

# CS-701 Lecture 23

May 1, 2001

## Exam Notes

- 80.8 Average; 84.0 Median
  - 4, 2, 5, 13, 11 → F, D, C, B, A
  - Divided by 65 instead of 70
- Common Issues
  - “One people”
  - Internal structure of ,v files
    - Versions stored as differences
    - *rcsdiff* compares differences
  - Rules for *cmd*, *depend*, and, *clean*
  - Comparing pointers
  - Should have asked for typedef instead of function prototype.

## Assignment 5

- Command Reader
  - Handle rubout
  - Ignore (remove) arrow keys
  - Return a null-terminated string
- Command Parser
  - Tokenize with support for
    - Single/Double Quotes
    - I/O Redirection ( > and < )
    - Variable references ( *\$symbol* )
- Aliases
- Environment Variables
  - Default environment

## Handle Rubout

- Must have a pointer that keeps track of current position in input buffer; rubout backs it up, but not past the beginning of the buffer.
- Have to erase a character from the screen.
  - Backspace – Space – Backspace

# Parser

- Creates an array of tokens (C strings).
  - Perform alias substitution here. (See next slide.)
  - There must be “type tag” for each token that tells whether a token was a single-quote string or a double-quote string. (Non-strings can be treated as double-quote strings, but “future versions” might need more token types.)
  - I/O redirection symbols must be separate tokens, even if adjacent to other characters.
  - Recognize punctuation symbols as separate tokens:
    - = | & and ; ...
  - Nothing special to do about variable references, but think about how to recognize the end of a symbol for “future versions.”