```java
1 package for_ch_17_exercises;
2
3 // Three Stooges Application
6
7
8 import java.awt.*;// we need this one for Components
11                    // whose class name begins with a J
12
13 /**
14  * This is the application program for the first lab in CS 63.
15  * Students learn how to add a JButton and its ActionListener.
16  *
17  * @author Amrita Dhaliwal
18  */
19 public class ThreeStoogesL1 extends JFrame {
20
21     /**
22      * displays instructions for the user
23      */
24     private JLabel instructionsL;
25
26     /**
27      * User clicks this button to display Moe's phrase.
28      */
29     private JButton moeB;
30     /**
31      * User clicks this button to display Larry's phrase.
32      */
33     private JButton larryB;
34     /**
35      * User clicks this button to display Curly's phrase.
36      */
37     private JButton curlyB;
38
39     /**
40      * indicates that the Stooge phrases will appear in the scroll pane
41      */
42     private JLabel resultsL;
43
44     /**
45      * where the Stooge phrases appear and
46      * whose view is controlled by the scroll pane
47      */
48     private JTextArea resultsTA;
49
50     /**
51      * controls view of the text area
52      */
53     private JScrollPane resultsSP;
54
55     /**
56      * This variable holds a reference to the content pane so that
57      * getContentPane() needs to be called only once.
58      */
59     private Container myCP;
```

```java
60
61      /**
62       * This is the constructor of this application.
63       */
64      public ThreeStoogesL1() {
65          super("Three Stooges");
66          setSize(300,330);
67          myCP = getContentPane();
68          myCP.setLayout(new FlowLayout());
69          myCP.setBackground(Color.CYAN);
70
71          instructionsL = new JLabel("Press a Stooge button to get a phrase");
72          instructionsL.setOpaque(true);
73          instructionsL.setBackground(Color.WHITE);
74          myCP.add(instructionsL);
75
76          moeB = new JButton("Moe");
77          moeB.setForeground(Color.BLUE);
78          moeB.addActionListener((ActionEvent e) ->resultsTA.append("Knuckle Heads!\n"));
79          myCP.add(moeB);
80
81          larryB = new JButton("Larry");
82          larryB.setForeground(Color.RED);
83          larryB.addActionListener((ActionEvent e) ->resultsTA.append("Wise Guy!\n"));
84          myCP.add(larryB);
85
86          curlyB = new JButton("Curly");
87          curlyB.setForeground(Color.GREEN);
88          curlyB.addActionListener((e) ->resultsTA.append("Nyuck Nyuck!\n"));
89          myCP.add(curlyB);
90
91          resultsL = new JLabel("        Results        ");
92          resultsL.setOpaque(true);
93          resultsL.setBackground(Color.yellow);
94          myCP.add(resultsL);
95
96          resultsTA = new JTextArea();
97          resultsTA.setBackground(Color.PINK);
98          resultsSP =
99              new JScrollPane(resultsTA,
100                         JScrollPane.VERTICAL_SCROLLBAR_ALWAYS,
101                         JScrollPane.HORIZONTAL_SCROLLBAR_NEVER);
102          resultsSP.setPreferredSize(new Dimension(200,200));
103          myCP.add(resultsSP);
104
105          setVisible(true);
106          addWindowListener(new WindowAdapter() {
107              public void windowClosing(WindowEvent e) {
108                  System.exit(0);
109              }//windowClosing
110          }); //end of definition of WindowAdapter and semicolon to end the line
111      }//ThreeStoogesL1 constructor
112
113      /**
114       * ActionListener for Larry's JButton
```

```
115        */
116 //   public class LarryBHandler implements ActionListener {
117 //        /**
118 //         * action to be performed when Larry's button is clicked
119 //         */
120 //        public void actionPerformed(ActionEvent e) {
121 //            resultsTA.append("Wise Guy!\n");
122 //        }// actionPerformed
123 //   }// LarryBHandler
124
125      /**
126       * ActionListener for Moe's JButton
127       */
128 //   public class MoeBHandler implements ActionListener {
129 //        /**
130 //         * action to be performed when Moe's button is clicked
131 //         */
132 //        public void actionPerformed(ActionEvent e) {
133 //            resultsTA.append("Knuckle Heads!\n");
134 //        }// actionPerformed
135 //   }// MoeBHandler
136
137      /**
138       * ActionListener for Curly's JButton
139       */
140 //   public class CurlyBHandler implements ActionListener {
141 //        /**
142 //         * action to be performed when Curly's button is clicked
143 //         */
144 //        public void actionPerformed(ActionEvent e) {
145 //            resultsTA.append("Nyuck Nyuck!\n");
146 //        }// actionPerformed
147 //   }// CurlyBHandler
148
149      /**
150       * The main method is where execution begins.
151       * @param args parameter is not used since we are not
152       * working at the command line.
153       */
154      public static void main (String args[]) {
155          ThreeStoogesL1 myAppF = new ThreeStoogesL1();
156      } //main method
157
158 }// ThreeStoogesL1 class
159
```