**Bubble Sort**

1 min

As mentioned, the

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[bubble sort algorithm](https://www.codecademy.com/resources/docs/general/algorithm/bubble-sort)

 swaps elements if the element on the left is larger than the one on the right.

How does this algorithm swap these elements in practice?

Let’s say we have the two values stored at the following indices index\_1 and index\_2. How would we swap these two elements within the list?

It is tempting to write code like:

list[index\_1] = list[index\_2]  
list[index\_2] = list[index\_1]

However, if we do this, we lose the original value at index\_1. The element gets replaced by the value at index\_2. Both indices end up with the value at index\_2.

Programming languages have different ways of avoiding this issue. In some languages, we create a temporary variable which holds one element during the swap:

temp = list[index\_1]  
list[index\_1] = list[index\_2]  
list[index\_2] = temp

The GIF illustrates this code snippet.

Other languages provide multiple assignment which removes the need for a temporary variable.

list[index\_1], list[index\_2] = list[index\_2], list[index\_1]

**Instructions**

In the examples we’ve shown, does bubble sort modify the original list or produce a new array?

