09 - Bash Scripting II

CS 2043: Unix Tools and Scripting, Spring 2016 [1]

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  - `lec07` is just a transcript of what we did at the end.
  - `lec08` is definitely worth taking a look at...`sed` is *very* powerful.

Scripting Recap

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    - Refer to [3] for more.

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#!/bin/bash
STATUS=$(echo "error string" > /dev/null)
echo "$STATUS"
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- Reference the exit code of the previous command with $?

Bash Basics

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Arithmetic Expansion

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```
>>> echo $((2+3))   # standard addition
5
>>> echo $((2<3))   # less than: true is 1
1
>>> echo $((2>3))   # greater than: false is 0
0
>>> echo $((2/3))   # division: BASH IS ONLY INTEGERS!!!
0
>>> x=10            # set a variable
>>> echo $((x++))   # post increment: only for variables,
10                  # does it AFTER...
>>> echo "$x"       # ...but see it did increment
11
>>> echo $((++x))   # pre increment: only for variables,
12                  # does it BEFORE....
>>> echo "$x"       # ...only one increment took place
12
>>> sum=$(($x+10))  # use variables like normal,
>>> echo "$sum"     # note: no quotes "$x" (it is a number)
22
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- In bash, you use `#` to start a comment (line / end of line that will not execute).

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# note the use of single quotes to get a literal *
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Conditonal Statements

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- Note that you need spaces before and after the brackets!!!

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    - `n1 -eq n2` tests if $n1 = n2$.
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    - There are many of these, refer to [2] for more.

Loops

For Loops

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for var in s1 s2 s3; do
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for (( i = 0; i < 10; i++ )); do
    cmd1
    cmd2
done
```

While Loops

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while [[ condition ]]; do
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While Loops

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done < "$FILE"
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```bash
FILE="filename.txt"
for line in $(cat "$FILE"); do # NEVER DO THIS
    cmd1
    cmd2
done
```

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- Lets get some practice!
  https://github.com/cs2043-sp16/lecture-demos/tree/master/lec09

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[1] B. Abrahao, H. Abu-Libdeh, N. Savva, D. Slater, and others over the years.
Previous cornell cs 2043 course slides.

[2] TLDP.
Introduction to if.
`http://tldp.org/LDP/Bash-Beginners-Guide/html/sect_07_01.html#sect_07_01_01`.

[3] H. to Geek.
What's the difference between single and double quotes
in the bash shell?
http://www.howtogeek.com/howto/29980/
whats-the-difference-between-single-and-double-q