**PART 1A: LOGFILE ANALYSIS**

I have attached to this email a logfile from one of our servers. Please write a script or snippet in a language of your choice that can do all the following:

* Counts the number of occurrences of a string provided as an argument
* Reports the average time elapsed between occurrences of the string
* Prints the log, but translates timestamps of each occurrence into PST

An example would/could look like

#> bash logfile-analysis.sh uptimerobot frontend-service.log

Nov 28 11:50:25    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.1.239 - - [28/Nov/2016:19:50:25 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

Nov 28 12:11:58    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.5.100 - - [28/Nov/2016:20:11:58 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

Nov 28 12:18:58    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.1.239 - - [28/Nov/2016:20:18:58 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

Nov 28 13:25:07    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.1.239 - - [28/Nov/2016:21:25:07 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

Nov 28 14:18:20    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.5.100 - - [28/Nov/2016:22:18:20 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

Nov 28 14:30:06    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.5.100 - - [28/Nov/2016:14:30:06 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

Nov 28 15:00:05    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.5.100 - - [28/Nov/2016:15:00:05 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

Nov 28 15:07:33    ip-10-0-10-133 docker/FrontendService (76e763f70997)[2541]: 10.0.1.239 - - [28/Nov/2016:15:07:33 -0800] "HEAD / HTTP/1.1" 200 0 "<https://app.instrumental.ai/>" "Mozilla/5.0+(compatible; UptimeRobot/2.0; <http://www.uptimerobot.com/>)"

8 occurances

Mean time elapsed between occurances: 1689.71 seconds

**PART 1B: PARALLEL SHELL**

I often want to run the same shell command on a few different deployed machines in prod. Please write a script in a language of your choice that:

* Accepts two sets of arguments:
  1. An arbitrary number of target servers for SSH
  2. A shell command
* SSHs into all servers from (a), and executes (b) on them in parallel.
* \*BONUS\* Writing tests and setting up the test infra for this is a bonus challenge (feel free to use vagrant, docker, etc, if you have time)

On both assignments we will assess your work on these dimensions:

* Ability to write readable, well-structured code, you choose the language you are most comfortable with. (tests are a bonus)
* Appropriate documentation (so, I should be able to run your code on a vanilla centos machine with instructions or setup-scripts provided by you)
* Resourcefulness (feel free to use/import libraries that make life easier)