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273. Integer to English Words 💆

Nov. 29, 2018 | 101.5K views



Convert a non-negative integer to its english words representation. Given input is guaranteed to be less than $2^{31} - 1$.

Example 1:

```
Input: 123
 Output: "One Hundred Twenty Three"
Example 2:
  Input: 12345
 Output: "Twelve Thousand Three Hundred Forty Five"
Example 3:
  Input: 1234567
 Output: "One Million Two Hundred Thirty Four Thousand Five Hundred Sixty Seven"
Example 4:
 Input: 1234567891
 Output: "One Billion Two Hundred Thirty Four Million Five Hundred Sixty Seven Thousand
```

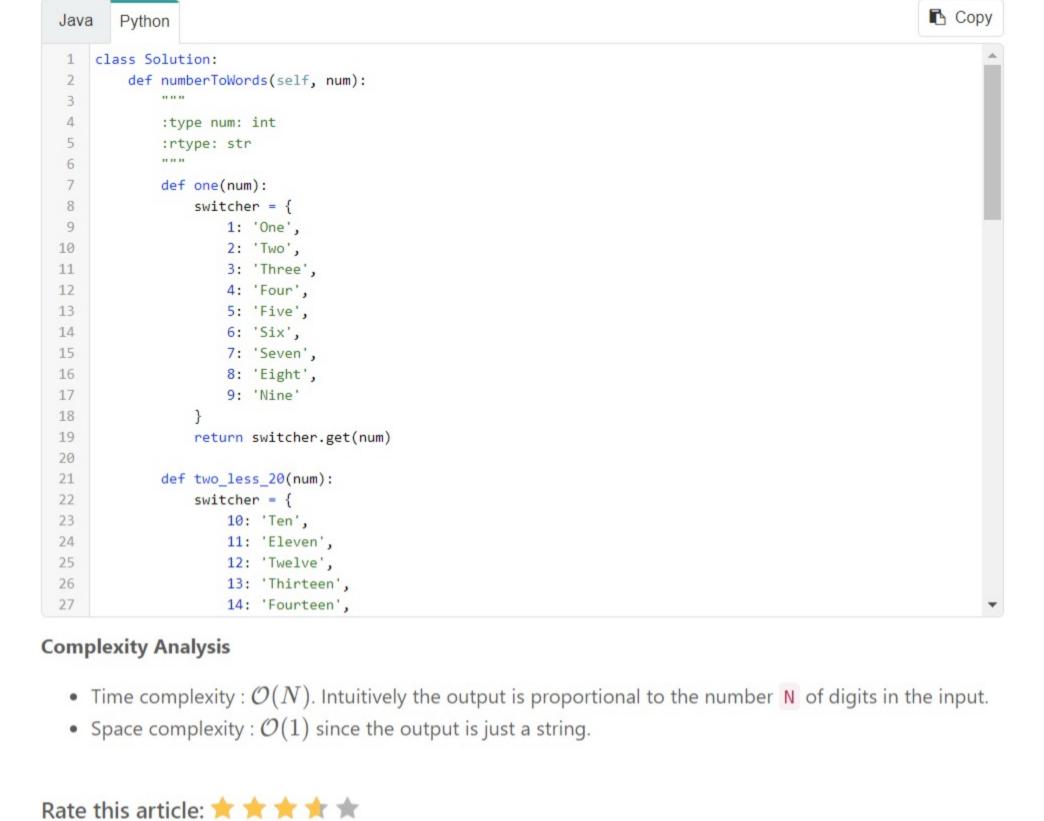
Solution

Let's simplify the problem by representing it as a set of simple sub-problems. One could split the initial

Approach 1: Divide and conquer

integer 1234567890 on the groups containing not more than three digits 1.234.567.890. That results in representation 1 Billion 234 Million 567 Thousand 890 and reduces the initial problem to how to convert 3-digit integer to English word. One could split further 234 -> 2 Hundred 34 into two subproblems: convert 1-digit integer and convert 2-digit integer. The first one is trivial. The second one could be reduced to the first one for all 2-digit integers but the ones from 10 to 19 which should be considered separately. 1234567890

