

### Correction to Problem Set 3

Out: Tuesday, 26 September 2006

Problem 4 had typos in the original version of PS3. Here's the correct problem.

*Problem 4:* Consider the following recursive procedure:

```
(define (list-sum lst)
  (if (null? lst)
      0
      (+ (car lst)
         (list-sum (cdr lst)))))
```

- a) How many times is `list-sum` called when evaluating the expression `(list-sum '(1 2 3 4 5))`?
- b) What is the order of growth in space and time for the `list-sum` procedure above?
- c) Write an iterative version of the procedure `list-sum`.
- d) What is the order of growth in space and time for your iterative `list-sum` procedure from part c?