Two Dimensional Array in Java

Let's look at a few examples of defining java two-dimensional array or 2d array.

Java Two Dimensional Array of primitive type
Java Two Dimensional Array of Objects

So we can define a two dimensional array of primitive data types as well as objects. If you look at the above examples, two dimensional array looks like a matrix, something like below image.

However, in Java, there is no concept of a two-dimensional array. A two-dimensional array in java is just an array of array. So below image correctly defines two-dimensional array structure in java.

Java multidimensional array example

Now if two-dimensional array in java is an array-of-arrays, then it should also support non-symmetric sizes as shown in below image.

array

Well, it's absolutely fine in java. Below is an example program that depicts above multidimensional array.

Snippet of code

```java
public class MultidimensionalArrayExample
{ public static void main(String[] args)
 { // creating and initializing two dimensional array with shortcut syntax I
        Int[][] arrInt = { { 1, 2 },
                        { 3, 4, 5 } };
                 for (int i = 0; i < arrInt.length; i++)
                 { for (int j = 0; j < arrInt[i].length; j++)
                  { System.out.print(arrInt[i][j] + " "); }
```

```java
System.out.println(""); }
// showing multidimensional arrays initializing
int[][] arrMulti = new int[2][];
// yes it's valid
arrMulti[0] = new int[2];
arrMulti[1] = new int[3];
 arrMulti[0][0] = 1;
arrMulti[0][1] = 2;
arrMulti[1][0] = 3;
arrMulti[1][1] = 4;
 arrMulti[1][2] = 5;
for (int i = 0; i < arrInt.length; i++)
        { for (int j = 0; j < arrInt[i].length; j++)
 { System.out.print(arrInt[i][j] + " "); }
System.out.println(""); }
 }
}
```