

Ticket Service Coding Challenge

Implement a simple ticket service that facilitates the discovery, temporary hold, and final reservation of seats within a high-demand performance venue.

For example, see the seating arrangement below.

[illegible]

Your homework assignment is to design and write a Ticket Service that provides the following functions:

- Find the number of seats available within the venue
Note: available seats are seats that are neither held nor reserved.
- Find and hold the best available seats on behalf of a customer
Note: each ticket hold should expire within a set number of seconds.
- Reserve and commit a specific group of held seats for a customer

Requirements

- The ticket service implementation should be written in Java
- The solution and tests should build and execute entirely via the command line using either Maven or Gradle as the build tool
- A README file should be included in your submission that documents your assumptions and includes instructions for building the solution and executing the tests
- Implementation mechanisms such as disk-based storage, a REST API, and a front-end GUI are not required

Your solution will be reviewed by engineers that you will be working with if you join the Walmart Technology team. We are interested in seeing how you design, code, and test software.

You will need to implement the following interface. The design of the `SeatHold` object is entirely up to you.

```
public interface TicketService {

    /**
     * The number of seats in the venue that are neither held nor reserved
     *
     * @return the number of tickets available in the venue
     */
    int numSeatsAvailable();

    /**
     * Find and hold the best available seats for a customer
     *
     * @param numSeats the number of seats to find and hold
     * @param customerEmail unique identifier for the customer
     * @return a SeatHold object identifying the specific seats and related
     information
     */
    SeatHold findAndHoldSeats(int numSeats, String customerEmail);

    /**
     * Commit seats held for a specific customer
     *
     * @param seatHoldId the seat hold identifier
     * @param customerEmail the email address of the customer to which the
     seat hold is assigned
     * @return a reservation confirmation code
     */
    String reserveSeats(int seatHoldId, String customerEmail);
}
```