

# Lexicographical Numbers

Given an integer  $n$ , return all the numbers in the range  $[1, n]$  sorted in lexicographical order.

You must write an algorithm that runs in  $O(n)$  time and uses  $O(1)$  extra space.

**Example 1:**

**Input:**  $n = 13$

**Output:**  $[1, 10, 11, 12, 13, 2, 3, 4, 5, 6, 7, 8, 9]$

**Example 2:**

**Input:**  $n = 2$

**Output:**  $[1, 2]$

**Constraints:**

- $1 \leq n \leq 5 * 10^4$