mport java.util.Calendar;

public class TestMyTime {

public static void main(String[] args) {

MyTime x = new MyTime();

x.setTime(10, 12, 13);

MyTime y = new MyTime(Calendar.getInstance());

MyTime z = new MyTime("11:10:20");

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

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

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

System.out.println("\n---- Comparing ----");

System.out.println("x.compareTo(y) = " + x.compareTo(y));

System.out.println("y.compareTo(x) = " + y.compareTo(x));

System.out.println("y.compareTo(z) = " + y.compareTo(z));

System.out.println("y.compareTo(y) = " + y.compareTo(y));

System.out.println("\nCloning Data (z) = " + z.clone());

System.out.println("\nMilliseconds b/w x,y = " + x.difference(y));

}

}

class MyTime implements Comparable<MyTime>, Cloneable {

private int hour, minute, second;

public MyTime() {

hour = 0;

minute = 0;

second = 0;

} // expecting s => HH:MM:SS

public MyTime(String s) {

String[] t = s.split(":");

hour = Integer.parseInt(t[0]);

minute = Integer.parseInt(t[1]);

second = Integer.parseInt(t[2]);

}

public MyTime(Calendar t) {

hour = t.get(Calendar.HOUR\_OF\_DAY);

minute = t.get(Calendar.MINUTE);

second = t.get(Calendar.SECOND);

}

public boolean setTime(int hh, int mm , int ss) {

hour = hh;

minute = mm;

second = ss;

if(hh >= 0 && mm >= 0 && ss >= 0 && hh < 24 && mm < 24 && ss < 24)

return true;

return false;

}

public int getHour()

{

return hour;

}

public void setHour(int hour) {

this.hour = hour;

}

public int getMinute() {

return minute;

}

public void setMinute(int minute) {

this.minute = minute;

}

public int getSecond() {

return second;

}

public void setSecond(int second) {

this.second = second;

}

public MyTime getTime() {

return this;

}

public long difference(MyTime t) {

int temp = compareTo(t);

if(temp == 0)

return 0;

MyTime x = this, y = t;

if(temp == -1) {

MyTime a = x;

x = y;

y = a;

}

Calendar c1 = Calendar.getInstance(), c2 = Calendar.getInstance();

c1.set(0, 0, 0, x.getHour(), x.getMinute(), x.getSecond());

c2.set(0, 0, 0, y.getHour(), y.getMinute(), y.getSecond());

long res = c1.getTimeInMillis() - c2.getTimeInMillis();

return res;

} @Override

public int compareTo(MyTime t) {

if(t.hour == hour && t.minute == minute && t.second == second)

return 0;

if(hour < t.hour) return -1; if(hour > t.hour)

return 1;

if(minute < t.minute)

return -1;

if(minute > t.minute) return 1;

if(second < t.second) return -1;

if(second > t.second) return 1;

return 1;

}

public MyTime clone() {

MyTime temp = new MyTime();

temp.setTime(hour, minute, second); return temp;

}

@Override

public String toString() {

return String.format("%2d:%2d:%2d", hour, minute, second);

}

}