Winter Quarter 2019 – UCSB Physics 129L
Homework 1
Due Tuesday, Jan 22, 5 pm

These are some exercises in using unix commands. They are fairly easy except for the last one. Use the `man` pages or google for the various commands to figure out which switches you need to use. There are some commands suggested below, e.g., `sort` and `cal`, that we did not cover in class. Look them up in `man` pages or google. Exercise 2 is best done using a command that was not covered in class and that I am not mentioning here (on purpose!). Use google or `apropos`.
The solutions should be written up in a text file.
The name of the text file should be PERM.txt where PERM is your PERM number.
The first line in the file should be your first and last name and your PERM number.
Then enter on separate lines/paragraphs the exercise number and the commands (or series of commands) that are needed to "solve" the exercise.
Make sure that your text file is a "simple" text file, i.e., a text file that when looked at with `cat` or `more` on a linux system is easily readable. (I suggest making this text file with `emacs` or `vim`). Text files made with some fancier programs (e.g. `TextEdit` on MacOS) are actually full of extra annoying stuff.
Turn in your work by sending an email to one of the TAs with the PERM.txt file as an attachment.
The subject of the email should be `Physics 129L Homework 1 solutions`.
If your last name starts with A through L, send the mail to Jenny. Otherwise send it to Francesco.
The emails of the TAs are on the website.

- **Exercise 1**

  Use the `find` command to list the name of the files within the `/usr` directory tree that are larger than 50 Mbytes. (NB: by files in a directory tree we mean all the files in that directory + the files in its sub-directories, sub-sub-directories, etc.).

- **Exercise 2**

  Find the total disk space used by the files in the `/usr` directory tree. Give the answer in "human readable format", i.e., kbytes, Mbytes, Gbytes, etc.

- **Exercise 3**

  Use some combination of `ls`, `sort`, and pipes to list all the files in the `/etc` directory (not the full `/etc` directory tree) in reverse alphabetical order.

- **Exercise 4**

  Use the `echo` command and output redirection to make a text file that looks like this

  ```
  cc-pi2:/home/pi$ cat blah.txt
  hello world
  bye bye
  ```

  To be clear: this is a "cut and paste" of my terminal session where I did a `cat` on the file `blah.txt` which I created with `echo` etc.

- **Exercise 5**

  Use the `cal` command to output to the screen a "calendar" for the month of March 2022.

- **Exericse 6**

  Start from the output of the previous exercise. Now come up with a way of listing the days of March 2022 that are Mondays (and nothing else). Your output should look something like this:

  ```
  7 14 21 28
  ```

  or

  ```
  7
  14
  21
  28
  ```

  There are probably many ways of doing this.

  Hint 1: use pipes, `colrm`, `grep`

  Hint 2: `grep [0-9]` matches numbers, `grep [a-z]` matches letters, etc.