Assignment for QA Automation interview “Log parser”

Dear candidate. We are very happy you found the opportunity to work at QA Automation in Avast attractive!

**Please complete the assignment below and have it ready for the interview.**

The task

Our systems produce various types of logs. The objective of this task is to write a simple parser for log files, that will structure the data and enable filtering based on various criteria.

Part 1

● Take a look at **sample.log file** and its structure

● File consists of many log entries, while each entry is represented by timestamp, logger name, severity (=log level) and message (can be also multiline)

Part 2

● Design and write **LogEntry** class which will represent one log entry

● Log entry is represented in a form of structured data: timestamp, severity, logger name, message

Part 3

● Write **LogEntryProcessor** class, which will be able to keep internally list of log entries(**LogEntry)**

● Expected methods:

○ Constructor should accept name of log file

○ **parse()** method; it will “transform” the log file into the list of **LogEntry** instances (kept inside the **LogEntryProcessor** instance)

**○ get\_entries() -** returns the list of **LogEntry** instances. Should indicate error in case **parse()** was not performed yet.

Part 4 (optional)

● Extending abilities of **LogEntryProcessor** by adding methods providing ”filtering” functionality (i.e. to return subset of **LogEntry** list based on specified criteria):

○ method to return all **LogEntry** for specified severity (‘DEBUG’,’INFO’,..)

○ method to return all **LogEntry** for specified logger name (‘mf’, ...)

○ method to return all **LogEntry** containing substring in message

○ method to return all **LogEntry** newer than specified timestamp