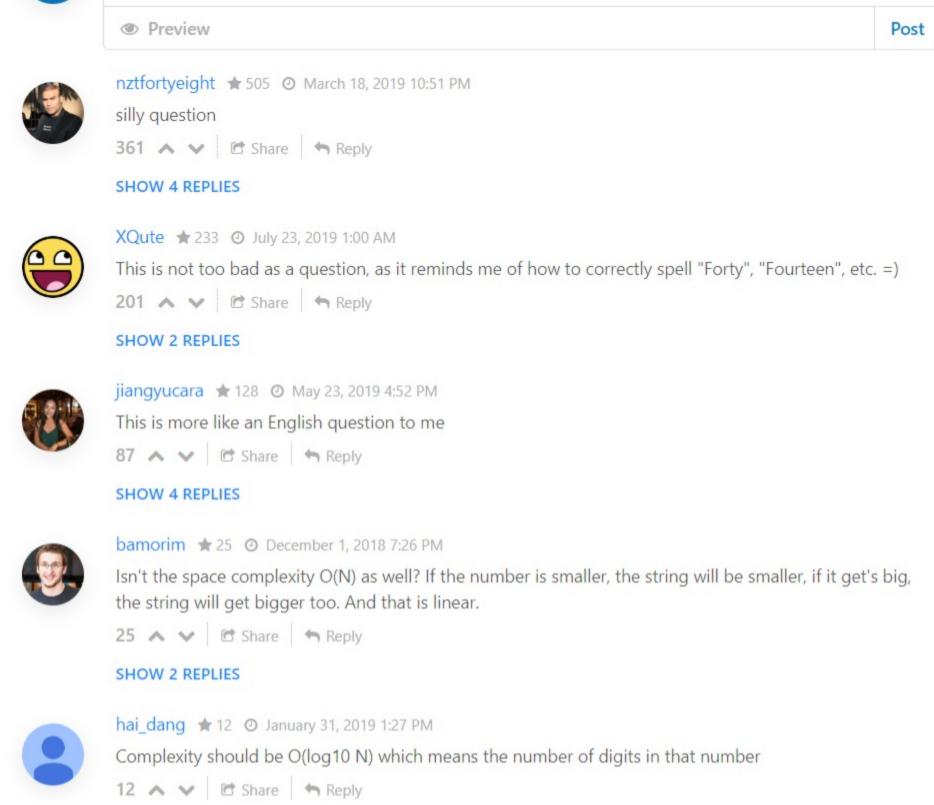




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- Comments: 35

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willye ★ 878 ② August 15, 2019 3:38 AM

Yeah we can hate on this question all we want, but that doesn't change the fact that it really focuses on finding edge cases, breaking stuff down, and some basic integer division and mod usage. Everything is pretty clear cut and there's no surprise test cases. I just wish it wasn't so dependant on the person being an English speaker. 17 A V C Share Share

MichaelrMentele # 100 @ June 13, 2019 9:38 AM

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This problem is about the decomposition of the problem -- how do you break it down. Not about efficiency. vidit0608 ★ 11 ② December 20, 2018 12:01 AM

SHOW 4 REPLIES ethanwc 🛊 8 🗿 January 8, 2020 4:24 AM

8 A V C Share Reply

It seems like a dumb problem at first glance, but it is actually a great divide and conquer exercise.

Complexity should O(1). After all its a number.

Applesmack ★ 72 ② February 28, 2020 10:31 AM If you get this question you have already failed the interview. They simply want to fail you and even if you pass the question they will find another reason to reject you. The interviewer will simply be on his phone checking reddit while you are frantically writing out the dictionaries thinking there is some hope for you.

SHOW 4 REPLIES

(1234)