Linux For Embedded Systems

For Arabs

Course 102:

Understanding Linux

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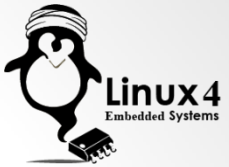
Lecture 4:
Using Wild Cards

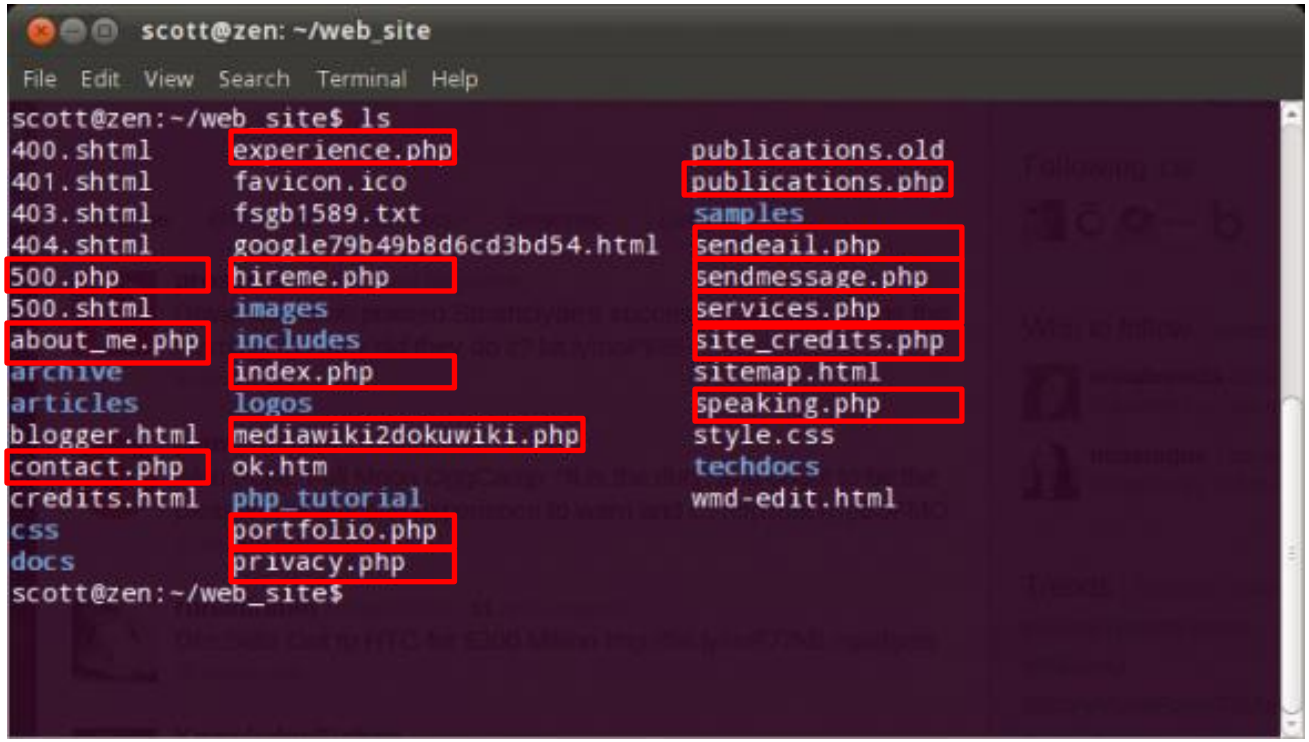
Wild Cards



- Sometimes you will need to execute a command on a group of files instead of a single file
  - Examples:
    - You want to delete all log files
    - You want to list all image files
    - You want to copy old files (ending with .old) to a different place
- The solution for that is to use Wild Cards (also called Globbing)
- Wild cards are patterns that work as placeholders in file names and directory names that are used to apply the command on a group of files/directories that share something in their name
- Remember wild cards are used for file names and directory names ONLY ….. For normal text another patterns are used (Regular Expressions) which will be covered in a future lecture

