3:

Main Class:

package Collections;

import java.util.Comparator;

import java.util.Scanner;

import java.util.TreeSet;

public class Main3 {

public static void main(String a[]){

Scanner sc=new Scanner(System.in);

System.out.println("Enter the a:To sort by ID, b: To sort by name, c:TO stort by Dept, d: to sorrt by Salary");

String x=sc.next();

//By using name comparator (String comparison)

if(x.equals("b")) {

TreeSet<Employee> nameComp = new TreeSet<Employee>(new MyNameComp());

nameComp.add(new Employee(1,"Ram","HR",3000));

nameComp.add(new Employee(2,"John","Manager",6000));

nameComp.add(new Employee(3,"Crish","R&D",2000));

nameComp.add(new Employee(4,"Tom","MA",2400));

for(Employee e:nameComp){

System.out.println(e);

}

}

else if(x.equals("d")) {

System.out.println("===========================");

//By using salary comparator (int comparison)

TreeSet<Employee> salComp = new TreeSet<Employee>(new MySalaryComp());

salComp.add(new Employee(1,"Ram","HR",3000));

salComp.add(new Employee(2,"John","Manager",6000));

salComp.add(new Employee(3,"Crish","R&D",2000));

salComp.add(new Employee(4,"Tom","MA",2400));

for(Employee e:salComp){

System.out.println(e);

}

}

else if(x.equals("a")) {

System.out.println("===========================");

//By using id comparator (int comparison)

TreeSet<Employee> idComp = new TreeSet<Employee>(new MyIdComp());

idComp.add(new Employee(3,"Crish","R&D",2000));

idComp.add(new Employee(1,"Ram","HR",3000));

idComp.add(new Employee(2,"John","Manager",6000));

idComp.add(new Employee(4,"Tom","MA",2400));

for(Employee e:idComp){

System.out.println(e);

}

}

else if(x.equals("c")) {

System.out.println("===========================");

//By using dept comparator (String comparison)

TreeSet<Employee> deptComp = new TreeSet<Employee>(new MyDeptComp());

deptComp.add(new Employee(1,"Ram","HR",3000));

deptComp.add(new Employee(2,"John","Manager",6000));

deptComp.add(new Employee(3,"Crish","R&D",2000));

deptComp.add(new Employee(4,"Tom","MA",2400));

for(Employee e:deptComp){

System.out.println(e);

}

}

else {

System.out.println("You have to enter any value from a,b,c,d");

}

sc.close();

}

}

class MyDeptComp implements Comparator<Employee>{

@Override

public int compare(Employee e1, Employee e2) {

return e1.getDept().compareTo(e2.getDept());

}

}

class MyNameComp implements Comparator<Employee>{

@Override

public int compare(Employee e1, Employee e2) {

return e1.getName().compareTo(e2.getName());

}

}

class MySalaryComp implements Comparator<Employee>{

@Override

public int compare(Employee e1, Employee e2) {

if(e1.getSalary() > e2.getSalary()){

return 1;

} else {

return -1;

}

}

}

class MyIdComp implements Comparator<Employee>{

@Override

public int compare(Employee e1, Employee e2) {

if(e1.getId() > e2.getId()){

return 1;

} else {

return -1;

}

}

}

Employee Class:

**package** Collections;

**public** **class** Employee {

**int** id;

String name;

String dept;

**int** salary;

**public** Employee(**int** id, String name, String dept, **int** salary) {

**super**();

**this**.id = id;

**this**.name = name;

**this**.dept = dept;

**this**.salary = salary;

}

@Override

**public** String toString() {

**return** "Employee [id=" + id + ", name=" + name + ", dept=" + dept + ", salary=" + 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** String getDept() {

**return** dept;

}

**public** **void** setDept(String dept) {

**this**.dept = dept;

}

**public** **int** getSalary() {

**return** salary;

}

**public** **void** setSalary(**int** salary) {

**this**.salary = salary;

}

}