

Orderly Queues in Javascript

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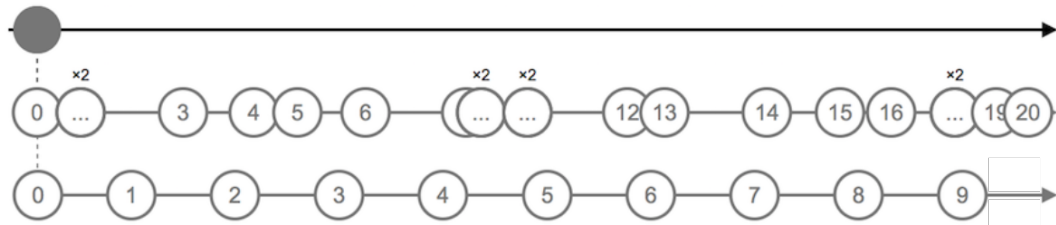
1 The Abstract

You work in a busy post office. Every day around noon there is a rush of people wanting to send their packets to loved ones, but you can only deal with one customer at a time, and you need a 500 milliseconds break to deal with a new customer after you've finished your previous one (micro-breaks are trendy right now).

None of the customers in the post office respects the queue system however, so you are responsible for handling packages in the order that they come in, but no more than once every 500ms I.E. If a customer asks you to send a package at TIME 0, and another customer asks to send a package at TIME 200, you must wait 300ms before dealing with the second package. When a third customer asks to send a package at TIME 1000 you can deal with that instantly since there has been more than 500ms since your last package.

2 The implementation

We have provided a sample project that emits events at a random interval, your task is to print the value of these events as quickly as possible but no more than one every 500ms. All events must also be processed in the order they come in. Below is a figure of first the event stream that emits at random intervals, and below that the event stream passed through a function that orders the queue correctly and delays packets as necessary.



3 Restrictions

This test is time-boxed to 90 minutes, do as much as you can during that time. It's OK if your implementation is not a complete and fully functioning solution after the 90 minutes, it will still work as discussion material for the technical interview. Have fun and good luck!

4 Extra marks

For this exercise you don't have to write tests, but you get extra points for writing testable code.