Introduction to Linux

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All of this is identical for any unix operating system, i.e. Ubuntu, Fedora, MacOS, Scientific Linux, etc.

- terminal: shell from which you navigate around the directory structure
- pwd: present working directory
- mkdir: create a directory
- cd: change directory
  `$ cd -` returns you to the directory you were previously in
- ls: list items in a directory.
  Many options available, -l(ong), -a(ll), -t(ime ordered), -h(uman readable), -r(everse order)
- $\sim$: home directory
  `$ cd` $\sim$ brings you to your home directory
- clear: clear the terminal screen
- cp: copy file
- mv: move/rename file
- rm/rmdir: remove a file/directory
  rm doesn't ask for permission, and can't be undone. Be absotively posilutely sure you want to **permanently** delete something.
- man: look at the manual for a command
- more: displays file to screen, one page/line at a time.
- less: displays file to screen, one page/line at a time, clears screen when finished.
- head: writes first 10 lines of a file to the screen
- tail: writes last 10 lines of a file to the screen
- grep: searches for a string inside a file or files
  `$ grep "string" file_pattern`

- find: finds files
  `$ find -iname "MyCProgram.c"`
- cat: prints to screen, combines files into one
- echo: prints a string to the terminal
  - > : redirect/overwrite output in file
  - >> : append output to existing file
  - | : pipe the output of a command to a file
- sudo: super user do, for installing or running certain higher level commands
- apt-get/yum/homebrew: search for/install packages
- ps: list the processes running. end process with (kill -9)
- sudo: Run command as the super user, requires root account password
- diff: look at the differences between two files, additions, deletions
  `$ diff my_file.txt my_file_new.txt`
- ssh: Secure Shell, use to log into remote machines
  `$ ssh -X myname@science1.snolab.ca`
- scp: Secure CoPy, transferring files between local and remote machines
  `$ scp my_local_file.txt myname@science1.snolab.ca:.`
- tar: creates and manipulates streaming archive files
  - create: -czvf archivefile.tar dir_to_tar/ (Create a Zipped File, Verbosely)
  - extract: -xzvf archivefile.tar (eXtract from a Zipped File, Verbosely)

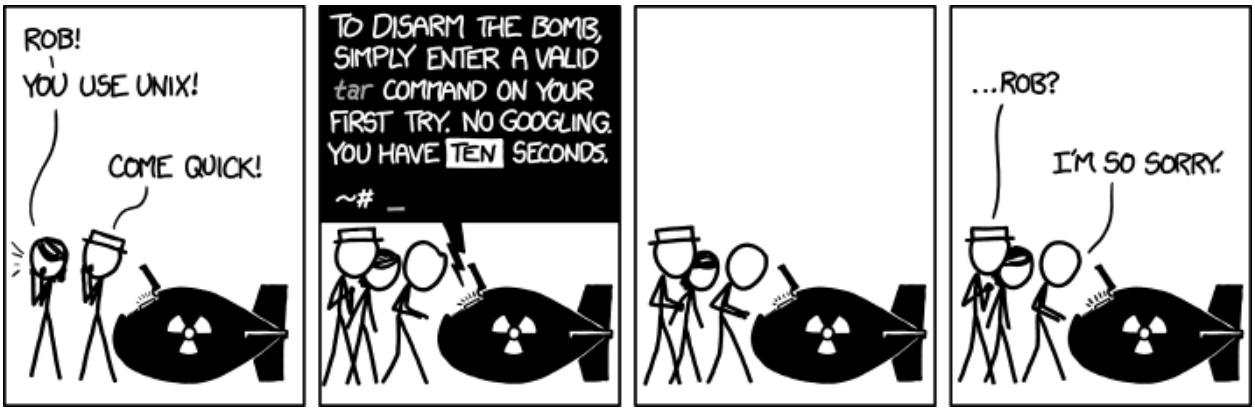

Figure 1: tar, from `www.xkcd.com/1168`