Java Programming

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Course: Java Programming

Department: IT

Topic: Multidimensional Arrays

Conventional Methods: Chalk & Talk
Teaching Methodology: Practical Implementation

Arrays are very important concept in every programming language. In java also, it is very essential to understand arrays in a practical way. The topic of multidimensional arrays is complex compared to single and 2D arrays. So, multidimensional arrays topic explained with practical implementation.

References:

1. https://www.w3schools.com/java/java_arrays_multi.asp

2. https://www.programiz.com/java-programming/multidimensional-array

Multidimensional Arrays

A multidimensional array is an array of arrays.
Multidimensional arrays are useful when you want to store data as a tabular form, like a table with rows and columns.
To create a two-dimensional array, add each array within its own set of curly braces:

int[][] myNumbers = { {1, 2, 3, 4}, {5, 6, 7} };

myNumbers is now an array with two arrays as its elements.

Access Elements

To access the elements of the **myNumbers** array, specify two indexes: one for the array, and one for the element inside that array. This example accesses the third element (2) in the second array (1) of myNumbers:

int[][] myNumbers = { {1, 2, 3, 4}, {5, 6, 7} };

System.out.println(myNumbers[1][2]); // Outputs 7

Loop Through a Multi-Dimensional Array:

We can also use a for loop inside another for loop to get the elements of a two-dimensional array (we still have to point to the two indexes):

public class Main {

 public static void main(String[] args) {

  int[][] myNumbers = { {1, 2, 3, 4}, {5, 6, 7} };

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

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

    System.out.println(myNumbers[i][j]);

   } } }}

Multidimensional Arrays using Practical Demonstration: