

## JThis.java

```
1  // Copyright 2013 Bill Campbell, Swami Iyer and Bahar Akbal-Delibas
2
3  package jminusminus;
4
5  import static jminusminus.CLConstants.*;
6
7  /**
8   * The AST for a "this" expression. It serves as a target of some field
9   * selection or message.
10  */
11
12  class JThis extends JExpression {
13
14      /**
15       * Construct an AST node for a "this" expression given its line number.
16       *
17       * @param line
18       *         line in which the expression occurs in the source file.
19       */
20
21      public JThis(int line) {
22          super(line);
23      }
24
25      /**
26       * Analysis involves simply determining the type in which we are, since that
27       * determines the type of this target.
28       *
29       * @param context
30       *         context in which names are resolved.
31       * @return the analyzed (and possibly rewritten) AST subtree.
32       */
33
34      public JExpression analyze(Context context) {
35          type = ((JClassDeclaration) context.classContext.definition())
36                .thisType();
37          return this;
38      }
39
40      /**
41       * Simply generate code to load "this" onto the stack.
42       *
43       * @param output
44       *         the code emitter (basically an abstraction for producing the
45       *         .class file).
46       */
47
48      public void codegen(CLEmitter output) {
49          output.addNoArgInstruction(ALOAD_0);
50      }
51
52      /**
53       * inheritDoc
54       */
55
56      public void writeToStdOut(PrettyPrinter p) {
57          p.println("<JThis/>");
58      }
59  }
60
61
```