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My Java Solution to share



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CodingGeek

Reputation: ★ 2

Same code by user Daring with comments : <https://leetcode.com/discuss/21488/java-code-by-providing-comparator-with-explanation-nlogn>



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VectorChange

Reputation: ★ 1

Compare between the string needs $O(\text{len})$ and sort needs $O(\text{len} \cdot \log(\text{len}))$, the time complexity is $O(\text{len}^2 \cdot \log(\text{len}))$



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codecola

Reputation: ★ 5

may be `Integer.toString(num[i])` is better than `num[i] + ""`



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**fun4LeetCode**

Reputation: ★ 1247

I would recommend using the following comparator if you wish to reduce memory footprint, since the comparator above generates a lot of concatenated strings (of the order of $O(n^2)$, with n the total number of elements). Also for large-size input arrays, the following comparator will have a smaller chance to trigger GC, which is detrimental to the time performance.

```
Comparator<String> cmp = new Comparator<String>() {
    @Override
    public int compare(String str1, String str2) {
        sb1.delete(0, sb1.length()).append(str1).append(str2);
        sb2.delete(0, sb2.length()).append(str2).append(str1);

        for (int i = 0; i < sb1.length(); i++) {
            if (sb1.charAt(i) == sb2.charAt(i)) continue;
            return (sb1.charAt(i) > sb2.charAt(i) ? -1 : 1);
        }

        return 0;
    }
};
```

I assume you have initialized two final StringBuilder objects sb1 and sb2 somewhere before the comparator.



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**freezaku**

Reputation: ★ 0



This post is deleted!



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saharH

↩ @ran3

Reputation: ★ 0

@ran3 could you explain how you get $nk \log n$?



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touchdown

Reputation: ★ 5

Great Solution! You have a deep understanding of `Arrays.sort()`



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whglamrock

Reputation: ★ 19

Maybe the time complexity is $O(kn \log n)$? The typical sort takes $O(n \log n)$ when the comparison between two elements takes $O(1)$. Then in this case each comparison takes $O(k)$, I guess the overall time complexity should be $O(kn \log n)$?



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tankztc

↩ @whglamrock

Reputation: ★ 52

@whglamrock I think you're right, I've the same opinion. Typical sort like merge sort have $O(\log n)$ level, and each level have $O(n)$ times compare, so the overall time complexity is $O(kn \log n)$

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POSTS

10587
VIEWS

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