

CS4215 Programming Language Implementation

Lab task for Week 09

Denotational Semantics for imPL

1. Download the file <http://www.comp.nus.edu.sg/~cs4215/labtasks/week9.zip>, and extract it to the Eclipse workspace folder. The workspace folder should now contain a file `cs4215_week_9`.
2. In Eclipse, go to “File”, “New”, “Project”, “Java Project”, “Next”, and choose “`cs4215_week_9`” as “Project name”. Press “Finish”.
3. Use the “Run Configurations” to run `imPLdenotational.impl` with a file name as “Program argument”. The file name should be a imPL file in the “Working directory”.

Note that the interpreter `impl` in `imPLdenotational` cannot handle application, let-expressions, functions, recursive functions, assignments and sequences. Add the method `eval` that deals with these constructs.

Your implementation needs to return the correct value t for an expression E if and only if E is well-typed, makes no use of records or exceptions and does not encounter a division by zero.

4. Submit a zip file called “`YOUR_FULL_NAME.zip`” (with your name), containing
 - `Application.java`
 - `Fun.java`
 - `RecFun.java`
 - `Let.java`
 - `Assignment.java`
 - `Sequence.java`

from your folder `imPL` in the IVLE workbook “Week 9”.

Make sure that you do not change any other files when you test your programs.

Suggestion: When you are done with the solution, save your four files in a secure place. Then download a fresh copy of the lab task, and place your three files into that copy. Then re-do your tests.