

Homework 3, due midnight Thursday Apr 12

Full electronic submission due then, paper version due Friday in TA mailbox (101A Smith).

Working together

- A&S 2.63, 2.64: The results of these two problems are so important that I want you to discuss them with each other to maximize your understanding. Work on these problems before you finish the rest of the assignment.

Do not submit problems in the above section.

Working alone: for submission

You may **talk** with another student and **share ideas** with another student for these problems, but you MAY NOT look at another student's answers or code for any reason (not even debugging). You may of course discuss anything with the TA or professor.

Pay special attention to what is required. If the question asks for drawings, process illustrations, answers, descriptions, etc., be sure to provide those things.

1. Code the procedure `make-combos` that returns all combinations of a set. Order is not important. Your sequence toolkit can save you lots of work here. Hint: think about how you would go about changing the result shown if you wanted to add 4 to the list?

```
> (make-combos '(1 2 3))  
(1 (1 2) (1 2 3) (1 3) 2 (2 3) 3)
```

2. Complete the code from lab 7 for submission. Be sure that you efficiently use the types. For example, `ord-ord union` should be $O(n)$, `tree-tree union` should be $O(n)$, etc.
3. Write the procedure `reorder`, such that:

```
> (reorder '((a . 1)(b . q)(c . 3)) '(b a c))  
((b . q) (a . 1) (c . 3))
```

4. A&S 2.60, 2.78