CYDEO

Multi Dimensional Array

Multi Dimensional Array

- An array of arrays

- A special variable that's used as a container of arrays

- Dimensions of the array can be 2, 3, 4... n dimensions

- The N dimensional array is a container for (N-1) dimensional arrays

Declaring Multi Dimensional Array

⚠️ N dimensional array contains (N-1) dimensional array

```
int[][] array2D = new int[3][];
```

dataType

arrayRefVar

Number of one-dimensional arrays

Two sets of brackets indicate
a two-dimensional array

CYDEO

Declaring Multi Dimensional Array

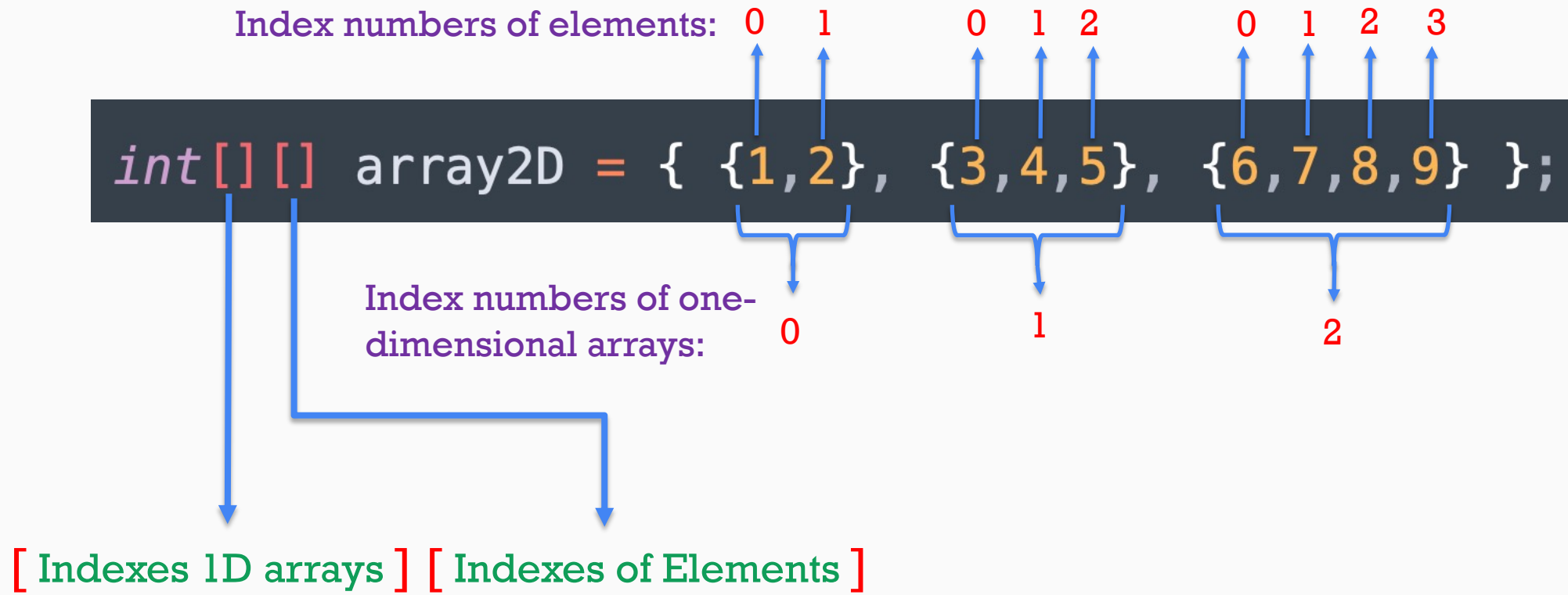⚠️ N dimensional array contains (N-1) dimensional array

```
int[][] array2D = { {1,2}, {3,4,5}, {6,7,8,9} };
```
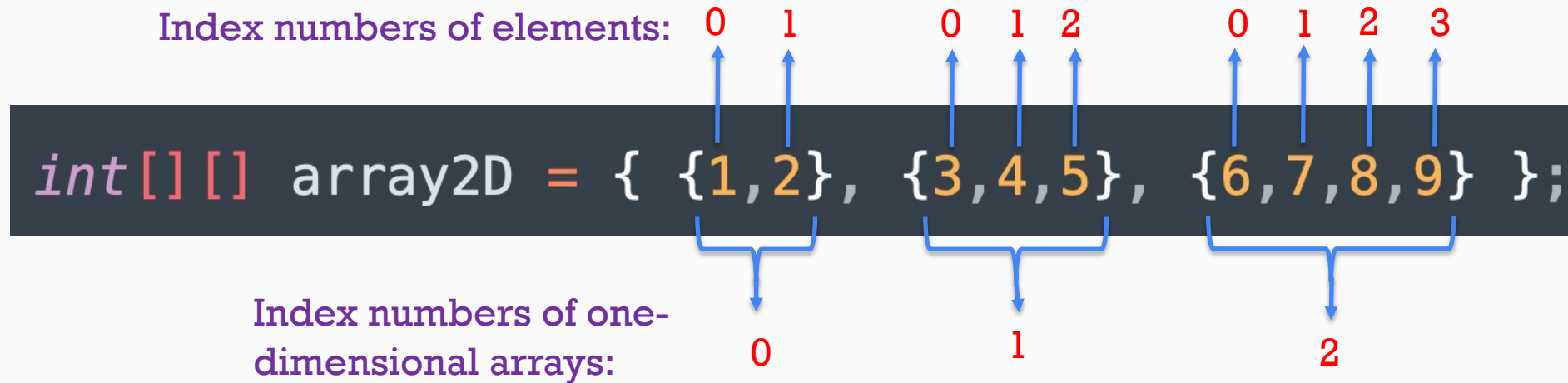
array   array   array

CYDEO

Index Numbers

Index numbers of elements: 0   1   0   1   2   0   1   2   3

```
int[][] array2D = { {1,2}, {3,4,5}, {6,7,8,9} };
```

Index numbers of one-dimensional arrays: 0   1   2

[Indexes 1D arrays] [Indexes of Elements]

CYDEO

Accessing the arrays and elements

Index numbers of elements: 0   1   0   1   2   0   1   2   3

```
int[][] array2D = { {1,2}, {3,4,5}, {6,7,8,9} };
```

Index numbers of one-
dimensional arrays: 0   1   2

array2D[0] ——— Returns the one-dimensional array at index 0 ———➤ {1, 2}

array2D[2][1] ——— Returns the element at index 1 from the array at index 2 ———➤ 7

CYDEO