



1. JAVA ASSESSMENT

You may use any IDE and Java 1.8 during the test. You will have 24 hours to work through the following tasks and send the results by email.

We will have a review discussion during the next phase of the interview.

MessageProblem

This is a basic Producer/Consumer problem involving the transfer and logging of messages. Note that the `MessageFactory` class should be viewed as a black box and should not be modified.

Try to achieve the following objectives; however, do not waste all your time on one goal:

- 1) Improve the format of the message logged to stdout. The output should include the message priority, a human-readable timestamp, and the message text.
- 2) The consumer currently logs all messages immediately to stdout. Now please implement a buffering mechanism that will buffer a batch of 10 messages, sort them according to Priority (High to Low), and then output the batch to stdout.
- 3) Instead of outputting to stdout, output the messages in the same format to a file. For this problem, please store the file in `output/messageoutput.txt`.

The following two questions are more for discussion purposes after the exercise. We do not expect you to modify the code necessarily.

- 4) The program should run to completion, such that the Java VM terminates correctly. Occasionally, this does not happen precisely. See if you can debug this situation.
- 5) Consider any improvements that you would make – you do not need to implement these improvements. These will form part of the discussion after the exercise.