ELEC 377
Operating Systems

Week 9 Lab

Lab 4

- shell scripting
  - one emulates the ps command
  - The other does a simple analysis of the source code written in the previous labs.

Other Useful tidbits...

- tr command, translates characters in input to output, also knows printf sequences..
  ◊ only reads from stdin and writes to stdout
  -- use redirection to use files
  ◊ tr '[a-zA-Z]' '[n-za-mN-ZA-M]' < infile > outfile
  rot13 cypher used on internet (advance chars 13 spots)
  ◊ tr '\r' 'x' *convert newlines into x characters*
- $$ - variable containing process id of shell
  - useful for temporary files
  grep 'pattern' > /tmp/$$.temp1
  sed 's/pattern/replacement' < /tmp/$$.temp1
  rm /tmp/$$.temp1

awk - report language

- to complex to go into here in detail.

◊ processes line at a time

◊ can do arithmetic, special formatting

◊ examples: add up the numbers in a particular column of a text file

◊ calculate statistics of patterns in a file

◊ often used for quick formatting in a shell script

◊ $1, $2 refer to columns in the input

awk '{ printf "fmt", $1, $2, $3 }' *takes column input without formatting and prints formatted*

lab4 - first script

- iterate over all process directories
  ◊ for statement with a file glob
- other commands include basename, stat, sed, tr and awk.
- for formatting the columns, use echo and pipe to awk...

ps -eo pid,user,rss,args' can be used as an oracle

lab4 – second script

- iterate over all files in a directory
  - ◊ for statement with a file glob
- grep and find will be useful

There is no oracle for this script. So you will have to manually verify that the output is correct. You must still add an output file to the repository