6.10 *Lab:* Pie Chart

Figure 6-2 shows a snapshot from the program *Poll* that helps to run a poll for the election of a school president. The results are shown as numbers for each of the three candidates and as slices on a pie chart.

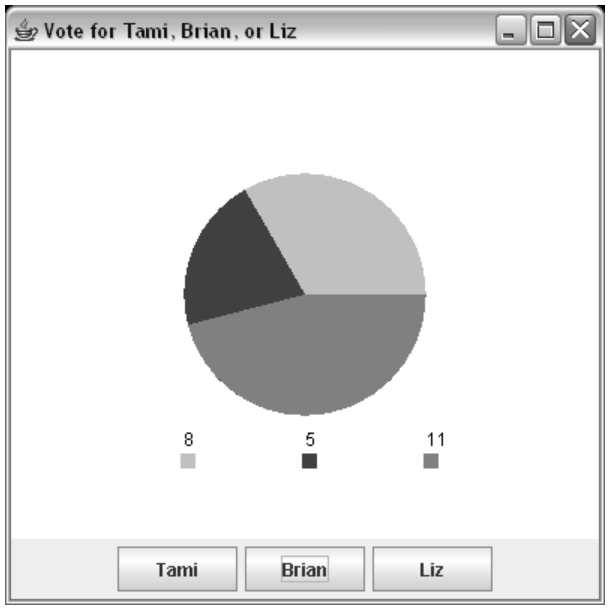

Figure 6-2. The *Poll* program

The source code for this program consists of three classes: `Poll`, `PollControlPanel`, and `PollDisplayPanel`. `Poll` is the main class: it creates a program window and adds a control panel and a display panel to it. A `PollControlPanel` object represents a control panel with the three buttons. It also handles the buttons' click events. A `PollDisplayPanel` object keeps track of the poll counts and displays them as numbers and as a pie chart.

Your task is to fill in the blanks in the `PollDisplayPanel` class. Collect the three files, `Poll.java`, `PollControlPanel.java`, and `PollDisplayPanel.java`, from `JM\Ch06\Poll` into one project. Then fill in the blanks in the `PollDisplayPanel`, following these steps:

1. Add a declaration for three `int` fields, `count1`, `count2`, `count3`, which hold the current poll counts.

2. Implement the `vote1`, `vote2`, and `vote3` methods, which increment the respective count.

3. Implement a `toString` method that returns a `String` containing the names of the candidates and their current vote counts. For example, the following method

```
public static void main(String[] args)
{
  PollDisplayPanel votingMachine =
                new PollDisplayPanel("Tami", "Brian", "Liz");
  votingMachine.vote1();
  votingMachine.vote2();
  votingMachine.vote2();
  System.out.println(votingMachine);
}
```

   should display

```
Tami: 1  Brian: 2  Liz: 0
```

4. Compile the `PollDisplayPanel` class and fix the syntax errors, if any.

5. Write a simple test class with a `main` method similar to the one shown above. Compile and run it to test your progress so far.

6. Implement the `countToDegrees` method that converts the ratio of its two integer parameters, `count` and `total`, into the angle measure, in degrees, of a corresponding pie chart slice, rounded to the nearest integer.

7. Fill in the blanks in the `drawPieChart` and `drawLegend` methods.

8. Compile and test the *Poll* program.