

Getting started on Homework 2

April 5, 2011

1 Assignment Prompt

MiniJava is a subset of Java. The meaning of a *MiniJava* program is given by its meaning as a Java program. Overloading is not allowed in *MiniJava*. The *MiniJava* statement `System.out.println(...);` can only print integers. The *MiniJava* expression `e.length` only applies to expressions of type `int[]`.

2 What?

Your task is to write a type checker for *MiniJava*. *MiniJava* is a subset of java that includes the bare minimum of Java: integers, integer arrays, classes, subclasses, and printing integers to standard out. It does not permit any float types, strings, overriding methods, or any interfaces. It has a few other restrictions, but those are minor. In later homeworks, you will be converting *MiniJava* code to simpler languages that eventually translate to complete machine code.

3 How I say, how?!

To start this lab, you must first create a parser for the *MiniJava* language and generate a set of syntax tree classes and visitor classes. To do this, complete the following steps

1. Download the JTB parser generator from <http://compilers.cs.ucla.edu/jtb/Files/jtb132.jar>
2. Have javacc installed
3. Go to your hw2 directory
4. Run `java -jar /path/to/jtb132.jar /path/to/minijava.jj`
5. `javacc jtb.out.jj`

Once this is done, you will have a complete parser for *MiniJava* and a set of classes used for traversing the Abstract Syntax Tree. You will also have two different default Visitors, *DepthFirstVisitor* and *GJDepthFirst*. You should extend these two visitors in order to do the homework.

From here on out, you are on your own.