Unix Lab III

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1 Administrivia

Announcements

Class diagrams and use case diagrams due Wednesday.

Assignment

Read SE Chapter 4. Online essay.

From Last Time

Unix Lab II.

Outline

1. Discussion of Unix characteristics.

2. Unix Lab III.

Coming Up

Product design.

2 Unix

When starting out, the most important command: `man`. As in:

- `man man`

- `man -k g++`

2.1 Common Trip-Ups

1. The `Delete` key doesn't work.

2. `There are suspended jobs.`

3. The path component separator: /, not \.

4. The arrow keys and other cursor positioning keys.

5. Those "funny" keystroke sequences in `emacs`.

6. Toggling between `emacs` and the shell.

7. Forgetting your Unix text when you're working.

2.2 Anatomy of a Command

```
ls -aCF

ls -a -C -F ~kelliher/pub

ls -l ~

cat Class/Cs245/Exams/evil.tex

w | grep ckonradi

kill `ps gaxuw | grep ckonradi | awk '{ print $2 }'`
```

```
javac Prog.java

java Prog < input > output

rm *

rm -i *

alias rm 'rm -i'

less .cshrc .login
```

2.3   Unix Concepts

1. Your userid and group.

2. Your home directory.

3. The filesystem; navigation: ., ..

4. Relative, absolute pathnames.

5. Directory commands: `cd`, `mkdir`, `rmdir`, `pwd`, `ls`.

6. Filenames; wildcards, abbreviations.

7. File commands: `rm`, `less`, `cp`, `mv`.

8. File permissions.

9. The superuser.

10. Processes.

11. Environment and shell variables: `PRINTER`, `PAGER`, `EDITOR`.

12. The shell.

13. Getting help: `man`, your Unix book.

14. `.cshrc`, `.login`, `.twmrc`, and `.xinitrc`.

2.4   Lab

Write a Java application to solve the following problem.

The sieve of Eratosthenes is one of the earliest algorithms for generating prime numbers between 2 and n. It works as follows. Using an array with a maximum index of n, mark all numbers as being prime (`array[i]` is the indication that the number `i` is prime or non-prime). Mark all numbers which are multiples of two as being non-prime. Repeat for three, four, ..., $(n+1)/2$. Finally, print all numbers which are still marked as prime.

Write a program which prints the primes less than or equal to 100.