An Introduction to Bucket Sort

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Let's see a problem

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Sort the array of numbers.

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Sort the array of numbers.

29	25	3	49	9	37	21	43
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What could be our approach to solve this problem?

What could be our approach to solve this problem? We can use some commonly used algorithms. Like:

Insertion Sort

- Insertion Sort
- Bubble Sort

- Insertion Sort
- Bubble Sort
- Merge Sort

- Insertion Sort
- Bubble Sort
- Merge Sort
- Quick Sort

- Insertion Sort
- Bubble Sort
- Merge Sort
- Quick Sort
- etc.

All those algorithms take at least nlg(n) time to sort the array.

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Can we sort in linear time?

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Can we sort in linear time?

Yes, we can :)

BUCKET SORT!!!

Bucket sorting is a linear time algoritm of sorting

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Bucket sorting is a linear time algoritm of sorting



Assumptions:

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• inputs are in a small range.

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- inputs are in a small range.
- inputs are distributed uniformly over the range.

Back to our problem.

29 | 25 | 3 | 49 | 9 | 37 | 21 | 43