

**CASE STUDY:**  
***Airline Reservation System Simulation***

*In this Case Study, we will implement a simulation of an Airline Reservation System. The simulation will enable alternative methods of enforcing mutual exclusion to control access to the flight seating data array by multiple ticketing agents. The simulation will include methods for monitoring customer time in system and wait times.*

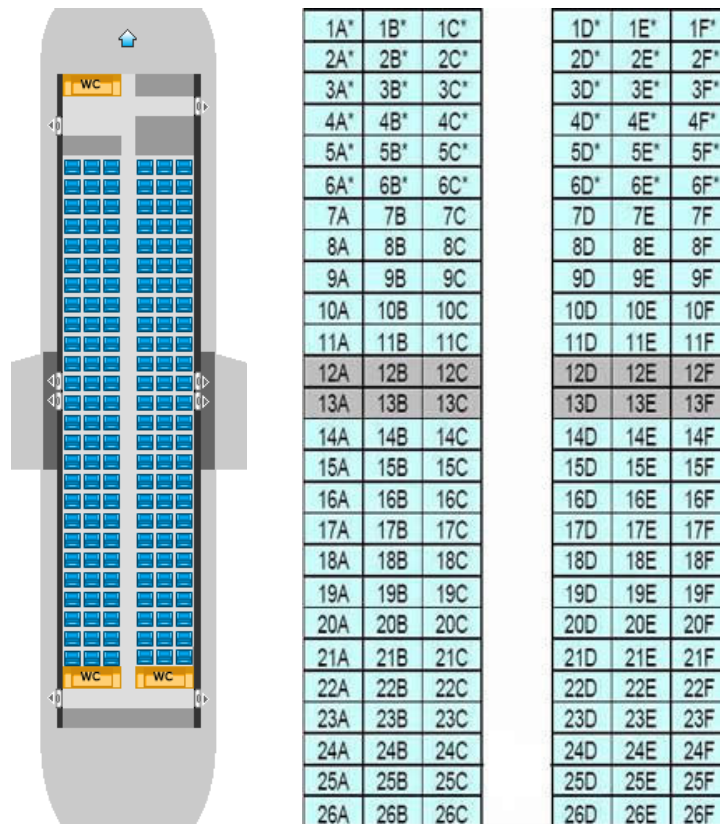
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Simulate concurrent access to available seating on a particular carrier for a specific flight.

Multiple agents (4 to 6) will seat customers with preferences.

Program will simulate customer time of response.

Program will monitor and report data on wait time, and service rates.



Class

- First (rows 1-6)
- Business Coach (rows 7- 26)

Seat Preference

- Aisle
- Middle
- Window

Seat Location

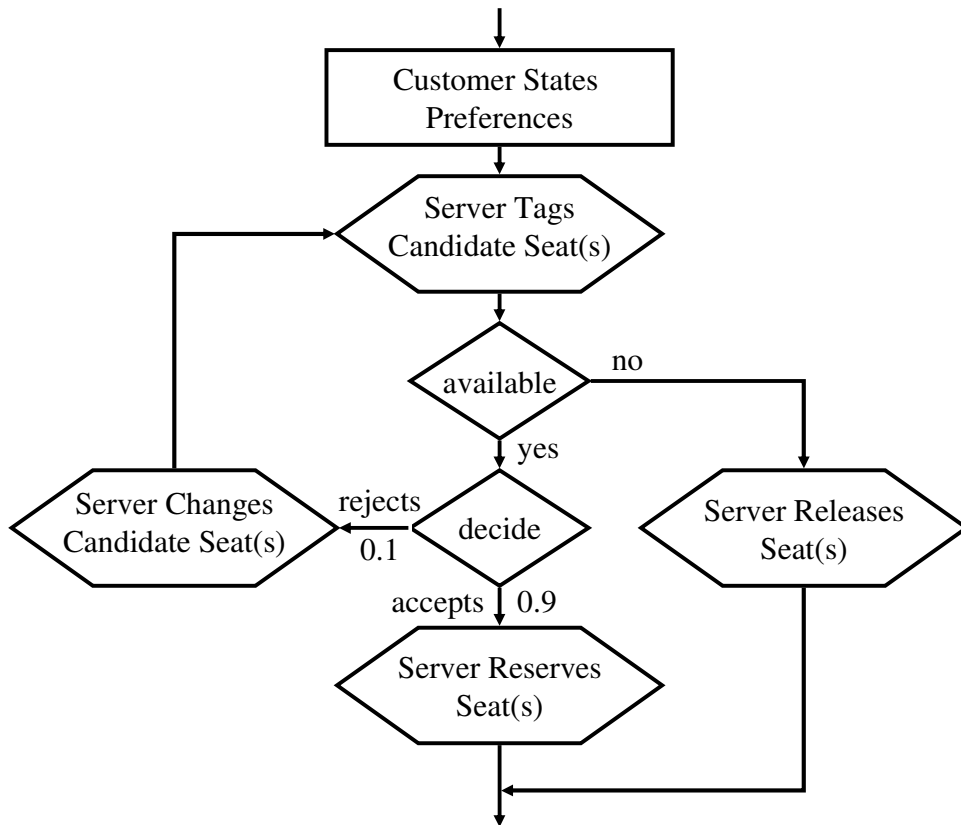
- Near Front
- Over Wing
- Near Rear

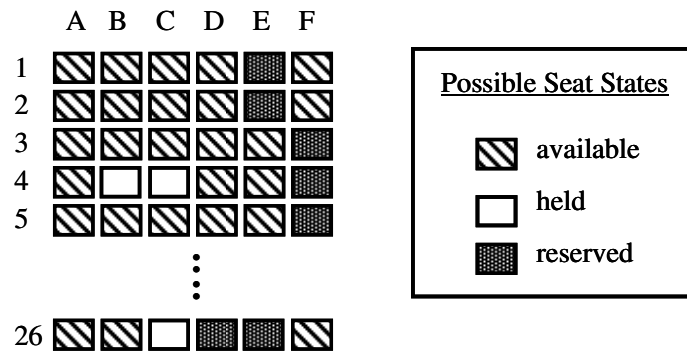
Number of Seats

- 1 (Individual seating)
- 2 (assumed adjacent)
- 3 (at least 2 adjacent)

Seating Restrictions

- Emergency Exit row OK (true or false)





- Airline Reservation System for One Flight on One Carrier
- 4 to 6 ticketing agents running concurrently
- A queue of customers for each agent
- Threads use mutex and/or semaphores to enforce mutual exclusion
- Customers are simulated WRT to Preferences and Time of Service
- Wait Times and Customer Service Times are Monitored, Analyzed and Reported

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Name \_\_\_\_\_ Score \_\_\_\_\_

*Complete the tasks of this project, answer the questions below, remove and attach this section of the project form to a copy of your source code. Please DO NOT include a copy of any automatically generated (Designer Code).*

1. xxx