1 **import** javax.swing.\*;

2 **import** java.awt.\*;

3

4 **public** **class** AddingMachineGUI3 **extends** JFrame

5 {

6 JLabel description, a, plus, b, equals, sum, centerSpace;

7 JTextField aValue, bValue;

8 JButton compute, clear;

9 JPanel panel1 = **new** JPanel();

10 JPanel panel2 = **new** JPanel();

11 JPanel panel3 = **new** JPanel();

12

13 **public** AddingMachineGUI3(String title)

14 {

15 **super**(title);

16 setSize(475, 150);

17 setLocation(200, 100);

18 setLayout(new BorderLayout());

19

20 **//Declaration of the atomic components**

21 description = **new** JLabel("Computes a + b");

22 a = **new** JLabel("a");

23 aValue = **new** JTextField(5);

24 plus = **new** JLabel(" + ");

25 b = **new** JLabel("b");

26 bValue = **new** JTextField(5);

27 equals = **new** JLabel(" = ");

28 sum = **new** JLabel("x,xxx.xx");

29 compute = **new** JButton("Compute");

30 centerSpace = **new** JLabel(" ");

31 clear = **new** JButton(" Clear ");

32

33 **//Specify the component's properties**

34 description.setFont(**new** Font("Sherif", Font.BOLD, 24));

35 plus.setFont(**new** Font("Sherif", Font.BOLD, 20));

36 equals.setFont(**new** Font("Sherif", Font.BOLD, 20));

37 sum.setFont(**new** Font("Sherif", Font.BOLD, 20));

38 a.setFont(**new** Font("Sherif", Font.BOLD, 20));

39 b.setFont(**new** Font("Sherif", Font.BOLD, 20));

40 clear.setToolTipText("Clears a, b and the sum");

41

42 **//Step 4: add the components to the window or non-atomic container**

43 panel1.add(description);

44 panel2.add(a);

45 panel2.add(aValue);

46 panel2.add(plus);

46 panel2.add(b);

48 panel2.add(bValue);

49 panel2.add(equals);

50 panel2.add(sum);

51 panel3.add(compute);

52 panel3.add(centerSpace);

53 panel3.add(clear);

54 add(panel1, BorderLayout.NORTH);

55 add(panel2, BorderLayout.CENTER);

56 add(panel3, BorderLayout.SOUTH);

57 }

58 }

**Figure 11.32 The class AddingMachineGUI3 that uses the BorderLayout manager**