Session: Shell Programming
Topic: Additional Commands

Daniel Chang

diff [-b][-i][-w] *filename1 filename2*
diff [-b][-i][-w] *filename1 directory1*
diff [-b][-i][-w][-r] *directory1 directory2*

Description: Compares two text files and prints the lines in which the files differ.

Options:
- [-b] - Treats groups of spaces as one
- [-i] - Ignores case
- [-r] - Includes directories in comparison
- [-w] - Ignores all spaces and tabs
- *filename1 -* Specifies one file to compare
- *filename2 -* Specifies other file to compare
- *Directory1 -* Specifies one directory to compare
- *Directory2 -* Specifies other directory to compare

Example:
```
diff ~smithj/hw1.cpp ~smithk/hw1.cpp
```


cmp *onefile anotherfile*

Description: Compares two files and tells you the line numbers for where they differ. Used more for binary and executable files than text files.

Options:
- *onefile -* Single File name
- *anotherfile - Single File name*

Example:
```
cmp bashv1 bashv2
```

file *name*

Description: Tells you whether "name" is an ordinary file or directory.

Options:
- *name* - file or directory name

Example:
```
> file public_html
> public_html:      directory
```


grep [-i] [-l] [-n][-v] *text filename*

Description: Finds characters or lines of text in one or more files and displays the information to the screen.

Options:
- [-i] - ignores case
- [-l] - Displays only names of files not actual lines.
- [-n] - Displays the line numbers
- [-v] - Look for lines that don't have text
- text - word or phrase that contains text you want to search for. If there are spaces or things that confuse UNIX enclose them in quotation marks. Actually a "regular expression", which can be very complex
- filename - File(s) you want to search.

Example:
```
grep -i "linkin park" *
alias finger "ypcat passwd|grep -I"
finger dchang
```

find *directories* **[name** *filename***] [-user** *username***] [-atime** *+days***] [-mtime** *+days***] [-print] [-exec** *command* **{} \:][ok** *command* **{}\;]**

Description: Finds one or more files, based upon rules you give, and then allows you to execute a command on those files. Totally cryptic.

Options:
- *directories* - list of directories you want to search
- name *filename* - file(s) you want to search for
- user *username* - user who owns the files
- atime +*days* - Files that have not been accessed in +days. A minus sign instead of a + sign you get the files that were looked within those number of days.
- mtime +days - Files that have not been modified in those number of days. A minus sign instead of a + signs gets you files that were modified within those number of days.
- print - Displays names of files. Always use this.
- exec *command* {} \; - Runs the *command* when it finds the files. Puts the found filename inside the {}. Be sure and use the \; as a separator.
- ok *command* {}; - Same as exec only it asks before it runs the command.

Example:
```
find ~dchang\wishlist -name dvd.txt -exec cat {} \;
```

compress [-v] *filenames*

Description: Shrinks a file into a compressed file that takes up less space on your disk drive. To get the original back you use **uncompress** or **zcat**. It creates a file with the same name but with an extension of **.Z**

Options:
- [-v] - Displays how much the fields are compressed.
- *filenames -* files you want to compress

Example:
```
compress -v gradebook.cpp
```

gunzip [-c] [-f] [-r][-v] *filename(s)*

Description: Restores a gzipped file to its normal size. The **gunzip** command also restores files compressed with the **compress** or **pack** commands. **gunzip** assumes the files have an extension of .gz

Options:
- [-c] - sends to standard output
- [-f] - forces uncompression even if file exists.
- [-r] - Recursive into descending directories
- [-v] - displays how much space is being expanded
- filename(s) - File(s) to be uncompressed

Example:
```
gunzip -rv facts
```

tar [-c|x][-v][-f][-z] *archive.tar [filename]+*

Description: Archive or unarchive files, typically with an extension of .tar

Options:
- [-c] - create a new archive (adding files into it)
- [-x] - extract files from an archive
- [-v] - verbose (lists files processed)
- [-f] - use archive file (you will never want to do otherwise)
- [-t] - list contents of an archive
- [-z] - will gzip/gunzip if necessary ("gzip" used as filter)
- archive.tar - archive file to extract from, or to be created
- filename - files to be added if creating archive

Example:
```
tar -cvf assign1.tar main.cpp lib.cpp
```
(create archive from files "main.cpp", "lib.cpp")
```
tar -xvf projectfiles.tar
tar -xvzf usetheseflagsalways.tar.gz
```