1. Arrays are used to store multiple values in a single variable, instead of declaring separate variables for each value.

int[] myNum = {10, 20, 30, 40};

1. To declare an array, define the variable type with **square brackets**:

String[] cars;

3 . No

4 . yes

5 . 0

1. A 1D array, also known as a one-dimensional array, is a linear data structure in programming that stores a collection of elements of the same data type in a sequence.

public class TwoDArrayExample {

public static void main(String[] args) {

int[][] matrix = {

{1, 2, 3, 4},

{5, 6, 7, 8},

{9, 10, 11, 12}

};

int value1 = matrix[0][2]; // Element at row 0 and column 2 (value1 = 3)

int value2 = matrix[1][3]; // Element at row 1 and column 3 (value2 = 8)

matrix[2][1] = 20; // Changing the value at row 2 and column 1 to 20

System.out.println("2D Array:");

for (int row = 0; row < matrix.length; row++) {

for (int col = 0; col < matrix[row].length; col++) {

System.out.print(matrix[row][col] + " ");

}

System.out.println(); }

}

}