

```
1 /**
2  * Controller class.
3  *
4  *
5  * @author Jeng Zhuang
6  */
7 public final class AppendUndoController1 implements
AppendUndoController {
8
9     /**
10     * Model object.
11     */
12     private final AppendUndoModel model;
13
14     /**
15     * View object.
16     */
17     private final AppendUndoView view;
18
19     /**
20     * Updates view to display model.
21     *
22     * @param model
23     *         the model
24     * @param view
25     *         the view
26     */
27     private static void updateViewToMatchModel(AppendUndoModel
model,
28         AppendUndoView view) {
29         /**
30         * Get model info
31         */
32         String input = model.input();
33         String output = model.output().top();
34         /**
35         * Update view to reflect changes in model
36         */
37         view.updateInputDisplay(input);
38         view.updateOutputDisplay(output);
```

```
39         view.updateUndoAllowed(model.output().length() > 1);
40     }
41
42     /**
43      * Constructor; connects {@code this} to the model and view it
44      * coordinates.
45      * @param model
46      *         model to connect to
47      * @param view
48      *         view to connect to
49      */
50     public AppendUndoController1(AppendUndoModel model,
51 AppendUndoView view) {
52         this.model = model;
53         this.view = view;
54         /*
55          * Update view to reflect initial value of model
56          */
57         updateViewToMatchModel(this.model, this.view);
58     }
59
60     /**
61      * Processes reset event.
62      */
63     @Override
64     public void processResetEvent() {
65         /*
66          * Update model in response to this event
67          */
68         this.model.setInput("");
69         this.model.output().clear();
70         this.model.output().push(""); // Reset output stack
71
72         /*
73          * Update view to reflect changes in model
74          */
75         updateViewToMatchModel(this.model, this.view);
76     }
```

```
77     @Override
78     public void processAppendEvent(String input) {
79         this.model.setInput(input);
80         String currentOutput = this.model.output().top();
81         this.model.output().push(currentOutput + input);
82         this.model.setInput("");
83         updateViewToMatchModel(this.model, this.view);
84     }
85
86     @Override
87     public void processUndoEvent() {
88         if (this.model.output().length() > 1) { // Check if undo is
possible
89             String currentOutput = this.model.output().pop();
90             String previousOutput = this.model.output().top();
91             this.model.setInput(currentOutput.substring(previousOutput.length())
);
92             updateViewToMatchModel(this.model, this.view);
93         }
94     }
95
96 }
97
```