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After timing the difference between a radix sort that is based on a list compared to a radix sort that uses a linked queue and rebuilds the main queue using the pointers that are within a linked queue I observed some drastic time differences depending on the size of the problem that was given to the two sorts.

The first radix sort that we created was slightly slower than the linked queue implementation of the radix sort when the list size that was given was less than ten thousand items. But after I increased the size of the items on the list by a factor of one hundred I noticed that the linked queue implementation began to take longer than the list based implementation of the radix sort.

I also observed this same time difference when I would only increased the number of items within the list being sorted by a factor of ten giving a list size of ten thousand. The implementation of radix sort that used a linked queue was slower than the implementation that was based on a list.