



Programming challenges in Java

3. Array management and function definition

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1. Array management

1.1. Array declaration and initialization

We declare and use arrays in Java in a very similar way that we do in languages such as C#. However, Java only deals with two types of array:

- Unidimensional arrays: they are declared and used like we do in C#:

```
int[] data = new int[10];  
data[0] = 3;
```

Square brackets can also be placed after the variable name in the declaration:

```
int data[] ...
```

- Bidimensional and N-dimensional arrays: in this case, Java only accepts multidimensional arrays, this is, arrays that can have a different length in each row. We use these arrays as we do in C# (we can also place the square brackets after the variable name):

```
int[][] data2 = new int[5][];  
data2[0] = new int[3];  
data2[1] = new int[10];  
...  
data2[0][0] = 14;
```

1.1.1. Declaring an array with initial values

If we want to declare an array and set its initial values, we can do it specifying these values between brackets in the declaration. The total number of values between brackets will determine the length of the array

```
int[] someData = {10, 11, 12}; // Array size is 3
```

1.2. Exploring arrays

We can use the *length* property of the dimension we are currently exploring to determine its size:

```
for (int i = 0; i < data.length; i++)  
...  
for (int i = 0; i < data2[1].length; i++)  
...
```

2. Function definition

If we want to use functions (methods) within a class, we can declare them as *static* if we don't want to instantiate an object of this class. Then, we can call these functions from any other function of the class:

```
public static void myMethod (int a, String b)
{
    ...
}

public static void main (int a, String b)
{
    ...
    myMethod(3, "Hello");
}
```

Remember that methods and public elements start in lowerCase in Java, and in uppercase in C#.

Regarding non-static methods, you will learn how to declare and use them in later sessions.

2.1. Try yourself: Los bocadillos de la hormiga reina

You can check your skills with arrays and functions with [this challenge](#).