

CS3L: Introduction to Symbolic Programming

Lecture 10:
Recursion Rocks Again!

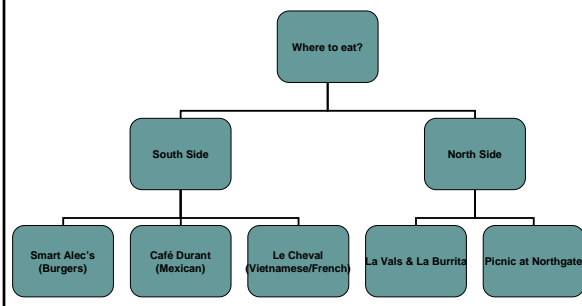
Summer 2008

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Today

- UCWise was down last night (you can post discussion comments until today at noon for Hwk)
- Upcoming Homework
 - **Thurs:** Bowling (Hwk11) due Monday
 - **Fri:** Compress/occurs-in? (Hwk12) due Tuesday
 - **Mon:** Mini-project 2 due Wednesday
- Where to eat lunch
- Anonymous Feedback – thank you!
- Identify the bug
- Roman Numeral Case Study

Lunch TODAY – vote...



Anonymous Feedback

- The discussion interface hard to keep track of. Is it possible to make the posts collapsible?
 - Not this summer – but I will suggest it as a new feature
- we should have more work that allows us to interact with each other as a class, maybe be able to talk to each other...a class chat would be interesting

Find the Bug!

```
(define (copies n wd)
  (if (= n 0)
      '()
      (se (copies n wd) wd)))
```

- When we make a recursive call it needs to make the problem smaller. It should be $(- n 1)$

Find the Bug!

```
(define (copies n wd)
  (if (= n 0)
      '()
      (se wd wd
          (copies (- n 2) wd))))
```

- Our base case doesn't stop it if we start with $n=1$

Roman Numeral Case Study



```
(define (decimal-value roman-numeral)
  14
  (sum-of-all
    '(10 4)
    (prefix-values-removed
      '(10 1 5)
      (digit-values roman-numeral))))
  'XIV
```