

CS 101 Computer Science I (Spring 2001)
Lab 1: January 24-26, 2001

1. The Macintosh Computer: If you are unfamiliar with the Macintosh, ask a Coach to explain its basic operations, such as moving and clicking the mouse, pull-down menus, and opening and closing folders and files.
2. Visiting the Class Web Page: If you are unfamiliar with the use of a web browser, ask a Coach to show you how to use a browser to visit our class web page and how to view and print materials that you find on the web page. Here is the URL for the web page: <http://www.cs.vassar.edu/~cs101/>.
3. Evaluating Scheme Expressions: Evaluate the following expressions *by hand*, and write their values in the spaces provided. Then start up the DrScheme Interpreter. If necessary, use the Language menu item to set the language to “**Graphical Full Scheme (MrEd)**”. Then type in each of the expressions where the > prompt appears, followed by the **Return** key. DrScheme responds by evaluating each expression and displaying its value. Check each of the responses against your answers.

(* (+ 3 7) (- 24 8)) _____

(+ 2 (+ 3 (+ 4 5))) _____

(cons 'vassar (cons 'college '())) _____

(cons (cons 'OK '()) '()) _____

(car (cdr '((b)(a)))) _____

(cdr (car '((c)(d)))) _____

(car (cdr '(()()))) _____

(define rudy 'mayor) _____

(define hillary 'new-yorker) _____

(cons rudy (cons 'rudy '())) _____

(cons 'hillary (cons hillary '())) _____

(cons 'buddy (cons 2000 '())) _____

'(+ 2000 1) _____

'pundit _____

4. Composing Scheme Expressions: Translate the following arithmetic expressions into Scheme using *only* the `+`, `-`, `*` and `/` operations. Type the resulting expressions into DrScheme and evaluate them to check the answers:

`(10 + (12 / 6))`

`(4 × (6 ÷ (3 - 2)))`

`(1 × 2 × 3 × 4)`

`34`

5. DrScheme's error messages: Type the following erroneous expressions into DrScheme:

`boris` `(* '() '())` `(3 2 1)` `(car '())` `(cdr '())` `(/ 1 0)`

In each case, read the error message reported by DrScheme and try to understand the reason the expression is erroneous. (You don't have to write down the reason.)