Arrays in Java

Assignment Questions:

1. What do you mean by an array?

Ans → An array is a collection of items of same data type stored at contiguous memory locations.

1. How to create an array?

Ans → We can declare an array by specifying its type and name, followed by a set of square brackets that indicate the size of the array. For example, to declare an array of integers that can hold 5 elements.

int[] myArray = new int[5];

1. Can we change the size of an array at run time?

Ans → In Java, the size of an array is fixed at the time of creation and cannot be changed at runtime. Once an array is created with a certain size, its size cannot be increased or decreased.

1. Can you declare an array without assigning the size of an array?

Ans →In Java, you can declare an array without assigning the size of the array. This is useful when you want to declare an array but do not know the size of the array in advance.

int[] myArray;

1. What is the default value of Array?

Ans → In Java, the default value of an array depends on the data type of the array. Here are the default values for the common data types:

* For arrays of primitive data types (such as int, double, boolean, etc.), the default value of each element is 0, false, or the equivalent "empty" value for the data type.
* For arrays of reference data types (such as String, Object, or any other class), the default value of each element is null.

1. What is a 1D array with an example?

Ans → A 1D array, also known as a one-dimensional array, is a data structure that stores a fixed-size sequential collection of elements of the same data type. The elements of a 1D array are accessed using an index, which starts from 0 for the first element and goes up to the size of the array minus one for the last element.

int[] numbers = {1, 2, 3, 4, 5};

1. Write a program on a 2D array.

Ans → public class TwoDArrayExample {

public static void main(String[] args) {

// Create a 2D array of integers with 3 rows and 4 columns

int[][] matrix = {

{1, 2, 3, 4},

{5, 6, 7, 8},

{9, 10, 11, 12}

};

// Print the entire matrix

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

for (int j = 0; j < matrix[i].length; j++) {

System.out.print(matrix[i][j] + " ");

}

System.out.println();

}

// Print the element at row 1, column 2 (which is 7)

System.out.println("Element at row 1, column 2: " + matrix[1][2]);

// Change the element at row 2, column 3 to 99

matrix[2][3] = 99;

// Print the new value of the element at row 2, column 3

System.out.println("New value of element at row 2, column 3: " + matrix[2][3]);

}

}