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**Exercise 1:**  
let num = [

["4","8","9"],

["6","3","10"]

]

console.log (num[1][2]);

// change the value to 7

num[1][2]="7";

console.log(num);

**Exercise 2:**

let two\_D = [

["3","9","11"],

["6","8","12"],

["5","7","1"],

];

for(let i = 0; i<3; i++){

for(let j = 0; j<3; j++){

console.log(`Element at (${i},${j}) is : ${two\_D[i][j]} `);

}

}

**Exercise 3:**

var seatingChart = [

['AhWei', 'Bobby', 'Changli', 'David'],

['Ali', 'Hantu', 'Nicholas', 'Esther'],

['Dominic', 'Aileen', 'Kevin', 'Jack'],

['Mike', 'Nancy', 'Kaixin', 'Peter'],

['Maziz', 'Steve', 'Sam', 'Joe']

];

// Print the initial seating chart

console.log("Initial seating chart:");

console.log(seatingChart);

// Change a student's seat (for example, moving AhWei to the seat currently occupied by Muthu)

seatingChart[0][0] = 'Muthu';

seatingChart[1][1] = 'AhWei';

console.log("\nUpdated seating chart:");

console.log(seatingChart); //Print Updated Seat

**Exercise 4:**

let array2D = [

[2, 6, 5],

[7, 8, 6],

[1, 11, 0]

];

var sum = 0;

for (var i = 0; i < array2D.length; i++) {

for (var j = 0; j < array2D[i].length; j++) {

sum += array2D[i][j];

}

}

console.log("Sum of all elements in the 2D array:", sum); //46

**Exercise 5:**

let matrix =[

[1,2,3],

[4,5,6],

[7,8,9]

];

console.log("Elements on the main diagonal:");

for (var i = 0; i < matrix.length; i++) {

console.log(matrix[i][i]);

}

console.log("Elements on the secondary diagonal:");

for (var i = 0; i < matrix.length; i++) {

console.log(matrix[i][matrix.length - 1 - i]);

}

**Exercise 6:**

var arr = [

[1, 5, 3],

[4, 2, 9],

[7, 8, 6]

];

for (var i = 0; i < arr.length; i++) {

var maxInRow = arr[i][0];

for (var j = 1; j < arr[i].length; j++) {

if (arr[i][j] > maxInRow) {

maxInRow = arr[i][j];

}

}

**Exercise 7:**

var inventory = [

['Product A', 10.99, 20],

['Product B', 5.99, 15],

['Product C', 7.49, 30]

];

function updateInventory(productName, newQuantity) {

var index = -1;

for (var i = 0; i < inventory.length; i++) {

if (inventory[i][0] === productName) {

index = i;

break;

}

}

if (index !== -1) {

inventory[index][2] = newQuantity;

console.log("Inventory updated for", productName);

} else {

console.log("Product not found in inventory");

}

}

updateInventory('Product A', 25);

console.log("\nUpdated inventory:");

console.log(inventory);

**Exercise 8:**

//Traditional function

(function() {

console.log("Hello, World!");

})();

//Arrow function

(() => {

console.log("Hello, World!");

})();

**Exercise 9:**

((num1, num2) => {

console.log("Sum of", num1, "and", num2, "is:", num1 + num2);

})(5, 7); // 12

**Exercise 10:**

//Convert to Arrow Function

const add = (a, b) => a + b;

console.log(add(5, 7)); // Output: 12

**Exercise 11:**

const square = (num) => num \* num;

console.log(square(6)); //36

**Exercise 12:**

const greet = () => "Hello, World!";

console.log(greet()); // Result: "Hello, World!"