```java
 1  // joi/5/shapes/VLine.java
 2  //
 3  //
 4  // Copyright 2003 Bill Campbell and Ethan Bolker
 5
 6  /**
 7   * A VLine is a vertical Line.
 8   */
 9
10  public class VLine extends Line
11  {
12      /**
13       * Construct a VLine having a paintChar and a length.
14       *
15       * @param length  length in (character) pixels.
16       * @param paintChar  character used for painting this Line.
17       */
18
19      public VLine( int length, char paintChar )
20      {
21          super( length, paintChar );
22      }
23
24      /**
25       * Paint this Line on Screen s at position (x,y).
26       *
27       * @param screen  the Screen on which this Line is to be painted.
28       * @param x  the x position for the line.
29       * @param y  the y position for the line.
30       */
31      public void paintOn( Screen screen, int x, int y )
32      {
33          for ( int i = 0; i < length; i++ )
34              screen.paintAt( paintChar, x, y+i );
35      }
36
37
38      /**
39       * Unit test for class VLine.
40       */
41      public static void main( String[] argv )
42      {
43          Terminal terminal = new Terminal();
44
45          terminal.println( "Self documenting unit test of VLine.");
46          terminal.println( "The two Screens that follow should match.");
47          terminal.println();
48
49          terminal.println( "Hard coded picture:");
50          terminal.println( "++++++++++");
51          terminal.println( "+xx        +");
52          terminal.println( "+xx        +");
53          terminal.println( "+xx   *    +");
54          terminal.println( "+xx   *1   +");
55          terminal.println( "+x    *    +");
56          terminal.println( "+x    *    +");
```

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57          terminal.println( "+x    *    +");
58          terminal.println( "+     *    +");
59          terminal.println( "+          +");
60          terminal.println( "++++++++++");
61          terminal.println();
62
63          terminal.println( "Picture drawn using VLine methods:");
64          Screen screen = new Screen( 7, 9 );
65
66          Line vLine = new VLine( 7, 'x' );
67          vLine.paintOn( screen );
68
69          vLine.setLength(5);
70          vLine.paintOn( screen, 1, 0 );
71
72          vLine.setPaintChar('*');
73          vLine.paintOn( screen, 3, 3 );
74
75          vLine.setLength(1);
76          vLine.setPaintChar('1');
77          vLine.paintOn( screen, 4, 4 );
78
79          screen.draw( terminal );
80
81      }
82  }
```