Pointr

This document contains several technical questions.

At Pointr, we are not looking for someone who knows every algorithm with fine detail. Hence, it is completely OK to make mistakes.

We are trying to understand your analytical thinking skills, your engineering knowledge and your ability to apply your knowledge to solving problems.

Therefore, please share your answers in as much detail as possible and please respond when you feel comfortable.

It is important we assess you correctly hence if you have any questions or if you get stuck, just ask. You understanding the questions correctly is much more important than responding quickly. (And if you use any source, please acknowledge).

Good luck!
(Questions are on the next page)

Question 1) Create a simple web application that
- Lists several cities (London, NY, Tokyo, ..)
- Create a fake weather Api
- When you click on a city, triggers your fake weather Api and pulls the latest weather information for chosen city
- Displays the weather on the screen

Feel free to use any framework or keep it purely HTML + JS

Question 2a) Write int RollDice method which replicates die throw (i.e. should return 1,2,3,4,5 or 6 randomly). You cannot use any random number generator methods (such as *Random()*)
(Pseudocode is sufficient)

Question 2b) Write 3 test cases for RollDice (i.e. if you were asked to test whether RollDice method is working correctly, what would you test and how)

Question 3) What is the difference between binary and text files?

Bonus question) Jack has two daughters, Alice and Catherine, both of whom live in London. There is a metro line connecting West and East parts of London, going in both directions. Alice lives near the west-most stop of the metro line whilst Catherine lives near the east-most stop. Jack goes to a train stop every day at a random time and takes the first train to come, regardless of the direction, and goes to the final stop to see either one of his daughters. Surprisingly, after 1 year, he realises he's seen Alice 4 times more than Catherine. How is this possible?
(Trains run periodically every 10 minutes in both directions)