

Unit Tests:

getAvailability(movie) → Movie Class

Functionality: Verify that the function will correctly return availability of tickets for a given movie on a selected date with a list of showtimes.

Test Vectors:

Checking availability on a movie with available tickets:

Expected Behavior: Should return a list of showtimes available for a movie.

Checking availability on a movie with **NO** available tickets:

Expected Behavior: Should return a 0, to indicate that there are no tickets available for the movie.

Checking availability on a movie that does not exist:

Expected Behavior: Should return an error message to indicate that the movie does not exist (at least at the theater which the system is built for)

reserveSeats(Showing, List[Seats], Customer) → Theater Class

Functionality: Verify that the function will correctly reserve requested seats (multiple if desired), and will link it to the customer who had purchased it.

Test Vectors:

Checking for ability to reserve selected seats:

Expected Behavior: Should allow booking on open seats, giving the customer the ability to reserve availability for a showtime.

Checking ability to reserve already reserved seats:

Expected Behavior: Should return an error message indicating that the seats are unavailable, and if others are open, should prompt those seats as a suggestion.

Checking for reserving more seats than what exists in the theater:

Expected Behavior: Should return an error message to indicate that the selected number of seats is not available for the theater, and prompt to select fewer seats.

Checking for reserving seats for a movie/showing that does not exist:

Expected Behavior: Should return an error message indicating that the movie does not exist, and prompt the user to select a different movie.

Functional Tests:

Ticket Reservation Behavior:

Functionality: Tests aiming to verify whether the ticket reservation process is properly functioning and can correctly reserves seat(s) for a given showing

Test Vectors:

Checking whether a selectable showing has seats that are available for reservation:

Expected Behavior: Should allow a user to select and book available seats

Checking whether reservations made correctly place order:

Expected Behavior: An order should be created, listing the correct information in seats reserved (location and amount), which showing is booked, and for what movie

Checking for reserving a seat when the theater is fully booked:

Expected Behavior: Should return an error message indicating that there are no available seats for the showing, and prompt the user to select a new showing

Order Total Calculation:

Functionality: Aims to calculate the total price of an order, with or without a coupon code

Test Vectors:

Checking whether the total price is correct with single or multiple tickets purchased:

Expected Behavior: The calculated total should be correct for all the tickets purchased, taking into account the individual seat prices and the tax on it

Checking whether an applied discount code decrements the cost by the proper amount:

Expected Behavior: When a discount code is applied, the total price should be adjusted accordingly to the discount associated with the code

Checking whether a discount code is valid or not:

Expected Behavior: Discount code is applied if its valid, however, if the discount code is invalid there should be no change in the original price and an error message should return indicating that the entered discount is invalid

System Tests:

Payment Processing:

Functionality: Aims to test that the payment process is properly functioning, seeing if a payment method is valid, and determining whether the payment has been successfully processed.

Test Vectors:

Checking for ability to place an order and proceed to payment:

Expected Behavior: After an order is placed, the system must successfully redirect the customer to a payment page, where their payment credentials will be assessed

Entering valid payment information after placing an order and sending confirmation:

Expected Behavior: Should indicate to the user that the payment is valid and after it is processed, accordingly send a confirmation on the purchase with info on the tickets reserved.

Verify that a payment has been received and processed:

Expected Behavior: After an order has been successfully placed, the seats should be unreservable to indicate that someone else has purchased them. The purchase status should also be marked as successfully processed and the order status as received.

Testing for invalid payment after order has been placed:

Expected Behavior: Should verify whether the payment has been processed and if not an order should not be created, and the seats should not be marked as 'reserved'. Furthermore, should return the user an error message denoting that the order was not processed, and to try again.