Problem 402: Remove K Digits

Problem Information

Difficulty: Medium
Acceptance Rate: 35.93%
Paid Only: No
Tags: String, Stack, Greedy, Monotonic Stack

Problem Description

Given string num representing a non-negative integer `num`, and an integer `k`, return _the smallest possible integer after removing_ `k` _digits from_ `num`.

Example 1:

Input: num = "1432219", k = 3 **Output:** "1219" **Explanation:** Remove the three digits 4, 3, and 2 to form the new number 1219 which is the smallest.

Example 2:

Input: num = "10200", k = 1 **Output:** "200" **Explanation:** Remove the leading 1 and the number is 200. Note that the output must not contain leading zeroes.

Example 3:

Input: num = "10", k = 2 **Output:** "0" **Explanation:** Remove all the digits from the number and it is left with nothing which is 0.

Constraints:

* `1 <= k <= num.length <= 105` * `num` consists of only digits. * `num` does not have any leading zeros except for the zero itself.

Code Snippets

C++:

```
class Solution {
public:
string removeKdigits(string num, int k) {

}
};
```

Java:

```
class Solution {
public String removeKdigits(String num, int k) {

}
}
```

Python3:

```
class Solution:
def removeKdigits(self, num: str, k: int) -> str:
```