The “*” Wild Card

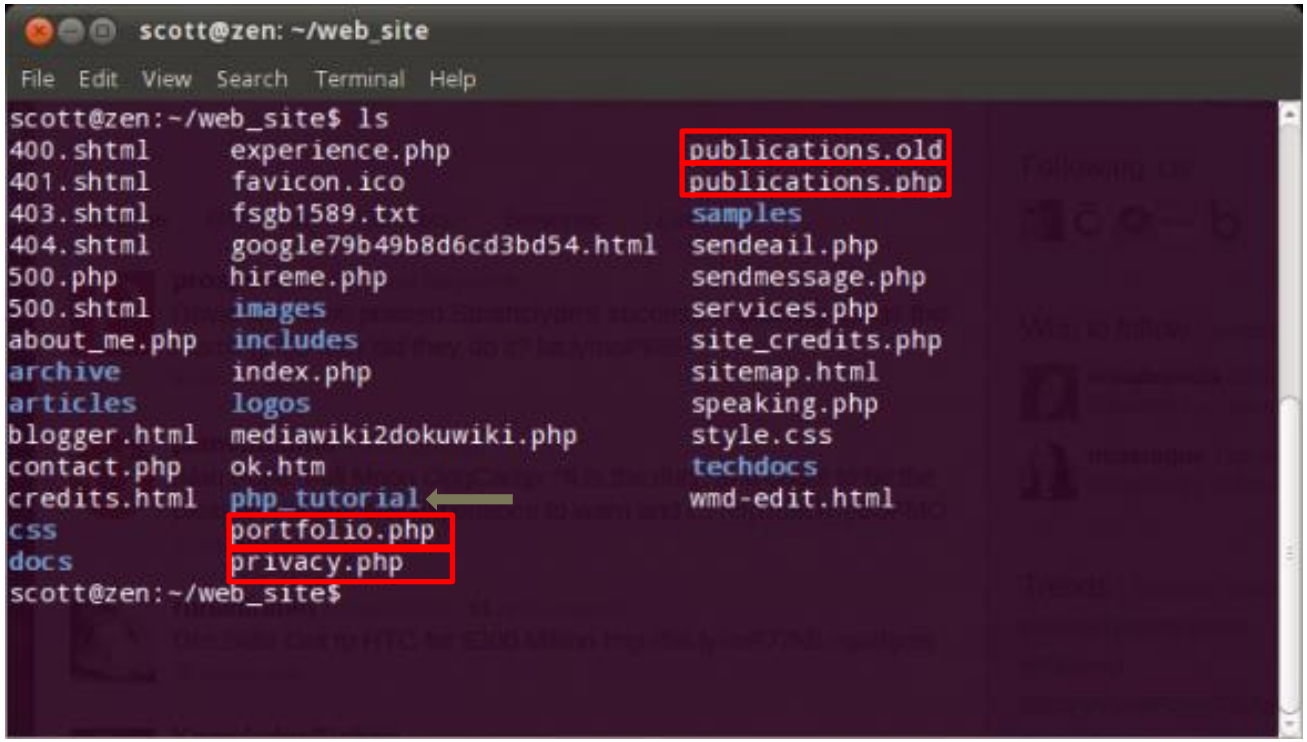
- The “***”** can replace any set of characters (including none) in the file/directory name



