The TreeSet Challenge (Theatre Seating)

In this challenge, you'll be creating a Theatre class, that has a set of seats.

The Seat class should be a nested class on the Theatre class.

A Seat should be constructed with a row character and an integer, that represents the seat number within the row.

Each Seat should have a string, a seat number, in the format 'A005', where A is the row number, and 005 is the seat number within the row, It should be zero padded up to three digits.

Seat should also have a field, a boolean, indicating if the seat is reserved or not.

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The theatre class should have three fields, theatre name, an integer for seats in row, how many seats are in a single row in other words, and a field for the seats themselves.

This last field should be a TreeSet.

A Theatre instance should be constructed with the theatre name, the number of rows in the theatre, and the number of seats total in the theatre.

For simplicity, assume there are a uniform number of seats in every row, and the number of rows should never exceed 26, so the rows will be labeled A through Z.

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You should create the seats, and number them, as part of the initialization of a theatre class.

The theatre class should also have a printSeatMap method, that prints each seat, with each row printed on a separate line.

You should allow a booking agent to reserve a single seat, and the printed seat map should show which seats are reserved.

The Theatre Challenge Bonus

If you want an extra challenge, create a second method on theatre, that lets an agent specify.

- the number of reservations being requested.
- a range of rows (from A to C for example, for front row seats).
- a range of seats (a number greater than or equal to 1, and less than or equal to the rows per seat).

The seats that get reserved, should be contiguous within a row.