**1.package** tree;

**import** java.util.Collections;

**import** java.util.Map;

**import** java.util.Set;

**import** java.util.TreeMap;

**import** tree.contact.gender;

**public** **class** tree1 {

**public** **static** **void** main(String[] args)

{

Map<Long,contact> map=**new** TreeMap<Long,contact>();

contact c1=**new** contact((**long**)89034567,"nam","nam@.com",gender.Fe);

contact c2=**new** contact((**long**)12345679,"var","var@.com",gender.Fe);

contact c3=**new** contact((**long**)67864747,"so","so@.com",gender.Fe);

contact c4=**new** contact((**long**)45754757,"joy","joy@.com",gender.m);

map.put((**long**)78844567, c1);

map.put((**long**)1235679, c2);

map.put((**long**)884864747, c3);

map.put((**long**)837354757, c4);

**for**(Map.Entry<Long, contact> entry:map.entrySet()){

Long key=entry.getKey();

contact c=entry.getValue();

System.out.println(key+" Details:");

System.out.println(c.phoneno+" "+c.name+" "+c.email+" "+c.g);

}

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

System.out.println("After Sorted:");

Map<Long,contact> sortedMapDesc = **new** TreeMap<>(

Collections.reverseOrder());

sortedMapDesc.putAll(map);

**for**(Map.Entry<Long,contact> entry1 : sortedMapDesc.entrySet())

{

Long key=entry1.getKey();

contact c8=entry1.getValue();

System.out.println(key+" Details:");

System.out.println(c8.phoneno+" "+c8.name+" "+c8.email+" "+c8.g);

}

}

}

**package** tree;

**import** java.util.EnumSet;

**public** **class** contact {

**long** phoneno;

String name,email;

**public** **enum** gender {***Fe***,***m***}

gender g;

/\*\*

\* **@param** phoneno

\* **@param** name

\* **@param** email

\* **@param** g

\*/

**public** contact(**long** phoneno, String name, String email, gender g) {

**super**();

**this**.phoneno = phoneno;

**this**.name = name;

**this**.email = email;

**this**.g = g;

}

**public** **long** getPhoneno() {

**return** phoneno;

}

**public** **void** setPhoneno(**long** phoneno) {

**this**.phoneno = phoneno;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** String getEmail() {

**return** email;

}

**public** **void** setEmail(String email) {

**this**.email = email;

}

**public** gender getG() {

**return** g;

}

**public** **void** setG(gender g) {

**this**.g = g;

}

}

Output

12345679 Details:

12345679 var var@.com Fe

45754757 Details:

45754757 joy joy@.com m

67864747 Details:

67864747 so so@.com Fe

89034567 Details:

89034567 nam nam@.com Fe

............

After Sorted:

89034567 Details:

89034567 nam nam@.com Fe

67864747 Details:

67864747 sam sam@.com Fe

45754757 Details:

45754757 so so@.com m

12345679 Details:

12345679 var var@.com m

2. **package** tree2;

**import** java.util.Set;

**import** java.util.TreeSet;

**public** **class** exp {

**public** **static** **void** main(String[] args)

{

Set<Integer> i=**new** TreeSet<>();

i.add(3);

i.add(10);

i.add(30);

i.add(3);

i.add(39);

i.add(2);

i.add(7);

i.add(5);

i.add(5);

i.add(340);

System.***out***.println(i);

}

}

Output:

[2, 3, 5, 7, 10, 30, 39, 340]

3.

**import** java.util.TreeSet;

**import** java.util.Comparator;

**import** java.util.Scanner;

**public** **class** emp1 {

**public** **static** **void** main(String[] args)

{

TreeSet<Emp> name1=**new** TreeSet<Emp>(**new** nameComp());

TreeSet<Emp> id1=**new** TreeSet<Emp>(**new** idComp());

TreeSet<Emp> dep1=**new** TreeSet<Emp>(**new** depComp());

