Radix Sort: A Narrative Written by Devin Humphrey

Radix sort is a unique sorting algorithm that is only used with integers. Radix provides sorting in O(n+k) or Linear time compared to Bubble sort’s O(n^2) time. A great example would be to create an array that contains the values of 22, 12, 434, 31, and 56. Let’s call this array radix\_1, Radix sorting algortihm starts with the least significant digit, the ones place. Based on the ones place, radix\_1 would be sorted to 31, 22, 12, 434, 56. In this pass attempt you may notice that 22 is greater than 12, why isn’t it indexed before? If two numbers end with the same value being compared the one that is indexed first will always take precedence over the other, even if it is a smaller number. The second pass would compare the tens place and would result in radix\_1 being sorted as 12, 22, 31, 434, and 56. The last past with radix\_1 would be to compare the hundredths’ place and the final result would be 12, 22, 31, 56, and 434. The amount of passes this sorting algorithm makes depends on the maximum number of digits a value contains within your array.