Programming Assignment 6

File name: p6

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Files worked on: ast.java, P6.java, test.gibberish, test.s

How to invoke:

- log into a CS Dept. Linux machine and scp the whole file p6 into a directory in Linux.

- Open p6 in Eclipse or VS code

- Run make and then make test, this will cause a Lexical error to appear.

  - Emacs or vim into test.gibberish and delete everything and save the empty file.

  - Run make test this should prompt the error that there is no Main

  - Copy the test.gibberish code from the Eclipse or VS code and paste it into the empty test.gibberish file in the terminal via emacs or vim.

  - When working properly it should run make test without errors

  - Take the test.s file from linux and copy or scp it to the empty test.s file in eclips of VS code and upload it into QtSpim: https://shawnzhong.github.io/JsSpim/

  - In the log it should show that Execution finished

  - Output is on the next page:

Note: I was unable to figure out the reasoning for the 0 being returned for:

- `// test recursive function`

- `// test bool return`

In the output it should contain this:

```
// test arithmetic

//arithmetic ops
var1 = 4/2 * 2: 4

// test (<, >, <=, >=)
5 >= 3: 1
1 <= 2: 1
7 < 4: 0
6 > 9: 0

// test PostInc and PostDec
4
var1++: 5
2
var2--: 1

// test AND
c && true: 1
c && false: 0
false && false: 0

// test NOT

bool type (b1 != b2): 0
string type("hello" != "world"): 1

// test OR
1
00

// test equality
x == y: 0
b1 == b2: 0

// test if
not equal!
0
1

// test if and while
j is greater than or equal to 5
j is greater than or equal to 5
j is greater than or equal to 5

// test if else
1200 >= 999: true
900 >= 999: false

// test while
2
3
4
5
Done!

// test nested conditional stmts
Number is greater than or equal to 5
Number is negative
Number is negative

// test big loop
sum = 100

// test int return
2 + 3: 5

// test bool return
```

```
!val (val == true): 0

// test recursive function
testRecursive(0): 0
testRecursive(2): 0
testRecursive(3): 0
testRecursive(4): 0
Hello world!
```