Description | My Submissions | Hints/Editorial | AC Submissions | Video Editorials | My Notes (0)

Kth Permutation - hard version

? Ask Doubt

Time-Limit: 1 sec Score: 100.00/100 Difficulty :

Memory: 256 MB Accepted Submissions: 100 Relevant For: AZ-201 AZ-202 AZ-301

Description

For the given n, consider the array $A = \{1, 2, \ldots, n\}$. There exist $n!$ unique permutations of the array. When we list all these $n!$ permutations in lexicographically order, your task is to find kth permutation in that list.

Input Format

The first line contains two space-separated integers n and k.

Output Format

Print n space-separated integers, denoting the kth permutation.

Constraints

$1 \le n \le 10^5$
$1 \le k \le \min(n!, 10^9)$

Sample Input 1

Copy

```
3 4
```

Sample Output 1

Copy

```
2 3 1
```

Sample Input 2

Copy

```
10 3
```

Sample Output 2

Copy

C++14[GCC]

Submit

```
1  #include<bits/stdc++.h>
2  using namespace std;
3  using lli = long long int;
4
```