

workspace - Java - assignment4/src/assignment4/assignment4.java - Eclipse

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assignment4.java

```
31 private static Scanner scanner;
32 public static void main(String[] args) throws FileNotFoundException {}
63 public static enum TokenType {}
70 public static ArrayList<Token> lex(String input) {}
98 private static void parse(ArrayList<Token> tokens) {}
165 private static void ifcase(ArrayList<Token> a) {}
186 private static boolean evalbeforeif(ArrayList<Token> a1) {}
225 private static void input(ArrayList<String> a) {}
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318 private static int Evaluateprint(ArrayList a2) {}
336 public static int evaluate(String expression) {}
363 public static boolean checklevel(char op1, char op2) {}
371 public static int calculate(char op, int b, int a) {}
```

ParserInput.txt

```
1 10 println "Testing if then"
2 20 integer a, b
3 35 print "Enter a:"
4 40 input a
5 55 print "Enter b:"
6 60 input b
7 70 if a < b then println "a < b"
8 80 if a = b then println "a = b"
9 90 if a > b then println "a > b"
10 80 end
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:40:0)
Testing if then
Enter a:3
Enter b:2
a > b
```

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assignment4.java

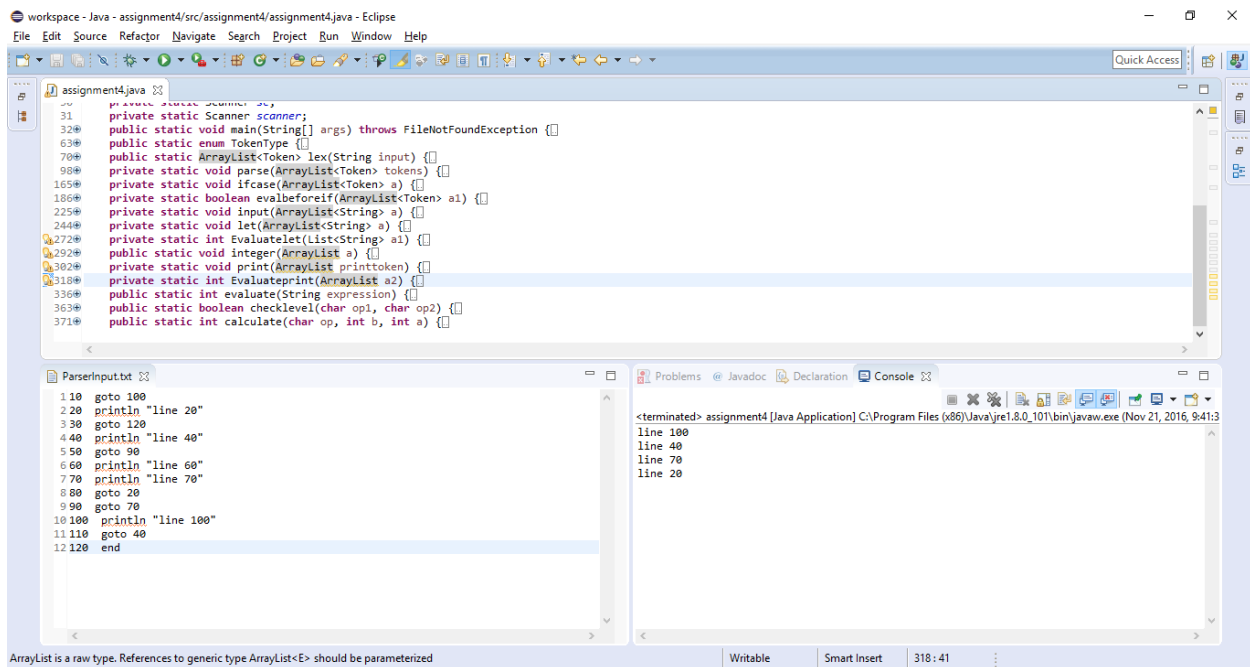
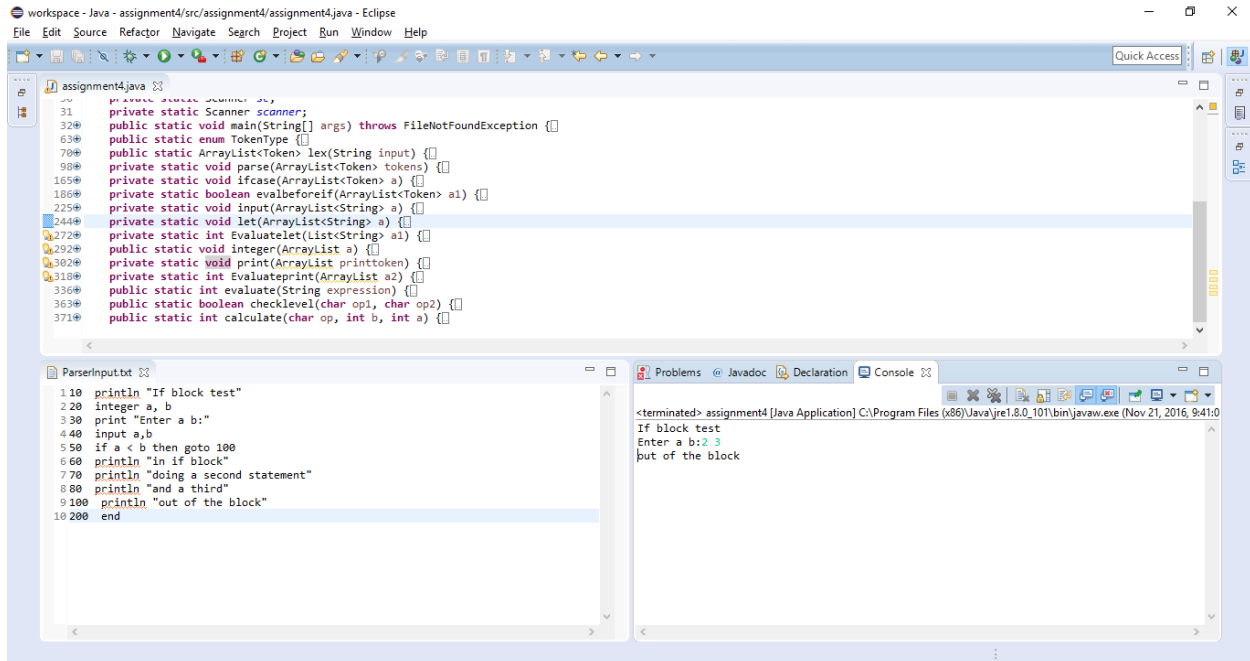
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371 public static int calculate(char op, int b, int a) {}
```

ParserInput.txt

