

JLiteralString.java

```
1 // Copyright 2013 Bill Campbell, Swami Iyer and Bahar Akbal-Delibas
2
3 package jminusminus;
4
5 /**
6  * The AST node for a string literal.
7  */
8
9 class JLiteralString extends JExpression {
10
11     /** Representation of the string. */
12     private String text;
13
14     /**
15      * Construct an AST node for a string literal given its line number and
16      * string representation.
17      *
18      * @param line
19      *         line in which the literal occurs in the source file.
20      * @param text
21      *         representation of the literal.
22      */
23
24     public JLiteralString(int line, String text) {
25         super(line);
26         this.text = text;
27     }
28
29     /**
30      * Analyzing a String literal is trivial.
31      *
32      * @param context
33      *         context in which names are resolved (ignored here).
34      * @return the analyzed (and possibly rewritten) AST subtree.
35      */
36
37     public JExpression analyze(Context context) {
38         type = Type.STRING;
39         return this;
40     }
41
42     /**
43      * Generating code for a string literal means generating code to push it
44      * onto the stack.
45      *
46      * @param output
47      *         the code emitter (basically an abstraction for producing the
48      *         .class file).
49      */
50
51     public void codegen(CLEmitter output) {
52         // Unescape the escaped escapes
53         String s = Util.unescape(text);
54
55         // The string representation is padded (by hand-written
56         // and JavaCC scanner) with double quotes, so we substring
57         String literal = s.substring(1, s.length() - 1);
58         output.addLDCInstruction(literal);
59     }
60
61     /**
62      * @inheritDoc
63      */
64
65     public void writeToStdOut(PrettyPrinter p) {
66         p.printf("<JLiteralString line=%\"d\" type=\"%s\" "
```

```
67         + "value=\"%s\"/>\n", line(), ((type == null) ? "" : type
68         .toString()), Util.escapeSpecialXMLChars(text));
69     }
70
71 }
72
```

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