$ rm *.php

The “*” Wild Card

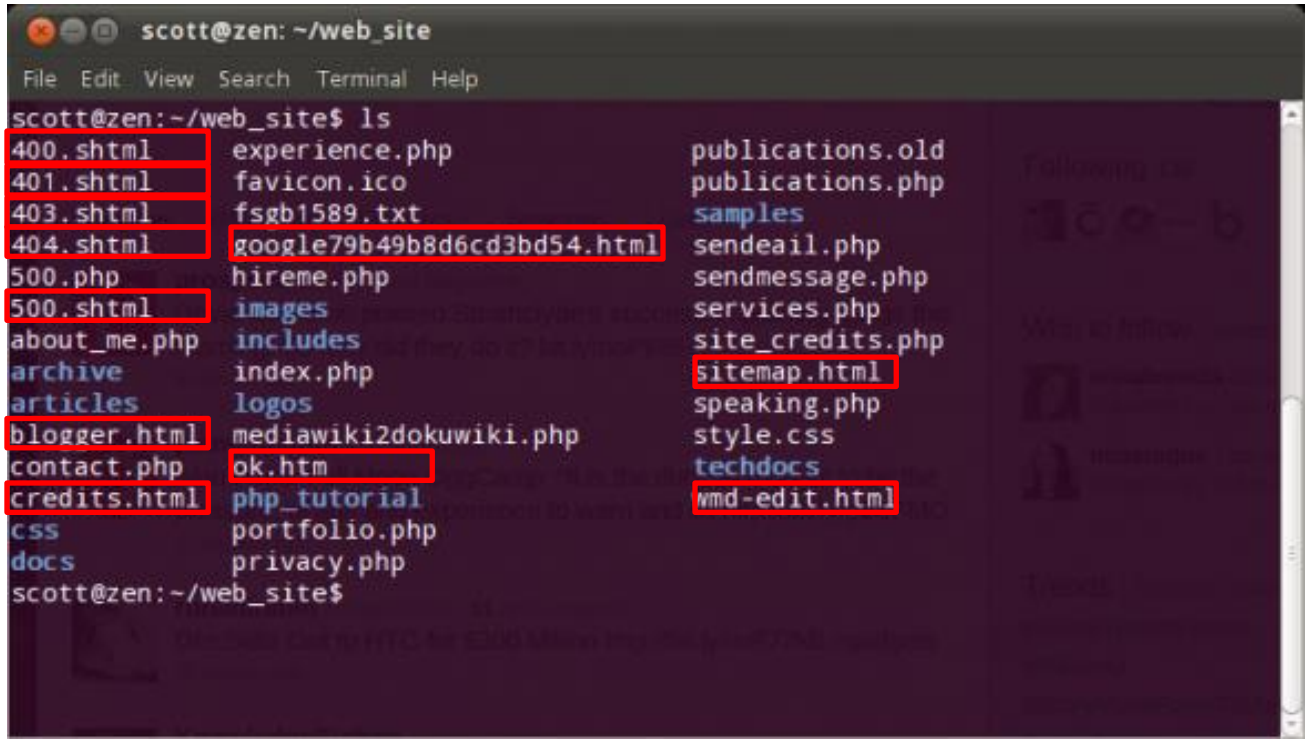
- The “***”** can replace any set of characters (including none) in the file/directory name



$ rm p*

The “*” Wild Card

- The “***”** can replace any set of characters (including none) in the file/directory name