```
1 10 println "If block test"
2 20 integer a, b
3 30 print "Enter a b:"
4 40 input a,b
5 50 if a < b then goto 100
6 60 println "in if block"
7 70 println "doing a second statement"
8 80 println "and a third"
9 100 println "out of the block"
10 200 end
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:40:4)
If block test
Enter a b:4 4
in if block
doing a second statement
and a third
out of the block
```



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```
1 private static Scanner scanner;
2 public static void main(String[] args) throws FileNotFoundException {}
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16 public static int calculate(char op, int b, int a) {}
```

ParserInput.txt

```
1 10 println "line 10"
2 20 gosub 200
3 30 println "line 30"
4 40 end
5 200 println "in the sub"
6 210 gosub 300
7 220 println "back from 300"
8 230 ret
9 300 println "start of 300 sub"
10 310 ret
11 320 end
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:42:2
line 10
in the sub
start of 300 sub
back from 300
line 30
```

Writable Smart Insert 32:13

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```
1 private static Scanner scanner;
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14 public static int evaluate(String expression) {}
15 public static boolean checklevel(char op1, char op2) {}
16 public static int calculate(char op, int b, int a) {}
```

ParserInput.txt

```
1 10 integer c, d
2 20 let c = 1
3 25 let d = 1
4 30 if c > 10 then goto 70
5 40 println c, "x", d, "x", c*d
6 50 let d = d + 1
7 55 if d > 10 then let c = c + 1
8 57 if d > 10 then let d = 1
9 60 goto 30
10 70 end
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:42:5
9*8=72
9*9=81
9*10=90
10*1=10
10*2=20
10*3=30
10*4=40
10*5=50
10*6=60
10*7=70
10*8=80
10*9=90
10*10=100
```

Writable Smart Insert 70:20

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assignment4.java

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336 public static int evaluate(String expression) {}
363 public static boolean checklevel(char op1, char op2) {}
371 public static int calculate(char op, int b, int a) {}
```

ParserInput.txt

```
1 10 println "This program tests basic SIL statement execution"
2 20 integer a,b,c,d
3 30 print "Enter a b c:"
4 40 input a , b, c
5 50 let d = b*b - 4 * a * c
6 60 println "d=", d
7 70 end
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:46:4
This program tests basic SIL statement execution
Enter a b c:1 8 4
d=48
```

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assignment4.java

```
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336 public static int evaluate(String expression) {}
363 public static boolean checklevel(char op1, char op2) {}
371 public static int calculate(char op, int b, int a) {}
```

ParserInput.txt

```
1 10 println "This program kind of computes the area of a triangle"
2 20 print "Enter base and height:"
3 25 integer base, height
4 30 input base, height
5 35 integer area
6 40 let area = (base*height) / 2
7 50 println "Area of a triangle with base = ",base," and height = ", height, " is ",
8 60 end
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:47:4
This program kind of computes the area of a triangle
Enter base and height:5 8
Area of a triangle with base = 5 and height = 8 is 20
```

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assignment4.java

```
1 private static Scanner scanner;
2 public static void main(String[] args) throws FileNotFoundException {}
3 public static enum TokenType {}
4 public static ArrayList<Token> lex(String input) {}
5 private static void parse(ArrayList<Token> tokens) {}
6 private static void ifcase(ArrayList<Token> a) {}
7 private static boolean evalbeforeif(ArrayList<Token> a1) {}
8 private static void input(ArrayList<String> a) {}
9 private static void let(ArrayList<String> a) {}
10 private static int Evaluatelet(List<String> a1) {}
11 public static void integer(ArrayList a) {}
12 private static void print(ArrayList printtoken) {}
13 private static int Evaluateprint(ArrayList a2) {}
14 public static int evaluate(String expression) {}
15 public static boolean checklevel(char op1, char op2) {}
16 public static int calculate(char op, int b, int a) {}
```

ParserInput.txt

```
1 10 PRINT "Hello"
2 20 PRINT " World"
3 30 PRINTLN "Hi"
4 40 PRINTLN "Good Morning"
5 50 END
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:49:0
Hello WorldHi
Good Morning
```

Writable Smart Insert 244:21

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assignment4.java

```
1 package assignment4;
2
3 import java.io.File;
4 import java.io.FileNotFoundException;
5 import java.util.ArrayList;
6 import java.util.HashMap;
7 import java.util.Iterator;
8 import java.util.List;
9 import java.util.Map;
10 import java.util.Scanner;
11 import java.util.Stack;
12 import java.util.TreeMap;
13 import java.util.regex.Pattern;
14 import java.util.regex.Matcher;
15
16 public class assignment4 {
17     public static class Token {
```

ParserInput.txt

```
1 10 // Scenario 2 (Defining Integer, LET Identifier=expression)
2 20 INTEGER A, B
3 30 LET A=5
4 40 LET B = 6
5 50 PRINTLN (A+B)
6 60 INTEGER C
7 70 LET C = B-A
8 80 PRINTLN (C)
9 90 END
```

Problems Javadoc Declaration Console

```
<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:50:0
11
1
```

Writable Smart Insert 8:17

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```
1 package assignment4;
2
3 import java.io.File;
4 import java.io.FileNotFoundException;
5 import java.util.ArrayList;
6 import java.util.HashMap;
7 import java.util.Iterator;
8 import java.util.List;
9 import java.util.Map;
10 import java.util.Scanner;
11 import java.util.Stack;
12 import java.util.TreeMap;
13 import java.util.regex.Pattern;
14 import java.util.regex.Matcher;
15
16 public class assignment4 {
17     public static class Token {
```

ParserInput.txt

