

60. Permutation Sequence

Hard1746339Add to ListShare

The set `[1, 2, 3, ..., n]` contains a total of $n!$ unique permutations.

By listing and labeling all of the permutations in order, we get the following sequence for $n = 3$:

1. "123"
2. "132"
3. "213"
4. "231"
5. "312"
6. "321"

Given n and k , return the k^{th} permutation sequence.

- Note:**
- Given n will be between 1 and 9 inclusive.
 - Given k will be between 1 and $n!$ inclusive.

Example 1:

Input: n = 3, k = 3

Output: "213"

Example 2:

Input: n = 4, k = 9

Output: "2314"

Accepted 205,281

Submissions 534,390

JavaAutocomplete

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```
class Solution {
    public String getPermutation(int n, int k) {
        int[] f = new int[1 + n];
        f[0] = 1;
        for (int i = 1; i <= n; ++i) f[i] = i * f[i-1];

        List<Integer> num = new ArrayList();
        for (int i = 1; i <= n; ++i) num.add(i);

        --k; // make it counting from 0
        StringBuilder result = new StringBuilder();
        while (num.size() > 1 && k != 0)
        {
            int x = num.size() - 1;
            int seq = k / f[x];
            result.append(num.get(seq));
            num.remove(seq);
            k %= f[x];
        }

        for (int d : num) result.append(d);
        return result.toString();
    }
}
```

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