Intro to Linux

3.1.2 - Shell Script Elements Part 2

Shell Script Elements

- The | (Pipe) connects the output of one command as the input to another command

- This helps chain commands together

- The example below generates a fortune and uses the tool cowsay to display the fortune

Or, Oar, or Ore

- The || (OR) command executes the command following it ONLY IF the preceding command fails/returns an error

- Often used in control flow

- An alternative to an if-then-else command

Redirection

- The > (Output Redirection) redirects the standard output to a file, overwriting it if the file already exists
- The >> (Also Output Redirection) appends the standard output to the end of a file, rather than overwrite it
- The < (Input Redirection) redirects the input from a file to a command
- The << (Here Document) allows multiple lines to be put into a command

And, &, and &&

- The &> combines standard output and standard error to a specified file, overwriting the file if it already exists
- The && (AND) command executes the following following it ONLY IF the preceding command succeeds
  - Understanding Boolean logic and truth tables makes understanding these operators a little easier

Standard Standards

- STDOUT is the standard output stream where a program writes its regular output

- STDERR is the standard error stream where a program writes its error messages

Exit Codes

- Also known as return codes or status codes
- Numeric values returned by a command or program to indicate the result of its execution
  - 0 typically means success
  - Nonzero values typically indicate an error or some kind of failure
- The OS or shell keeps track of the exit code so other scripts or processes can proceed

Shell Built-In Commands

- Built into the shell itself
- More efficient because they don't require a separate process
- `read` reads input from a user or file
- `echo` prints text or variables to the standard output
- `source` execute commands from a file in the current shell environment