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// This function a creates a 2D array representing rows and columns of
// seats in a movie theater and the types of people seated in them.
// It takes 2 inputs representing the number of rows and number columns
// of seats in the theater.
function fillAllSeats(rows, columns) {
    let seats = []; // seats will be the 2D array
    let row = [];   // will hold an array representing a row in the theater
    // The outer for loop runs the same number of times as the value of row,
    // meaning it runs its code once for each row in the array.
    for (let i1 = 0; i1 < rows; i1++) {
        // The inner for loop runs the same number of times as the value
        // of columns.  It does this for each row in the array.
        for (let i2 = 0; i2 < columns; i2++) {
            // pushes random values between 0 and 4 to the row array
            row.push(Math.floor(Math.random() * 5));
        }
        seats.push(row); // pushes a row array to seats to give it a new row
        row = [];        // resets row by reassigning it an empty array
    }
    return seats; // returns the new 2D array
}

// This function calculates the total revenue gained from the seated customers.
// It will take a 2D array as its input.
function totalRevenue(customers) {
    //prices for different types of customers where 0 represents an empty seat
    const adult = 9.00;   // represented by a 1
    const child = 7.00;   // represented by a 2
    const senior = 8.00;  // represented by a 3
    const student = 8.50; // represented by a 4
    let money = 0; // This variable will hold the total revenue.
    // This for loop iterates through the rows of the array customers.
    for (let i1 = 0; i1 < customers.length; i1++) {
        // This for loop iterates through the columns of each row.
```

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        for (let i2 = 0; i2 < customers[i1].length; i2++) {
            // This flow control block adds different values to money
            // based on the value of customers[i1][i2] to get the total
            // revenue.
            if (customers[i1][i2] == 1) {
                money += adult;
            } else if (customers[i1][i2] == 2) {
                money += child;
            } else if (customers[i1][i2] == 3) {
                money += senior;
            } else if (customers[i1][i2] == 4) {
                money += student;
            } else {
                money += 0; // This is because 0 represents an empty seat.
            }
        }
    }
    return money; // returns the total revenue
}

// generates a random number between 5 and 15 for the number of rows
const numOfRows = Math.floor(Math.random() * 11) + 5;
// generates a random number between 5 and 15 for the number of columns
const numOfColumns = Math.floor(Math.random() * 11) + 5;

// This is a call of the first function fillAllSeats that has been assigned
// to a variable so that the variable can be used as an input later.
const simulatedTheater = fillAllSeats(numOfRows, numOfColumns);
// This logs the 2D array from the first function call to the console.
console.log(simulatedTheater);
// This calls the second function and logs the resulting value for total revenue
// to the console.
console.log(totalRevenue(simulatedTheater));
```