$ rm *.*htm*

The “*” Wild Card

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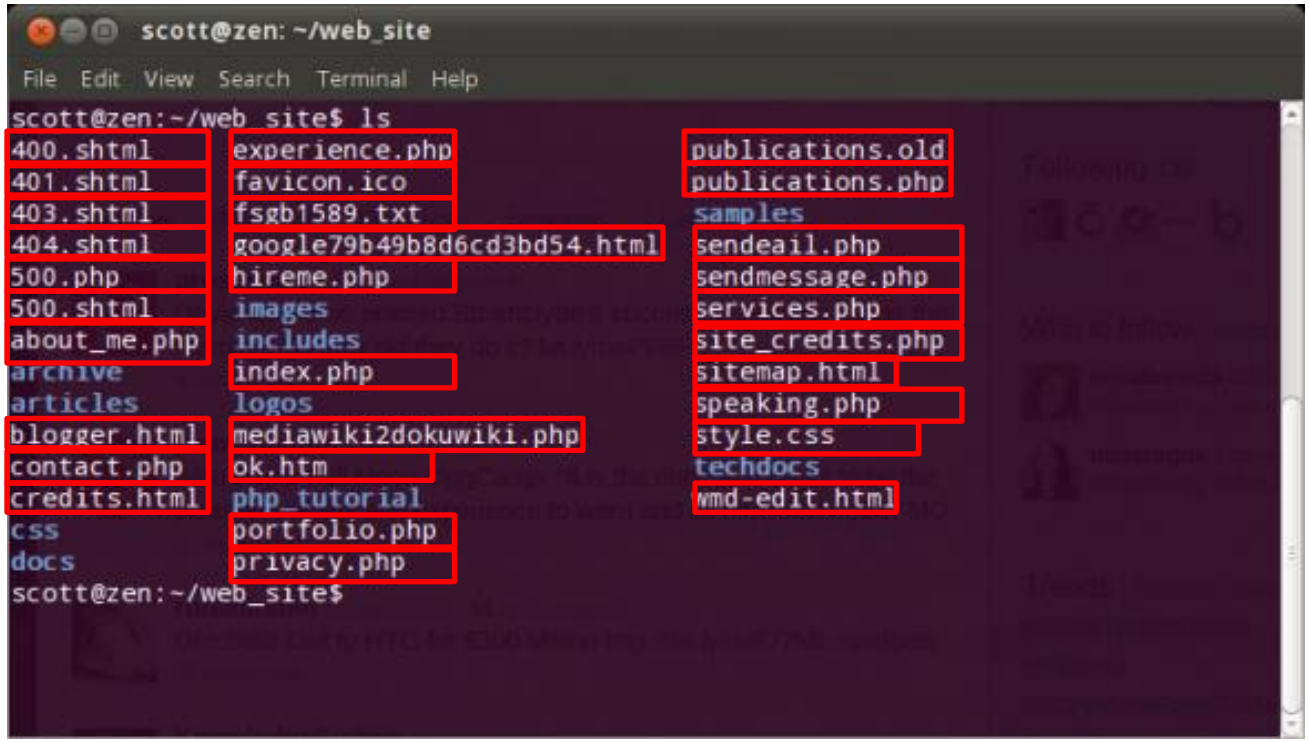
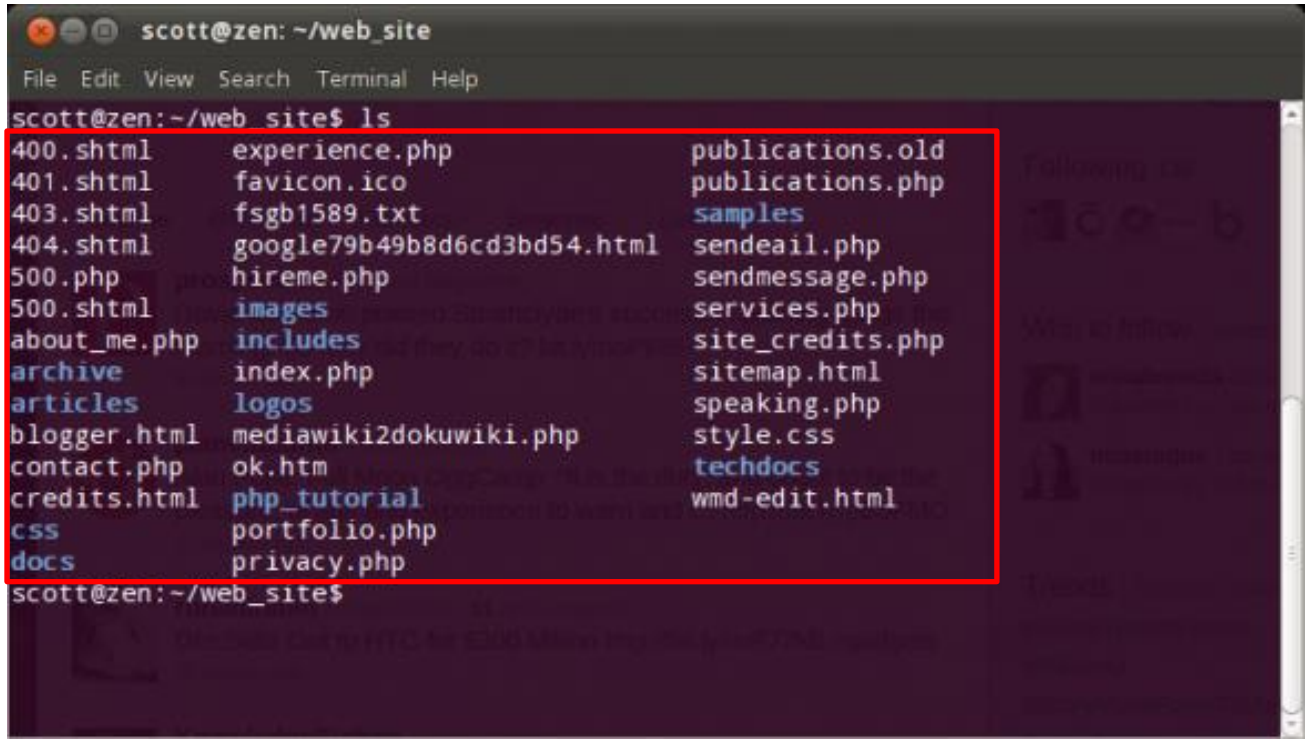


