

CS4215 Programming Language Implementation

Lab task for Week 08

A Virtual Machine for Records

1. Download the file `http://www.comp.nus.edu.sg/~cs4215/labtasks/week8.zip`, and extract it to the Eclipse workspace folder. The workspace folder should now contain a file `cs4215_week_8`.
2. In Eclipse, go to “File”, “New”, “Project”, “Java Project”, “Next”, and choose “`cs4215_week_8`” as “Project name”. Press “Finish”.
3. Use the “Run Configurations” to run `rePLcompiler.replc` with a file name (for example `test.repl`) as “Program argument”. The file can contain any rePL program that does not use records or exceptions (basically simPL without types). The compiler should reply:

```
rVML code written to test.rvml
```

Now, you can interpret the compiled program using the virtual machine by running `rePLvm.repl` with the base name of the file you just compiled (in the example `test`).

4. The given virtual machine in `rePLvm/VM.java` does not support records yet. You need to add the implementation for the instructions `RCD`, `DOT`, `HASP`, and `EMPTY`. Your programs will be tested using rePL programs that use records, but not exceptions.
5. If you have time to spare (and want to get a hands-on experience in exception handling), you can implement and test the instructions `THROW`, `TRY`, and `ENDTRY`.
6. Submit the resulting file

- `VM.java`

from your folder `rePLvm` in the IVLE workbook “Week 8”.

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.