

Review of Module 4

➤ Quoting

- Apostrophes do not expand their contents.
- Quotes do expand their contents.
- Graves execute their contents in place.

➤ Shell Control Flow

- `exit` Immediately exits
- `for var in list`
 `do`
 ...
 `done`
 - `for var in `cat file` ...`
- `case var in`
 `expr1) something;;`
 `expr2) otherthing;;`
 `esac`
- `$?` Exit status of last command
- `/dev/null` Bit bucket
- `if some_test`
 `then`
 ...
 `fi`

```

▪ if some_test
  then
    ...
  else
    ...
  fi
▪ if some_test
  then
    ...
  elsif other_test
  then
    ...
  fi

```

➤ Test forms

- [\$var1 = \$var2]
 - [! var1 = \$var2]
- [-f somefile]
 - **There are other file test operators.**
- [\$num1 -eq \$num2]
 - **There are other numeric tests.**
 - `expr $num1 + $num2`
 - **Can also subtract, multiply divide and take the modulus.**
- while [...]
 - do
 -
 - done

- `break` Breaks out of the `while`
- Arguments to shell scripts
 - `$1`, `$2`, etc.
 - `shift` Drops `$1`, moves `$2` into `$1`, `$3` into `$2`, etc.
 - `$#` The number of arguments.
 - `shift` Decreases `$#` by one.
- Input to shell scripts: `read ARG`
 - Can be given multiple arguments.
 - Argument separators are "whitespace" just like `awk`.
- Dot command
 - `. some_script` Executes the script with the *current* shell.
- File and directory permissions.
 - View with `ls -l`
 - Manipulate with `chmod`
 - Set defaults permissions with `umask`
- X-Windows
 - Override defaults with `~/ .xsession` or `~/ .Xclients`
 - `$DISPLAY` The screen, keyboard and mouse.

- **Window manager: puts borders etc. on windows:**
 - `mwm`
 - `twm`
- **Resources: `~/ .Xresources`**
- `xterm` **Pop a new window.**
- **Copy and Paste:**
 - **Left mouse button: Copy**
 - **Middle mouse button: Paste**
 - **The Left and Right mouse buttons together simulates a middle mouse button.**
- `xhost` **Access Control**
- **GUIs: In `~/ .xsession`:**
 - `exec gnome-session`
 - `exec startkde`