

2D Arrays

A **two-dimensional array (2D)** is a block of memory, visualized as a table with rows and columns. In C++ this is implemented (under the hood) by creating a **1D** array whose elements are, themselves, also **1D** arrays.

Examine this code:

```
1 | int a2d[2][3]; // a2d is a 2D array
2 |
3 | a2d[0][0] = 5;
4 | a2d[0][1] = 19;
5 | a2d[0][2] = 3;
6 | a2d[1][0] = 22;
7 | a2d[1][1] = -8;
8 | a2d[1][2] = 10;
```

	0	1	2
0	1	2	3
1	4	5	6
2	7	8	9
3	10	11	12

	0	1	2
0	5	19	3
1	22	-8	10

It is easiest to think of **a2d** as containing **two rows** and **three columns**: a **2 × 3** array. To access an element of a **2D** array, use **two subscripts**. The first is the **row**, the second is the **column**. Both are zero-based. On line 6, for instance, the first index (here **1**) signifies the second row and the second index (here **0**) denotes the column within the array.



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