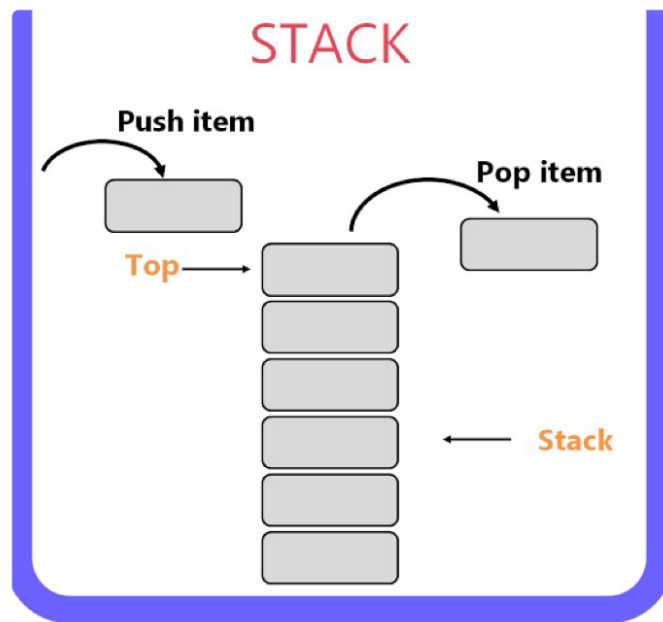


~~STACK~~ ...
video - 16



- Push
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Leetcode
• 402
Medium

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code story with MIK 



Company :-

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402. Remove K Digits

Medium  8680  408  Add to List  Share

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 :- `num = "1432219"` , `K=3`

Output = "1219"

`num = "10200"` , `K=1`

Output = "200"

`if (num.length() == k) {
 return "0";
}`

`num = "22"` , `K=2`

Output = "0"

Intuition

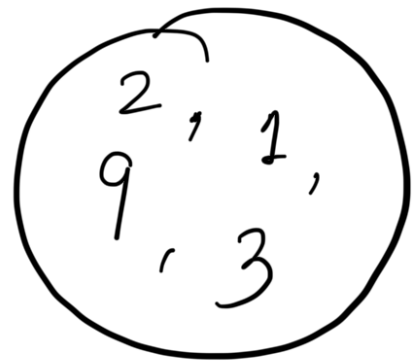
“भाड़ में जाइ”
“stack/monotonic stack”



“I will derive the intuition from
our childhood school lessons”

⇒ First things first

"Place value"



"~~1~~~~4~~~~3~~ 2 2 1 ~~9~~" $k=3$

⇒ ~~(1 2 2 1)~~ > 12 19

Greedy will fail.

"If you want smallest, try to keep digits in increasing order"

"1 4 3 2 2 1 9"
~~1~~ ~~4~~ ~~3~~ ~~2~~ ~~2~~ ~~1~~ i , K = ~~3~~
~~2~~
~~1~~
0

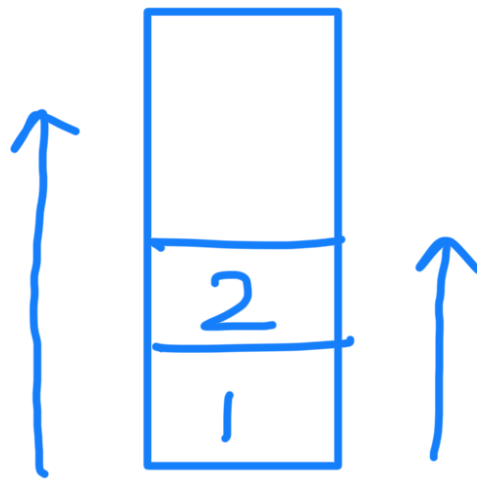
⇒ "1 2 1 9"

nums = "1 0 2 0 0" , K = ~~1~~
~~1~~ ~~0~~ ~~2~~ ~~0~~ ~~0~~ 0

result = ~~"0 2 0 0"~~
"2 0 0"

{ (i) Sort (Place value)
↓
(ii) increasing order
(iii) delete K.

"1 4 3 2 2 1 9"
↑ ↑ ↑
K = 0



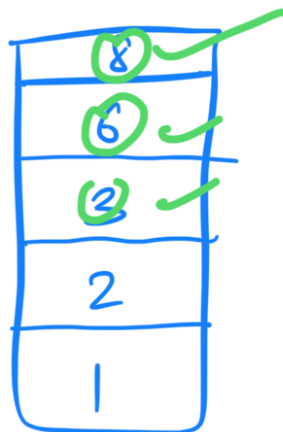
monotonic stack.

Particular Order

↓
dec.
inc.
non-d.
no-inc

(stack.
Queue
deque)

nums = "1 2 3 6 8" , K = 3
T F T T T



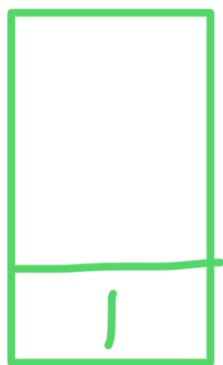
while (K > 0) {

} "1 2"

4 5 6 7 , K = 2

T.C.

$\begin{matrix} i & i & i & i \\ \textcircled{1} & \textcircled{4} & \textcircled{3} & \textcircled{2} & 2 & 1 & 9 \\ 1 & 2 & 2 & 1 \end{matrix}$



$$T.C = O(2 \times n)$$

$$\approx O(n)$$

$$S.C = O(n).$$

