

The bubble sort

The bubble sort is a simple sorting algorithm. The algorithm is based on the comparison of adjacent data items, swapping them if they are not in the correct order. The bubble sort is not suitable for large sets of data.

How the bubble sort works

The bubble sort starts with comparing the first two items, in this case 37 and 14. They are out of order so they need to be swapped over.



Next we compare the 37 with 21. These two items need to be swapped.



Now we compare 37 with 27. Again these two items need to be swapped.



Comparing 37 with 19 means that the two items need to be swapped again.



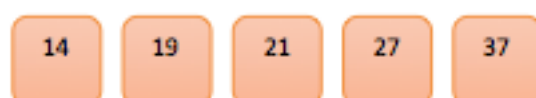
After the first set of comparisons, known as an iteration, the list looks like this:



After the second iteration it will look like this:



Notice that after each iteration at least one item has moved to the correct position. After the third iteration the list will look like this.



When an iteration results in no swaps being needed then the bubble sort is stopped.