

# Midterm Prep Document

## Topics

- UNIX
  - Philosophy
  - Contributions
  - File system architecture
  - Security (and associated commands)
  - Commands
    - File management
    - Directory management
    - Filters (e.g., cut, paste, uniq, sort, ...)
    - Process management (e.g., ps, top)
    - Timing
  - I/O Redirection
  - Variables: local or environment
  - Customizing your environment (e.g., aliases)
  - Pipes
  - Backticks
  - Grep family, regular expressions
    - Character classes, special characters/meanings
    - Backreferencing
  - Shortcuts: ~, . , .. , {}
  - Multiple commands: ;
  - Bash scripting
    - Purpose/Benefits
    - Format, Syntax
    - How to execute/run
    - Builtins
    - Parameters
    - Variables
    - Tests
    - Control structures: if, for, case
    - User input
    - Functions
- Software tools
  - Purpose
  - Benefits and limitations of each type of tool
  - Eclipse IDE
  - Build tools
    - Make, ant, maven
  - Search/navigation tools
    - GES, Find-Concept, Dora

## Exam Format

- Very short answer
- Short answer
- Types of questions: Similar questions to homework assignments, problems during lecture, and reviews at beginning of lecture, e.g., explanations, knowledge of what tool to use in a given situation, syntax, comparisons, ...

## What I expect from you

- Know the what, why, and how of concepts
- Understand the purposes of a tool: given a situation, which tool would you use
- Understand tradeoffs between solutions
- Ability to read Bash scripts and provide comments explaining them
- I am typically not looking for essays. You can use bulleted lists or tables, as appropriate for the question.
- Make sure I know that you know what you're talking about.
- **Be precise, clear in your answers.**
- Use the appropriate terminology

## How to study

- Review lecture slides
- Review assignments
- Review paper analyses
- Practice UNIX commands, Bash scripts