* there are different kinds of sorting algorithms
  + searching – although this isn’t sorting it is more about looping through everything
  + selecting – same idea you have to loop through everything to get something out of it
  + duplicates – identifying duplicates in much quicker on a sorted set
  + distributional analysis
* you don’t want to sort through millions of rows if you don’t have to
* computational complexity – the amount of time it takes for an algorithm to run
  + it is called “big O notation”
* for example
  + If you wanted to count the number of items in a list you could go through the list line-by-line and it would take n steps
  + The notation would look like steps
* Therefore would be faster
  + If you are checking to see if an element it duplicated then you have to compare each element in your list to check for duplication
  + That means you need to n checks across n items thus amount of checks
* Bubble sorting – this takes repeated steps through a list and compare adjacent items
  + Then it swaps them if they are in the wrong order
  + Thee algorithm keeps going through the list until the list is ordered
* The code for a bubble sort would look like



* Merge sort works by splitting an unsorted list into separate groups (by halving them)
  + And then going through each group to see if the next number is there
* The overall time complex is