2802. Find The K-th Lucky Number Premium

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We know that `4` and `7` are **lucky** digits. Also, a number is called **lucky** if it contains **only** lucky digits.

You are given an integer `k`, return the kth *lucky number represented as a **string***.

Example 1:

```
Input: k = 4
Output: "47"
Explanation: The first lucky number is 4, the second one is 7, the third one is 44 and the fourth one is 47.
```

Example 2:

```
Input: k = 10
Output: "477"
Explanation: Here are lucky numbers sorted in increasing order:
4, 7, 44, 47, 74, 77, 444, 447, 474, 477. So the 10th lucky number is 477.
```

Example 3:

```
Input: k = 1000
Output: "777747447"
Explanation: It can be shown that the 1000th lucky number is 777747447.
```

Constraints:

- $1 <= k <= 10^9$

Seen this question in a real interview before?   1/5

Yes   No

Accepted **5.7K** | Submissions **7.4K** | Acceptance Rate **76.8%**

🏷 Topics
Math   String   Bit Manipulation

Companies
6 months ago

Amazon ②

💡 Hint 1
The number of lucky numbers with **exactly** `n` digits is equal to 2^n.

💡 Hint 2
We can obtain how many digits the `k`th lucky number has.

💡 Hint 3
Imagine we know that `k`th lucky number has `c` digits. Then calculate how many numbers with `c` digits exist before the `k`th lucky number.

💡 Hint 4
Imagine the number from the previous hint is `x`. Now look at the binary representation of `x` and add some leading zero to make its length equal to `c`.

💡 Hint 5
Replace `0` and `1` with `4` and `7` in the number you've obtained from the previous hint.

💬 Discussion (9)