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November 27, 2007

Tutorials for “Unix for Advanced Users”  
Exercise sheet 4

**Exercise 4.1:**

What does the key sequence `Ctrl-X *` do in a bash or tcsh?

**Exercise 4.2:**

Which command is executed if one enters

```
!le
```

in a bash or tcsh?

**Exercise 4.3:**

Explain the output of the following commands (in sh, ksh, or bash)?

- (a) `A=2; echo $A; ( echo $A; A=5; echo $A ); echo $A`
- (b) `B=2; echo $B; sh -c 'echo $B; B=5; echo $B'; echo $B`
- (c) `C=2; export C; echo $C; sh -c 'echo $C; C=5; echo $C'; echo $C`

**Exercise 4.4:**

How do you call a command `cmd0` in sh such that its stdout is filtered through `cmd1`, its stderr is filtered through `cmd2`, and the result of both filters is piped into `cmd3`? (You may assume that neither `cmd1` nor `cmd2` prints anything to stderr itself.)