

Question 1: Explain briefly what do the following *awk* commands do:

- a) `awk '$0 !~ /^$/' file`
- b) `awk '$2 ~ /^[JT]/ {print $3}' file`
- c) `awk '$2 !~ /[Mm]isc/ {print $3 + $4}' file`
- d) `awk '$2 ~ /John|Fred/ {print $0}' file`
- e) `awk 'END{print NR}' file`
- f) `awk '{ print $NF }' file`
- g) `awk 'NF > 4' file`
- h) `awk '{print $2, $1}' file`
- i) `awk -F: '$1 ~ /^....$/ {print $3, $1}' file`
- j) The command `ps -ef` displays all Linux processes.
Use *awk* and other Linux utilities to display all PIDs on screen without the header label "PID".
- k) Using *awk*, write a command to display fields 1 and 5 from file `/etc/passwd`.

Question 2

Create a file that contains four or five lines with the following format:

Username:Firstname:Lastname:Telephone number

Write an *awk* script that will convert such a line to an LDAP record in this format:

dn: uid=Username, dc=example, dc=com
cn: Firstname Lastname
sn: Lastname
telephoneNumber: Telephone number

Question 3

Observe a few lines of the output of the *last* command which displays information on every login session of every user. The last field shows the usage in hours:minutes for that session:

Print a summary report for each user that shows the total number of hours and minutes of computer time that he or she has consumed. Note that the output contains a variable number of fields and a user can occur multiple times.

Question 4

Develop an *awk* program that reads `/etc/passwd` and prints the names of those users having the same GID in the form `GID name1 name2`