```
1 10 INTEGER D, E_1, e_2
2 20 LET D = 8
3 30 PRINTLN (D)
4 40 LET E_1 = (D + 8) / 2
5 50 PRINTLN (E_1)
6 60 LET e_2 = ((E_1 * 3) + 6) / 10
7 70 PRINTLN (e_2)
8 80 INTEGER Final_Total
9 90 LET Final_Total = E_1 - e_2
10 100 PRINTLN (Final_Total)
11 110 END
```

Problems Javadoc Declaration Console

<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 9:55:2

8
8
3
5

Writable Smart Insert 3:21

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```
90 } else if (matcher.group(TokenType.COMMENTS.name()) != null) {
91     continue;
92 } else if (matcher.group(TokenType.IDENTIFIERS.name()) != null) {
93     tokens.add(new Token(TokenType.IDENTIFIERS, matcher.group(TokenType.IDENTIFIERS.name())));
94     continue;
95 }
96 return tokens;
97
98 private static void parse(ArrayList<Token> tokens) {
99     Iterator<Token> i = tokens.iterator();
100     ArrayList<String> printtoken = new ArrayList<String>();
101     while (i.hasNext()) {
102         Token t1 = i.next();
103         String s = (String) t1.data;
104         if (s.equalsIgnoreCase("PRINT")) {
105             while (i.hasNext()) {
106                 printtoken.add(i.next().data);
```

ParserInput.txt

```
1 20 INTEGER F
2 30 PRINTLN (F)
3 40 INTEGER f
4 50 PRINTLN (f)
5 60 INTEGER Duplicate
6 70 PRINTLN (Duplicate)
7 80 INTEGER Duplicate \\error
8 90 END
```

Problems Javadoc Declaration Console

<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 10:09:

0
0
0
Variable Duplicate already defined

Writable Smart Insert 106:45

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assignment4.java

```
90 } else if (matcher.group(TokenType.COMMENTS.name()) != null) {
91     continue;
92 } else if (matcher.group(TokenType.IDENTIFIERS.name()) != null) {
93     tokens.add(new Token(TokenType.IDENTIFIERS, matcher.group(TokenType.IDENTIFIERS.name())));
94     continue;
95 }
96 return tokens;
97 }
98 private static void parse(ArrayList<Token> tokens) {
99     Iterator<Token> i = tokens.iterator();
100     ArrayList<String> printtoken = new ArrayList<String>();
101     while (i.hasNext()) {
102         Token t1 = i.next();
103         String s = (String) t1.data;
104         if (s.equalsIgnoreCase("PRINT")) {
105             while (i.hasNext())
106                 printtoken.add(i.next().data);
107         }
108     }
109 }
```

ParserInput.txt

```
1 10 PRINTLN (X1) //Error
2 20 END
```

Problems Javadoc Declaration Console

<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 10:12:12 AM)
Variable X1 is not defined

Writable Smart Insert 97:6

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assignment4.java

```
90 } else if (matcher.group(TokenType.COMMENTS.name()) != null) {
91     continue;
92 } else if (matcher.group(TokenType.IDENTIFIERS.name()) != null) {
93     tokens.add(new Token(TokenType.IDENTIFIERS, matcher.group(TokenType.IDENTIFIERS.name())));
94     continue;
95 }
96 return tokens;
97 }
98 private static void parse(ArrayList<Token> tokens) {
99     Iterator<Token> i = tokens.iterator();
100     ArrayList<String> printtoken = new ArrayList<String>();
101     while (i.hasNext()) {
102         Token t1 = i.next();
103         String s = (String) t1.data;
104         if (s.equalsIgnoreCase("PRINT")) {
105             while (i.hasNext())
106                 printtoken.add(i.next().data);
107         }
108     }
109 }
```

ParserInput.txt

```
1 10 LET X = 10 //Error
2 20 END
```

Problems Javadoc Declaration Console

<terminated> assignment4 [Java Application] C:\Program Files (x86)\Java\jre1.8.0_101\bin\javaw.exe (Nov 21, 2016, 10:12:12 AM)
Variable X is undefined

Writable Smart Insert 96:23