$ rm -r *.*

The “*” Wild Card

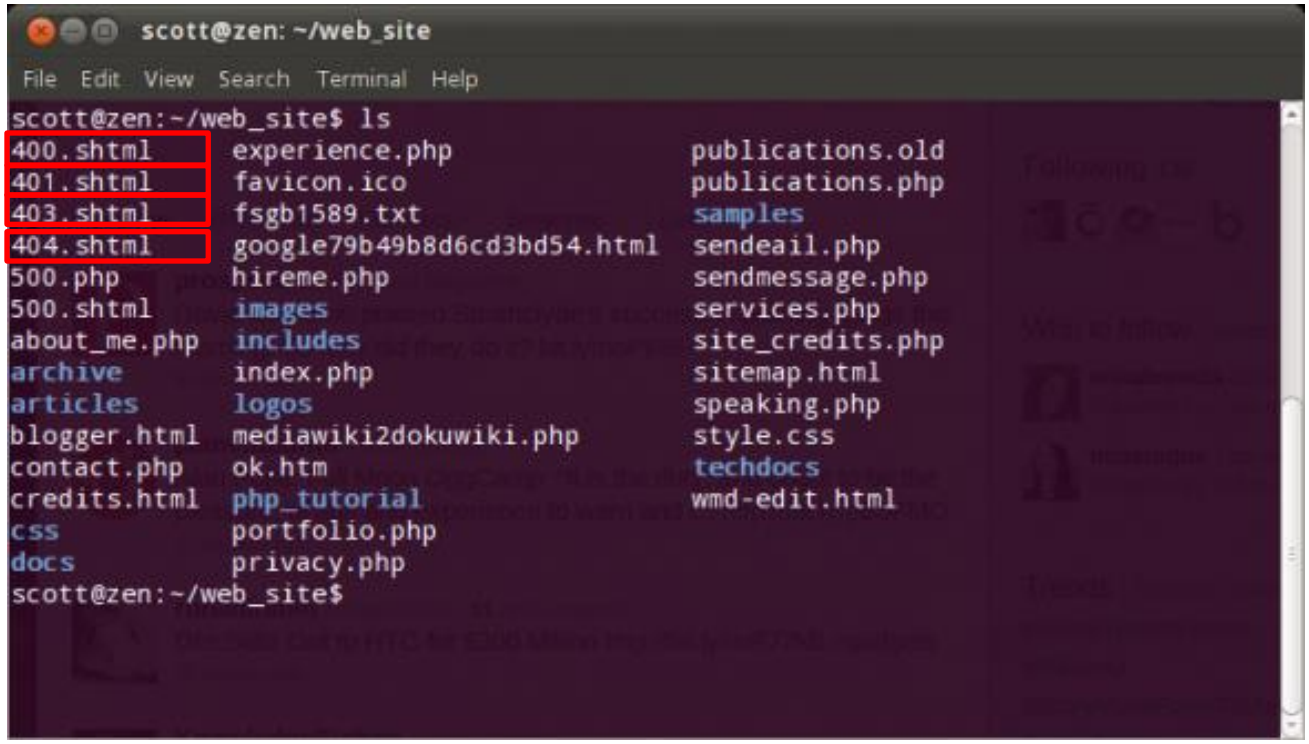
- The “***”** can replace any set of characters (including none) in the file/directory name



$ rm -r *

The “?” Wild Card

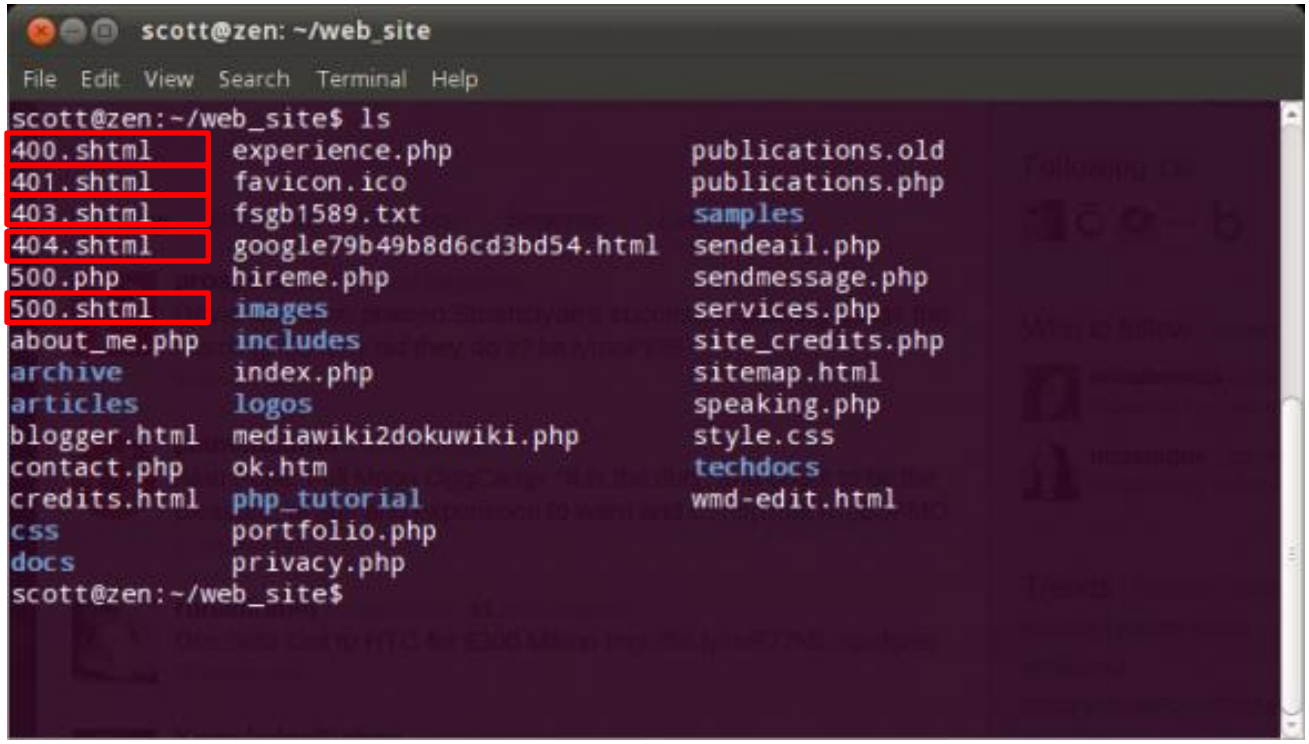
- The “?” wild card stands for any **single** character



