

General Info About Network Use:

When you are connecting across the network via fiber optics or modem the terminal type needs to be verified and changed as appropriate. It is a smart idea to check your assumed terminal type immediately after you login. To do this type `env` and the machine should respond with a message like

```
[5] % env
HOME=/users/merat
PATH=/bin:/usr/bin:/usr/contrib/bin:/usr/local/bin:/usr/hp6
4000/bin
LOGNAME=merat
SHELL=/bin/csh
MAIL=/usr/mail/merat
TZ=EST5EDT
TERM=unknown
```

This is real bad because it indicates that the system does not know what your terminal type is. If you logged on from the Kern Lab computers you will get the type `TERM=300h` which is the appropriate terminal type for a workstation. However, when you are connected to snowwhite through CWRU (either fiber optic or modem) you need to make sure that your terminal type has been set to `TERM=vt100`. You can do this by simple entering

```
[5] % setenv TERM vt100
```

This properly enables the vi editor and the debugger screens to work with your terminals. If you are interested, the vi editor and the debugger also support vt220 terminals and hewlett-packard 700/92 and 700/94 terminals.

You should immediately suspect that something is wrong with the `TERM` variable when your keys do not work properly. Keys with lots of problems are your backspace (delete) key and your cursor keys. The `DELETE` key is very tricky; most terminal emulation programs will have a command or switch of the form `MAP DEL-->BS` which maps the delete command onto your keyboard backspace key. This option is also present in the TELNET software. Check this option if you have problems.

[I could use any info about this problem from people using IBM compatibles.]

Problems with the arrow (cursor) keys usually indicates that your terminal type has not been set properly.

The next set of inquiries deals with assembling the first lab's text file. The correct assembler is "as68k" NOT "asm". You will learn about this in upcoming labs.

People have been asking about how to upload and download programs. If you have TELNET you probably also have a program called FTP (file transfer protocol). This can be used to transfer programs between machines. Unfortunately, this is most useful for transferring files between machines running the same operating system (MAC, DOS, UNIX, VMS, etc.). This option is very useful for backing up your files on snowwhite onto your local disk and (perish the thought) restoring your files from the same disk. A local

disk is whatever you are running from with YOUR computer — it might be a floppy or a hard disk. The only problem is that the files make no sense to your local computer. To upload files from your computer (created using another word processor) you must first create a text only file. Word processors such as WORD are WYSIWYG (what you see is what you get) word processors which automatically continue text from line to line. This is called word wrap. Guess what, UNIX doesn't do it!

For those students with a modem: To transfer your local text files (which might be mail or program sources) to snowwhite I recommend the following procedure:

1. Save your file as TEXT or TEXT with line returns. This will eliminate word wrap from your file.
2. Log onto snowwhite, check and set (if appropriate) your TERM variable, and enter vi.
3. In vi enter insert mode by typing an i.
4. Now, tell your terminal program to send a file. On a Macintosh using VersaTerm Professional, this is under the EDIT menu. The menu entry in this case is Send file... after which you will be prompted for the location of the file.
5. Your terminal program will send the file. You should see the text being sent appear on your vi screen. When the file transfer is done, type ESC to exit the insert mode of vi.
6. You can now save your file in the normal vi manner, for example type :w <filename> to save it as <filename>. You can then exit vi by :q
7. The file <filename> is now in your directory and you can do whatever you want with it. It is not a bad idea to look at the file to see if your terminal program inserted any extraneous junk at the beginning or end of the file. This often happens and can be easily removed using vi to edit the file.

To download programs:

1. Log onto snowwhite, check and set (if appropriate) your TERM variable.
2. In your emulator program you should have a command called save file, save stream, or something similar. In TELNET this is called a photo file. Turn this option on, any text displayed on your screen from this point on is being automatically saved to a disk file. You may be prompted by your program for a file name and location or it may use a default—read your manual to find out.
3. Now, with your display being saved to a file, type the UNIX command more <filename>. This will list your file called <filename> on the screen and, just incidentally, copy it to the file on your local computer. When you are done listing your program turn your emulator program file save off. This might be through a command like stop save, stop stream, or something similar. At this point the program has been transferred to your computer. However, it will have some UNIX junk in it which you may want to edit out using your word processor on your computer at home. Note that this does not work for binary files such as any file with a .o or .x extension—it does work fine for a source file with a .s extension.

```
CWRU-TS2>connect snowwhite
Translating "SNOWHITE"...domain server (129.22.4.3) [OK]
Trying SNOWHITE.EEAP.CWRU.EDU (129.22.56.15)... Open
```

```
HP-UX snowwhite 7.0 B 9000/350
```

```
login: merat
Your password has expired. Choose a new one
Changing password for merat
New password:
```