out.println("Sort by salary");

Iterator<Employee> itr1=list.iterator();

while(itr1.hasNext())

{

Employee e=itr1.next();

System.out.println(e);

}

Collections.sort(list,new NameComparator());

System.out.println();

System.out.println("Sort by Name");

Iterator<Employee> itr2=list.iterator();

while(itr2.hasNext())

{

Employee e=itr2.next();

System.out.println(e);

}

}

}

\*/

class Employee implements Comparable<Employee>

{

int id;

String name;

int salary;

public Employee(int id, String name, int salary)

{

this.id = id;

this.name = name;

this.salary = salary;

}

public String toString()

{

return id+" "+name+" "+salary;

}

public int compareTo(Employee o)

{

return this.id-o.id;

}

}

public class TestUserDefinedArrayList

{

public static void main(String[] args)

{

Employee e1=new Employee(102,"Vijay",66000);

Employee e2=new Employee(101,"Jay",76000);

Employee e3=new Employee(103,"Ajay",26000);

List<Employee> list=new ArrayList<Employee>();

list.add(e1);

list.add(e2);

list.add(e3);

Iterator<Employee> itr=list.iterator();

while(itr.hasNext())

{

Employee e=itr.next();

System.out.println(e);

}

Collections.sort(list);

System.out.println();

System.out.println("Sort by id:");

Iterator<Employee> itr1=list.iterator();

while(itr1.hasNext())

{

Employee e=itr1.next();

System.out.println(e);

}

}

}

1. **LinkedList:**

package com.linkedlist;

import java.util.ArrayList;

import java.util.Collection;

import java.util.Collections;

import java.util.Iterator;

import java.util.LinkedList;

import java.util.List;

class Student implements Comparable<Student>

{

int id;

String name;

int age;

public Student(int id, String name, int age)

{

this.id = id;

this.name = name;

this.age = age;

}

public String toString()

{

return id+" "+name+" "+age;

}

public int compareTo(Student s)

{

return this.id-id;

}

}

public class TestUserDefinedLinkedList

{

public static void main(String[] args)

{

Student s1=new Student(105,"Prathamesh",23);

Student s2=new Student(102,"Onkar",24);

Student s3=new Student(108,"Shilpa",34);

Student s4=new Student(104,"Pratiksha",35);

List<Student> list=new LinkedList<Student>();

list.add(s1);

list.add(s2);

list.add(s3);

list.add(s4);

System.out.println(list);

List<Student> list1=new ArrayList<Student>();

list1.add(s1);

list1.add(s2);

list1.add(s3);

list1.add(s4);

System.out.println(list1);

Iterator<Student> iter=list.iterator();

while(iter.hasNext())

{

Student s=iter.next();

}

Collections.sort(list);

System.out.println(list);

Iterator<Student> iter1=list.iterator();

while(iter1.hasNext())

{

Student s=iter1.next();

System.out.println(s);

}

/\*

//condition in iterator

Iterator<Student> iter=list.iterator();

while(iter.hasNext())

{

Student s=iter.next();

s.getAge();

if(s.getAge()>28)

System.out.println(s);

}

Iterator<Student> iter1=list.iterator();

while(iter1.hasNext())

{

Student s=iter1.next();

System.out.println(s.getName().toUpperCase());

}

\*/

}

}

1. **Map:**

package com.map;

import java.util.HashMap;

import java.util.Map;

class Employee

{

int id;

String name;

int salary;

public int getId()

{

return id;

}

public void setId(int id)

{

this.id = id;

}

public String getName()

{

return name;

}

public void setName(String name)

{

this.name = name;

}

public int getSalary() {

return salary;

}

public void setSalary(int salary)

{

this.salary = salary;

}

public Employee(int id, String name, int salary)

{

this.id = id;

this.name = name;

this.salary = salary;

}

public String toString()

{

return id + " "+name +" " + salary +" ";

}

}

public class TestHashMapEmployee

{

public static void main(String[] args)

{

Employee y1=new Employee(101,"Prathamesh",10000);

Employee y2=new Employee(102,"Onkar",20000);

Employee y3=new Employee(103,"{Pratiksha",30000);

Employee y4=new Employee(104,"Shilpa",40000);

HashMap<Integer,Employee> map1=new HashMap<Integer,Employee>();

map1.put(y1.getId(),y1);

map1.put(y2.getId(),y2);

map1.put(y3.getId(),y3);

map1.put(y4.getId(),y4);

System.out.println(map1);

for(Map.Entry<Integer, Employee>m:map1.entrySet())

{

System.out.println(m.getKey()+"-->"+m.getValue());

}

}

}