CSCI 274 - Intro to Linux OS

Week 5 - Wildcards, Globbing, Bash Scripting and Control Signals

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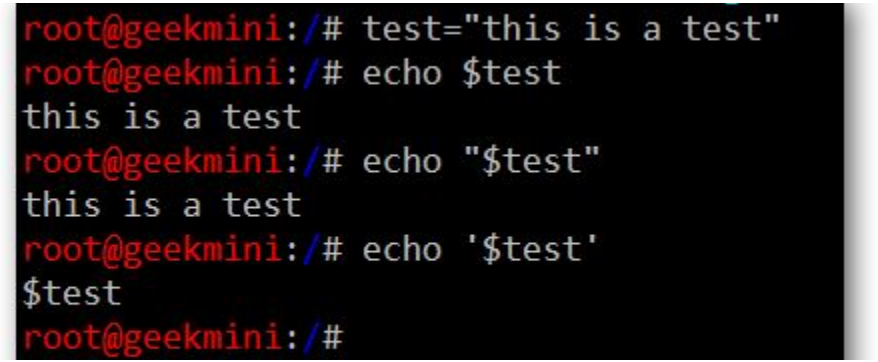
Overview

1. Quoting
2. Wildcards
3. Globbing
4. Bash Scripting
5. Control Signals

Quoting

If you’re simply enclosing a few words of text, it really **doesn’t** matter which one you use, as they will both work exactly the same.

The difference between single and double quotes becomes more important when you’re dealing with **variables or command line output.**



Quoting

Double Quotes

- Use when you want to enclose variables or use shell expansion inside a string.
- All characters within are interpreted as regular characters except for:
  - $ - get variable content
  - `` (backquotes) - get the output of a shell command

Single Quotes

- All characters within single quotes are interpreted as purely string characters

Globbing and Wildcards

An asterisk (*) – matches one or more occurrences of any character, including no character.

Question mark (?) – represents or matches a single occurrence of any character.

Bracketed characters ([ ]) – matches any occurrence of characters enclosed in the square brackets. It is possible to use different types of characters (alphanumeric characters): numbers, letters, other special characters etc.

Curly brackets ({ }) – terms are separated by commas and each term must be the name of something or a wildcard.

You can as well negate a set of characters using the ! symbol.

Bash Scripts

A Bash script is a plain text file which contains a series of commands. The contents are a mixture of commands we would normally type ourselves on the command line (such as ls or cp for example), or commands we could type on the command line but generally wouldn't (you'll discover these over the next few classes). An important point to remember though is:

Anything you can run normally on the command line can be put into a script and it will do exactly the same thing. Similarly, anything you can put into a script can also be run normally on the command line and it will do exactly the same thing.

Bash Scripts

Running (aka executing) a Bash script is fairly easy. Script must have the execute permission set. If you forget to grant this permission before running the script you'll just get an error message telling you as such and no harm will be done.

Terminal

```
1.  user@bash: ./myscript.sh
2.  bash: ./myscript.sh: Permission denied
3.  user@bash: ls -l myscript.sh
4.  -rw-r--r-- 18 ryan users 4096 Feb 17 09:12 myscript.sh
5.  user@bash: chmod 755 myscript.sh
6.  user@bash: ls -l myscript.sh
7.  -rwxr-xr-x 18 ryan users 4096 Feb 17 09:12 myscript.sh
8.  user@bash: ./myscript.sh
9.  Hello World!
10. user@bash:
```

Control Signals

Ctrl + C = Interrupt/Kill whatever you are running (SIGINT)

Ctrl + L = Clear the screen

Ctrl + S = Stop output to the screen (for long running verbose commands)

Ctrl + Q = Allow output to the screen (if previously stopped using command above)

Ctrl + D = Send an EOF marker, unless disabled by an option, this will close the current shell (EXIT)

Ctrl + Z = Send the signal SIGTSTP to the current task, which suspends it; to return to it later enter fg 'process name' (foreground).

Due Dates

- Week 5 Quiz - Sep 25
- UnixHistory.sh - Sep 25

- No class next week (Week 6)