TTCS Assignment 1

Truman Ellis

September 9, 2010

Exercise 1

`getent passwd | cut -f 7 -d: | sort | uniq`

`getent passwd` queries the ICES authentication server and returns a colon separated list of information about all users.

`cut -f 7 -d:` receives the list as input, `f -7` cuts out the 7th entry, and `-d:` speciefies that fields are delimited by colons. This command outputs a list of the preferred shell for each user.

`sort` takes this list of shells and sorts them alphabetically.

`uniq` eliminates redundant entries

Thus we get a list of all of the different preferred shells in use by users in ICES.

Exercise 2

`getent passwd | cut -f7 -d: | grep bash | wc -l`

480 ICES users use `bash`

`getent passwd | cut -f7 -d: | grep tcsh | wc -l`

32 ICES users use `tcsh`

`getent passwd | cut -f7 -d: | sort | uniq -c | sort -gr`

```
   480 /bin/bash
    68 /bin/false
    30 /bin/tcsh
```

```
26 /sbin/nologin
21 /bin/csh
18 /bin/sh
16 /usr/sbin/nologin
12 /usr/local/bin/newuser
 4 /bin/zsh
 2 /usr/bin/tcsh
 1 /etc/nologin
 1 /bin/sync
 1 /bin/ksh
 1 /bin/dash
 1
```

Assuming that `false` and `nologin` are not shells, 21 ICES users use `csh`

Exercise 3

```
getent passwd | cut -f1,5 -d: | awk ' {gsub(":", " ", $0); if (
length($1) > x) {x = length($1);user=$0}}END {print x,user}'
```

"Avahi autoip daemon,,," has the longest username, "avahi-autoipd", at 13 characters.

```
getent passwd | cut -f1 -d: | awk ' {if ( length == 10) {print $0}}' | wc -l
```

or

```
getent passwd | cut -f1 -d: | awk ' {if ( length == 10) {x=x+1}}END{print x}'
```

There are 10 users with username length of 10 characters.

Exercise 4

What is the shortest proper first plus last name of an ICES user

```
getent passwd | cut -f5 -d: | awk 'BEGIN{x="wwwwwwwwwwww"}/[[:alpha:]]+\
[[:alpha:]]+/ {if (length < x && length >1){x=length;name=$0}}END{print name}'
```

The shortest name of an ICES user is "Jun Li"