$ rm 40?.shtml

The “?” Wild Card

- The “?” wild card stands for any **single** character



$ rm ?0?.shtml

[<chars>] and [!<chars>]

- We can have more restriction than the use of "?" by specifying a limited set of options for the character
  - "***[ars]***" : Stands for a Single character from the list a,r,s
  - "***[!ars]***" : Stands for any Single character except for the list a,r,s
  - "***[2-5]***": Stands for a Single character from the range 2 to 5
  - "***[!2-5]***": Stands for any Single character except for the list 2 to 5
  - "***[a-l]***" : Stands for a Single character from range of 'a' to 'l'
  - "***[!a-l]***": Stands for any Single character except for the list a to l
  - "***[1-37-9]***": Stands for 1,2,3,7,8,9
  - "***[a-chk]***": Stands for a,b,c,h,k
- Examples:

  $ rm -r ab[c-fh-j]

  removes the files/folders named abc,abd,abe,abf, abh,abi,abj

  $ ls results-[0-9][0-9].log

  lists the files named results-00.log to results-99.log

[[:<Class Name>:]]

- ***"[[:<class name>:]]"*** stands for a single character belonging to the specified class
- Some of used classes,

[[:alnum:]]	Alpha Numeric characters (a-z, A-Z, 0-9)
[[:alpha:]]	Alphabets (a-z, A-Z)
[[:digit:]]	Digits (0-9)
[[:lower:]]	Lower case character (a-z)
[[:upper:]]	Upper case character (A-Z)

- Examples:

$ cp results-[[:digit:]][[:digit:]]-[[:alpha:]].log ~/log

Use of Curly Brackets "{ }"

- Curly brackets are used to group selections
- Examples,

  $ rm {*.log,*.txt}

  $ cp {*.pdf,*.doc} ~/documents/

- Note:

  This also works

  $ rm *.log *.txt

  $ cp *.pdf *.doc ~/documents/

A nice tip,

- If you are going to remove a bunch of files/directories using wild cards, a good idea is to list them first with the same wildcard pattern to make sure you are not doing a mistake and removing the wrong files, then replace "***ls***" with an "***rm***"
- Or if not sure, use the '***-i***' to confirm each file delete before it is deleted

Escape Sequence “\”

- Some special letters has a meaning (such as ***space***, *******, ***“***, ***‘***, ***(***, …)
- It is not recommended to use these letters in file/directory names
- But, if we have to then there is a special way of dealing with them,
- If we need to delete a file named “my results.txt”

  $ rm my results.txt

  $ rm my\ results.txt
- This is called “Escaping the space letter” which means changing its default meaning from a separator letter into a general letter inside the filename

Examples of Escape Sequence

Real File Name	File Name representation
my?file.log	my\?file.log
my*file.log	my*file.log
my file (today).txt	my\ file\ \(today\).txt
“my file”	\”my\ file\”
abc[!2]	abc\[\!2\]

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