TreeSet<Emp> sal1=**new** TreeSet<Emp>(**new** salComp());

name1.add(**new** Emp(1,"ram","seadmin",2500.23));

name1.add(**new** Emp(3,"anju","SE",4399.23));

name1.add(**new** Emp(4,"ballu","HR",3422.78));

name1.add(**new** Emp(8,"raj","gmadmin",2500.23));

name1.add(**new** Emp(5,"sam","admin",3400.23));

id1.add(**new** Emp(1,"ram","seadmin",2500.23));

id1.add(**new** Emp(3,"anju","SE",4399.23));

id1.add(**new** Emp(4,"ballu","HR",3422.78));

id1.add(**new** Emp(8,"raj","gmadmin",2500.23));

id1.add(**new** Emp(5,"sam","admin",3400.23));

dep1.add(**new** Emp(1,"ram","seadmin",2500.23));

dep1.add(**new** Emp(3,"anju","SE",4399.23));

dep1.add(**new** Emp(4,"ballu","HR",3422.78));

dep1.add(**new** Emp(8,"raj","gmadmin",2500.23));

dep1.add(**new** Emp(5,"sam","admin",3400.23));

sal1.add(**new** Emp(1,"ram","seadmin",2500.23));

sal1.add(**new** Emp(3,"anju","SE",4399.23));

sal1.add(**new** Emp(4,"ballu","HR",3422.78));

sal1.add(**new** Emp(8,"raj","gmadmin",2500.23));

sal1.add(**new** Emp(5,"sam","admin",3400.23));

**int** s;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter:");

s=sc.nextInt();

**switch**(s)

{

**case** 1: **for**(Emp e:name1)

{

System.***out***.println(e);

}

**break**;

**case** 2: **for**(Emp e1:id1)

{

System.***out***.println(e1);

}

**break**;

**case** 3:**for**(Emp e2:dep1)

{

System.***out***.println(e2);

}

**break**;

**case** 4:**for**(Emp e3:sal1)

{

System.***out***.println(e3);

}

**break**;

}

}

}

**import** java.util.Comparator;

**class** nameComp **implements** Comparator<Emp>{

**public** **int** compare(Emp e1, Emp e2)

{

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

}

}

**import** java.util.Comparator;

**public** **class** depComp **implements** Comparator<Emp>{

**public** **int** compare(Emp e1, Emp e2)

{

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

}

}

**import** java.util.Comparator;

**public** **class** idComp **implements** Comparator<Emp> {

**public** **int** compare(Emp e1, Emp e2)

{

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

**return** 1;

**else**

{

**return** -1;

}

}

}

**import** java.util.Comparator;

**public** **class** idComp **implements** Comparator<Emp> {

**public** **int** compare(Emp e1, Emp e2)

{

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

**return** 1;

**else**

{

**return** -1;

}

}

}

**public** **class** Emp {

**private** **int** id;

**private** String name,dept;

**private** **double** salary;

/\*\*

\* **@param** id

\* **@param** name

\* **@param** dept

\* **@param** salary

\*/

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

**super**();

**this**.id = id;

**this**.name = name;

**this**.dept = dept;

**this**.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** **double** getSalary() {

**return** salary;

}

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

**this**.salary = salary;

}

**public** String toString()

{

**return** "Id:"+**this**.id +" " +"name:"+**this**.name+" " +"dept:"+**this**.dept+" " +"sal:"+**this**.salary ;

}

}

Output:

Id:1 name:ram dept:seadmin sal:2500.23

Id:3 name:anju dept:SE sal:4399.23

Id:4 name:ballu dept:HR sal:3422.78

Id:5 name:sam dept:admin sal:3400.23

Id:8 name:raj dept:gmadmin sal:2500.23

4. import java.time.LocalDate;

import java.time.format.DateTimeFormatter;

import java.util.LinkedList;

public class leapYear{

public static void main(String[] args) {

LocalDate cal1=LocalDate.of(2000,07,26);

LocalDate cal2=LocalDate.of(2017,11,17);

LinkedList<LocalDate> callist=new LinkedList<LocalDate>();

callist.add(cal1);

callist.add(cal2);

for(LocalDate c:callist)

{

String fDate=c.format(DateTimeFormatter.ofPattern("dd-MM-YYYY"));

if(c.isLeapYear())

{

System.out.println("your date of birth" +fDate+" and it was a leap year");

}

else

{

System.out.println("your date of birth" +fDate+" and it was not a leap year");

}

}

}

}

Output

your date of birth26-07-2000 and it was a leap year

your date of birth17-11-2017 and it was not a leap year