Ls command options

ls -a	This will list all the files in your current working directories including hidden files that start with .
ls -l	That's a long listing that we saw before, It shows many impotant information about a file. Permssions,Number of Links,Owner,Group,File size,Modification Date,File name
ls -t	This will list the files sorted by modification date. Newest first
ls -r	This will list the files in reversed fashion.
ls -i	This will list the index node number of each file in the current working directory

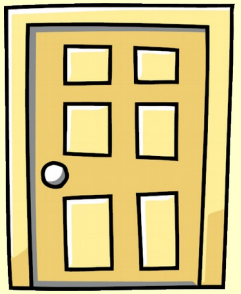
The recusrive option !

- The recursive option is of special importance and is not very easy to understand.That's why we present here alone.
- So if you want to list the contents of a directory and all it's subdirectories you use `ls -R`
- For example, Imagine if you have a directory named dir1 on your desktop, and inside dir1 you have a subdirectory named dir2.

  Now, if you type `ls -R dir1`, Then this will list the contents of dir1 and dir2.
- Notice that if dir2 has another subdirectory dir3 then `ls -R dir1` will also list the files of dir3 and so on ... got it now ?
- Here comes the interesting part, if you executed `ls -R /`

  then this will list all the files (non hidden) on your system

An Analogy



- First, we will divide all the files in Linux into two categories.
- (1) Directories and (2) everything else (Items)
- A directory is just like a room door and everythings else is just normal items (book,clothes,watches,....)
- Now when you execute `ls -R dir1`
- You open the door of dir1 and then you collect all the items inside the room, Now if you find another door in this room, you open it and do the same thing again and so on !. After you are done then you just list all the items that you collected

Just like factorial !

- Just like in programming, A recursive function is a function that call itself.
- For example, The factorial function defined as f(n) = n x f(n-1)
- And so 5! = 5 x 4 x 3 x 2 x 1 = 12
- ls -R lists all the files under a given directory and it will then list all the files underneath any subdirectory of that given directory and so on !

Combining command options

- What if you want to list all the files including hidden files on your system ?
- You can just combine the -a option with the -R option as follows.
- ls -R -a
- An easier way is ls -Ra

  The order doesn't matter and so ls -a -R and ls -aR will have the same results.
- Now ls -Ra / will list all the files on your system, It will take long time !
- Now ls -latR / will make a long listing of all the files on your system sorted by modification date (newest first).
- Becareful, The command options are case senstive, ls -R (Recusrive) is not the same as ls -r (reverse listing)
- If you want to list the files in reverse order based on time

  Then we can combine -r and -t so , ls -tr will list the files sorted by modification date (Oldest first)
- That's good for now . SEE YOU -latR ! :D