

```
package observer2;

import observer2.controlPanels.*;
import observer2.tempSource.*;

public class StartSimulation {

    public static void main(String[] args) {
        TempSource mainBoiler = new Boiler();
        TempSource engineOne = new Engine();

        MasterPanel panel1 = new MasterPanel(mainBoiler);
        MasterPanel panel2 = new MasterPanel(engineOne);
        MasterPanel panel3 = new MasterPanel(engineOne);

        mainBoiler.start();
        engineOne.start();
    }
}
```

```
package observer2.controlPanels;

import observer2.tempSource.*;

public class MasterPanel implements TempListener{

    private Alarm tempAlarm = null;
    private TempSource itsTempSource = null;

    public MasterPanel(TempSource aTempSource) {
        itsTempSource = aTempSource;
        itsTempSource.addTempListner(this);
        tempAlarm = new Alarm();
    }

    public void tempTooHigh() {
        tempAlarm.sound();
    }
}
```

```
package observer2.controlPanels;  
  
public class Alarm {  
    public void sound() {  
        System.out.println("Temperature too High!");  
    }  
}
```

```
package observer2.tempSource;  
public interface TempListener {  
    public void tempTooHigh();  
}
```

```
package observer2.tempSource;

public interface TempSource {

    public void addTempListner(TempListener listner);
    public void removeTempListner(TempListener listner);
    public void start();
}
```

```
package observer2.tempSource;

import java.util.*;

public class Boiler implements TempSource {

    private Vector listeners = new Vector();
    private double temperature;

    public void addTempListner(TempListener listener) {
        listeners.addElement(listener);
    }

    public void removeTempListner(TempListener listener) {
        listeners.removeElement(listener);
    }

    private void notifyListners() {
        if(listeners != null) {
            for (int i = 0; i < listeners.size(); i++) {
                ((TempListener) listeners.elementAt(i)).tempTooHigh();
            }
        }
    }

    public void start() {
        for(int i = 0; i < 10; ++i) {
            temperature = i*10.0;
            if(temperature >= 80.0) { notifyListners(); }
        }
    }
}
```

```
package observer2.tempSource;

import java.util.*;

public class Engine implements TempSource {

    private Vector listeners = new Vector();
    private double temperature;

    public void addTempListner(TempListener listener) {
        listeners.addElement(listener);
    }

    public void removeTempListner(TempListener listener) {
        listeners.removeElement(listener);
    }

    private void notifyListners() {
        if(listeners != null) {
            for (int i = 0; i < listeners.size(); i++) {
                ((TempListener) listeners.elementAt(i)).tempTooHigh();
            }
        }
    }

    public void start() {
        for(int i = 0; i < 20; ++i) {
            temperature = i*5.0;
            if(temperature >= 80.0) { notifyListners(); }
        }
    }
}
```