

structure

1. more on the shell

2. file commands

3. the web server

4. editing a web page with emacs

5. primary and secondary data files in NetEtc

bash features

• command/program completion

• file name completion

• in-line command editing

• environment variable completion (you can forget about that for now)

important bash shell commands

```
pwd          show current directory
cd directory change to directory
echo thing  print thing
history      show history
exit         leave the shell
```

Flags

Commands accept arguments and flags. Flags modify the way a command operates. Arguments give the object of a command.

Traditionally, flags are of the form `-letter` Example `ls -l file`

Such flags may be concatenated. Thus `ls -lafile` is the same as `ls -l -a file`. Geeks like to be terse.

GNU utilities also accept a long format of options, for example `man --apropos string`. Note the double minus.

The man page for a command tells you about the flags of a command.

files and directories

```
/          directory separator
.          the current directory
..         the parent directory
.name    a special file .name
~user    the home of user user
```

important commands on files and directories

```
ls
ls -l
ls -a
ls -la
cat file
more file
less file
diff file1 file2
mkdir directory
cp source destination
rm file
ln -s source destination
lnk source to destination
```

Apache

apache is a web server running on wotan.

A user can create a web page as file

```
~user/public-html/file.html.
```

The web server shows it at the URL

```
http://wotan.lju.edu/~user/file.html
```

if the file is omitted, for example in the URL

```
http://wotan.lju.edu/~user/
```

then the file

```
http://wotan.lju.edu/~user/index.html
```

is shown.