

```

1  // Johnny Zielinski Create Project - Independent
2
3  import java.awt.FlowLayout;
4  import java.awt.Font;
5  import java.awt.Frame;
6  import java.awt.Label;
7  import java.awt.TextArea;
8  import java.awt.TextField;
9  import java.awt.event.ActionEvent;
10 import java.awt.event.ActionListener;
11 import java.awt.event.WindowAdapter;
12 import java.awt.event.WindowEvent;
13 import java.io.BufferedWriter;
14 import java.io.File;
15 import java.io.FileWriter;
16 import java.io.IOException;
17 import java.io.InputStream;
18 import java.text.SimpleDateFormat;
19 import java.util.ArrayList;
20 import java.util.Calendar;
21 import java.util.Collections;
22 import java.util.Scanner;
23
24 import gnu.io.CommPort;
25 import gnu.io.CommPortIdentifier;
26 import gnu.io.SerialPort;
27 import gnu.io.SerialPortEvent;
28 import gnu.io.SerialPortEventListener;
29
30 public class SHCheckin extends Frame implements ActionListener, SerialPortEventListener
31 {
32     private static final long serialVersionUID = 1L;
33     private static Label lblInput;
34     private static TextArea display;
35     private static TextField tfInput;
36     private static ArrayList<Student> athleteReq;
37     private static ArrayList<Student> athletePres;
38     private static String timeStamp = new
SimpleDateFormat("MM-dd-yyyy").format(Calendar.getInstance().getTime()) +
"AbsentList.txt";
39     private static BufferedWriter writer = null;
40     private static File attendance = new File("AbsentLists", timeStamp);
41     private static InputStream in;
42     private static SerialPort serialPort;
43
44
45     private SHCheckin() throws IOException // main program that is called from main
46     {
47         setLayout(new FlowLayout());
48         writer = new BufferedWriter(new FileWriter(attendance));
49
50         lblInput = new Label("Enter your ID number: ");
51
52         display = new TextArea(17, 40);
53         tfInput = new TextField(20);
54
55         display.setEditable(false);
56
57         Font font = new Font(Font.SANS_SERIF, Font.PLAIN, 20); // bigger
58         Font font2 = new Font(Font.SANS_SERIF, Font.PLAIN, 18); // smaller
59         display.setFont(font);
60         lblInput.setFont(font2);
61         tfInput.setFont(font2);
62

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63         add(lblInput);
64         add(tfInput);
65         add(display);
66
67         tfInput.addActionListener(this);
68
69         setTitle("Study Hall Check-In");
70         setSize(550, 550);
71         setVisible(true);
72
73         try
74         {
75             connect("COM3");
76         }
77         catch(Exception e)
78         {
79             System.out.println("ERROR: Couldn't connect to Scanner");
80         }
81
82         // Close on exit, calls write out to text file and then closes file.
83         addWindowListener(new WindowAdapter() {
84             public void windowClosing(WindowEvent we) {
85                 try
86                 {
87                     writeOut();
88                     writer.close();
89                     in.close();
90                     serialPort.removeEventListener();
91                 }
92                 catch(Exception e)
93                 {
94                     System.out.println("ERROR DURING CLOSING");
95                 }
96                 System.exit(0);
97             }
98         });
99
100     }
101
102     protected void connect( String portName ) throws Exception // connects the scanner
103     { // to the program through serial port emulation
104         CommPortIdentifier portIdentifier = CommPortIdentifier.getPortIdentifier(
105             portName );
106
107         if( portIdentifier.isCurrentlyOwned() )
108         {
109             System.out.println( "Error: Port is currently in use" );
110         }
111         else
112         {
113             int timeout = 10000;
114             CommPort commPort = portIdentifier.open( this.getClass().getName(), timeout
115             );
116
117             if(commPort instanceof SerialPort)
118             {
119                 serialPort = ( SerialPort )commPort;
120                 serialPort.setSerialPortParams( 9600, SerialPort.DATABITS_8,
121                 SerialPort.STOPBITS_1, SerialPort.PARITY_NONE);
122
123                 in = serialPort.getInputStream();
124                 serialPort.addEventListener(new SerialReader(in));
125                 serialPort.notifyOnDataAvailable(true);

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123     }
124     else
125     {
126         System.out.println( "Error: Not a serial port." );
127     }
128 }
129 }
130
131 private void writeOut() // Writes the absent list out to time stamped file
132 {
133     ArrayList<Student> studentsAbsent = new ArrayList<Student>(athleteReq);
134     studentsAbsent.removeAll(athletePres); // remove all present people.
135     Collections.sort(studentsAbsent);
136
137     for(int a = 0; a < studentsAbsent.size(); a++)
138     {
139         try
140         {
141             writer.write(studentsAbsent.get(a).getName());
142             writer.newLine();
143         }
144         catch(Exception e)
145         {
146             System.out.println("ERROR WRITING TO TEXT FILE");
147         }
148     }
149 }
150
151 public void actionPerformed(ActionEvent evt) // Checks for enter key pressed
152 {
153     String id = tfInput.getText();
154     boolean found = false;
155
156     for(int a = 0; a < athleteReq.size(); a++)
157     {
158         if(athleteReq.get(a).getId().equals(id))
159         {
160             display.append(athleteReq.get(a).toString()+"\n");
161             athletePres.add(athleteReq.get(a));
162             found = true;
163         }
164     }
165
166     if(!found)
167     {
168         display.append("ID NOT FOUND \n");
169     }
170
171     tfInput.setText("");
172
173 }
174
175 public static void main(String[] args) throws IOException // reads in the required
176 // students and starts program
177 {
178     Scanner input = new Scanner(new File("resources", "athletes.txt"));
179
180     athleteReq = new ArrayList<Student>(); // list of athletes required
181     athletePres = new ArrayList<Student>();
182
183     while(input.hasNextLine())
184     {
185         String[] line = input.nextLine().split(" ");

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186         String id = line[line.length-1];
187
188         String name = "";
189
190         for(int i = 0; i < line.length-1; i++) // two part names
191         {
192             name += line[i] + " ";
193         }
194
195         name = name.substring(0, name.length()-1); // cuts off final space
196
197         Student kid = new Student(name, id);
198
199         athleteReq.add(kid);
200     }
201
202     new SHCheckin();
203
204
205     input.close();
206 }
207
208
209
210 protected static void scanned(String id) // handles the scanned id and finds it in
athlete list
211 {
212     String subID = id.substring(7, id.length()-2);
213
214     boolean found = false;
215
216     for(int a = 0; a < athleteReq.size(); a++)
217     {
218         if(athleteReq.get(a).getId().equals(subID))
219         {
220             display.append(athleteReq.get(a).toString()+"\n");
221             athletePres.add(athleteReq.get(a));
222             found = true;
223         }
224     }
225
226     if(!found)
227     {
228         display.append("ID NOT FOUND \n");
229     }
230 }
231
232 @Override
233 public void serialEvent(SerialPortEvent evt) // simply here to make complier happy
doesn't serve a purpose
234 {
235
236
237 }
238
239 }
240

```