SRE Take Home Challenge

A simple tool for log processing

Version: 1.0

This exercise is intended to test your skills in areas that will be relevant to your position as an SRE at Oscar.

Please reserve approximately 3 hours to complete this exercise.

Please refrain from cheating - it will not be productive and will disqualify you as a candidate.

Do not circulate or post this question or parts of it online.

Submission guidelines

Please provide at least sources, the docker file, and the make file

Please make sure to add comments where you see relevant

Please make sure you provide an example run where you demonstrate results

Where you have uncertainty - please make reasonable assumptions and document them in your submission.

The assignment:

Build a docker container that runs a simple Python 3 application

Inputs:

1. a log file (sample here:
   https://raw.githubusercontent.com/elastic/examples/master/Common%20Data%20Formats/nginx_logs/nginx_logs)
2. Start time
3. End time
4. Error code (eg. 403)

Output:

The site has returned a total of **\<number\>** 200 responses, and **\<number\>** **\<error code\>** responses, out of total **\<number\>** requests between time **XXXXX** and time **YYYYY**

That is a **\<percent\>** **\<error code\>** errors, and **\<percent\>** of 200 responses.

Example input:

```
10.16.62.10 - - [17/May/2015:18:05:23 +0000] "GET /downloads/product_1 HTTP/1.1" 304 0 "-"
"Debian APT-HTTP/1.3 (1.0.1ubuntu2)"
```

```
204.77.169.137 - - [17/May/2015:18:05:33 +0000] "GET /downloads/product_2 HTTP/1.1" 404 319
"-" "Debian APT-HTTP/1.3 (0.8.16~exp12ubuntu10.2)"
83.42.24.252 - - [17/May/2015:18:05:09 +0000] "GET /downloads/product_2 HTTP/1.1" 404 333 "-"
"Debian APT-HTTP/1.3 (0.8.16~exp12ubuntu10.14)"
119.252.76.162 - - [17/May/2015:18:05:16 +0000] "GET /downloads/product_1 HTTP/1.1" 404 338
"-" "Debian APT-HTTP/1.3 (0.8.16~exp12ubuntu10.21)"
94.23.21.169 - - [17/May/2015:18:05:59 +0000] "GET /downloads/product_2 HTTP/1.1" 404 336 "-"
"Debian APT-HTTP/1.3 (0.9.7.9)"
204.77.168.241 - - [17/May/2015:18:05:20 +0000] "GET /downloads/product_2 HTTP/1.1" 304 0 "-"
"Debian APT-HTTP/1.3 (0.8.16~exp12ubuntu10.7)"
```

```
start-time="17/May/2015:18:05:23 +0000"
end-time="17/May/2015:18:05:59 +0000"
error-code=404
```

Example output:

The site has returned a total of 0 200 responses, and 4 404
responses, out of total 6 requests between time 17/May/2015:18:05:23
+0000 and time 17/May/2015:18:05:59 +0000
That is a 66.67% 404 errors, and 0% of 200 responses.