

```
1  /*****
2  *   VerticalColorSensor
3  *****/
4  public class VerticalColorSensor extends Actor implements Runnable {
5      protected float fy1=0.2;
6      protected float fy2=0.8;
7      protected Terminal<Boolean> contact=new Terminal<Boolean>(false);
8      protected Terminal<Integer> ballColor=new Terminal<Integer>(0);
9      protected Terminal<Boolean> whiteBall=new Terminal<Boolean>(false);
10     protected Terminal<Boolean> blackBall=new Terminal<Boolean>(false);
11     private String targetName=null;
12     private Actor target;
13     private int y1, y2;
14
15     public VerticalColorSensor(JSONObject src) {
16         super(src);
17         if (!src.isNull("target"))
18             targetName=src.getString("target");
19         if (!src.isNull("y1"))
20             fy1=src.getFloat("y1");
21         if (!src.isNull("y2"))
22             fy2=src.getFloat("y2");
23     }
24 }
```

```
25 void run() {
26     Terminal<Integer> colorOfTheBall=null;
27     Actor target=null;
28     if (!targetName.equals("")){
29         target=actorsContainer.get(actorsIndex.get(targetName));
30         y1=Math.round((float)target.w*fy1);
31         y2=Math.round((float)target.h*fy2);
32         colorOfTheBall=target.getTerminal("ballColor");
33     }
34     for (;;) {
35         contact.write((target!=null) ? target.isY(y,y1,y2) : false);
36         index=contact.read() ? 1 : 0;
37         if (contact.read()){
38             ballColor.write(colorOfTheBall.read());
39             blackBall.write((colorOfTheBall.read()==0));
40             whiteBall.write(!(colorOfTheBall.read()==0));
41         }
42         try {
43             java.lang.Thread.sleep(samplingTime);
44         }
45         catch (Exception e)
46             println(e);
47     }
48 }
```

C:/nqCbtp/JavaApplication8/src/Terminal.java

```
49
50 public Terminal getTerminal(String terminalName) {
51     if (terminalName.equals("contact"))
52         return contact;
53     else
54         if (terminalName.equals("ballColor"))
55             return ballColor;
56     else
57         if (terminalName.equals("whiteBall"))
58             return whiteBall;
59     else
60         if (terminalName.equals("blackBall"))
61             return blackBall;
62     return super.getTerminal(terminalName);
63 }
64 }
```