

# Remove K Digits

Given a non-negative integer **S** represented as a string, remove **K** digits from the number so that the new number is the smallest possible.

**Note :** The given *num* does not contain any leading zero.

## Example 1:

**Input:**

`S = "149811", K = 3`

**Output:**

`111`

**Explanation:**

Remove the three digits

4, 9, and 8 to form the new number 111

which is smallest.

## Example 2:

**Input:**

`S = "1002991", K = 3`

**Output:**

`21`

**Explanation:**

Remove the three digits 1 (leading

one), 9, and 9 to form the new number 21 (Note

that the output must not contain leading

zeroes) which is the smallest.

## Your Task:

You don't need to read input or print anything. Your task is to complete the function **removeKdigits()** which takes the string **S** and an integer **K** as input and returns the new number which is the smallest possible.

**Expected Time Complexity:**  $O(|S|)$ .

**Expected Auxiliary Space:**  $O(|S|)$ .

## Constraints:

$1 \leq K \leq |S| \leq 10^6$