

91.301, Organization of Programming Languages
Spring 2004, Prof. Yanco

Problem Set 9: The Metacircular Evaluator

Out: Thursday, 6 May 2004

Due: Thursday, 13 May 2004

Note: Due to the end of classes, no late assignments will not be accepted.

Overview: In this problem set, you'll make modifications to the metacircular evaluator, changing UML Scheme.

To run the metacircular evaluator, download `mceval.ss` from the course web site (will work for DrScheme and MIT Scheme). If you use DrScheme, use the MzScheme language.

After executing the code, evaluate `(driver-loop)`. This will run the interactions for your metacircular UML Scheme world. Remember that everything you type in (except for variables and numbers) should be prefixed by `"uml:"` – if you forget, the system will have an error. If you type in an error, the driver-loop exits and you lose the state you had in the metacircular world.

You only need to turn in the portions of the code that you change.

Warm-up:

Run the metacircular evaluator and evaluate some UML Scheme expressions.
Nothing to turn in for this part.

Problem 1:

Exercise 4.4 (“or” only) on p. 374. Remember to tag your new “or” with `"uml:"`.

Problem 2:

Change `uml:if` to the following syntax:

```
(uml:if <predicate> uml:then <consequent> uml:else <alternative>)
```

Problem 3:

Exercise 4.10 on p. 376. Choose your own way to change UML Scheme's syntax.
For this problem, explain what you did as well as turning in the code.