Back End Developer Challenge

Overview

The aim of this exercise is to simulate real working conditions to provide context for a code/design review session. The follow up review session will focus on your reasons for database/API design and pseudo-code/code implementation. As such it isn't necessary to build a complete implementation, however having some runnable code is recommended (preferably, but not required, in Java or Node.js).

Instructions

The exercise is to develop a web API which allows the allocation of staff to shifts in a small takeaway store. Attached is sample data giving the shifts that need to be filled over the weekend and the staff available (along with some attributes).

There are several activities you could consider:
- Develop some questions (for the takeaway store owner) that support further requirements that you might need in order to more fully specify such an application.
- Create a minimal database schema (or equivalently, ORM model definitions) for the application. You could also demonstrate the effectiveness of your schema by writing a routine to read the sample data from the database.
- Design a web API which could be used for communication between the web app's server and client.
- Describe and/or implement an algorithm which generates an allocation of staff to shifts.

Please provide relevant source code of your implementation and any documentation and assumptions that you feel are appropriate.
- The intent of this challenge is to provide us an opportunity to judge your problem solving, design and development skills.
- It is important to provide a solution that highlights your skills in these areas.
- It is also important that your solution highlights your knowledge of and approach to agile software development and the key software engineering practices and supporting processes that are important in an agile environment.
- It is not so important to provide a fully working application.