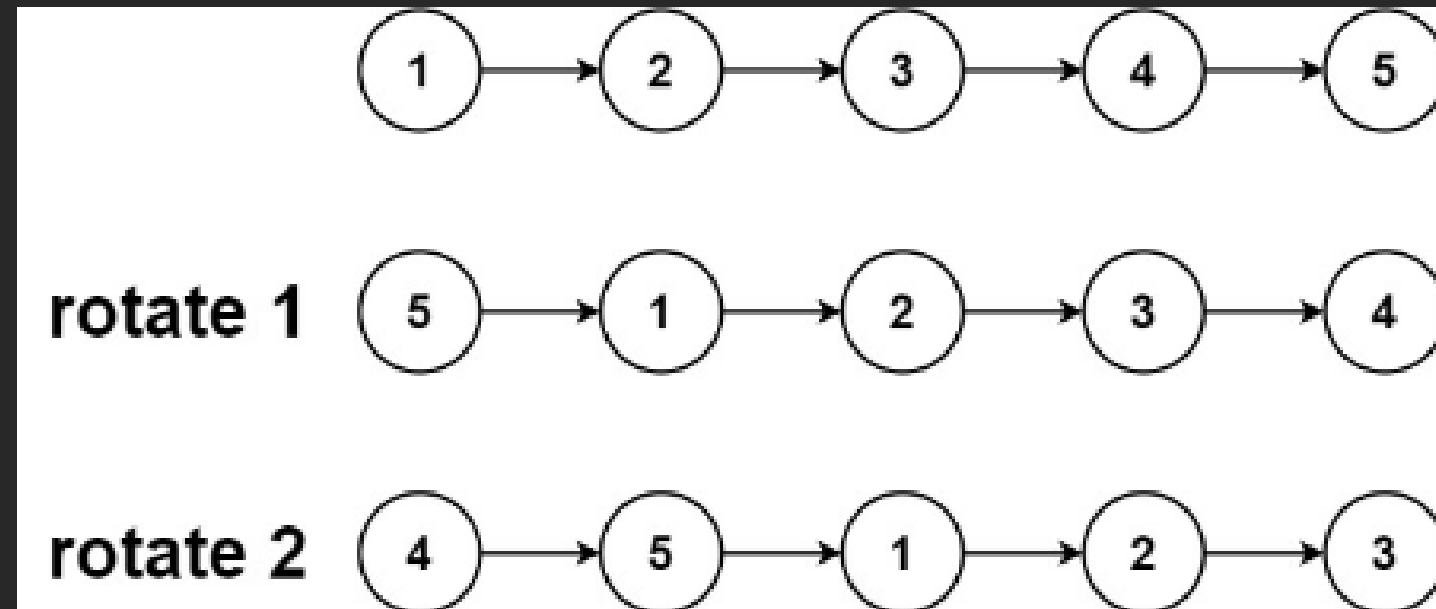


## Rotate the matrix

Given the `head` of a linked list, rotate the list to the right by `k` places.

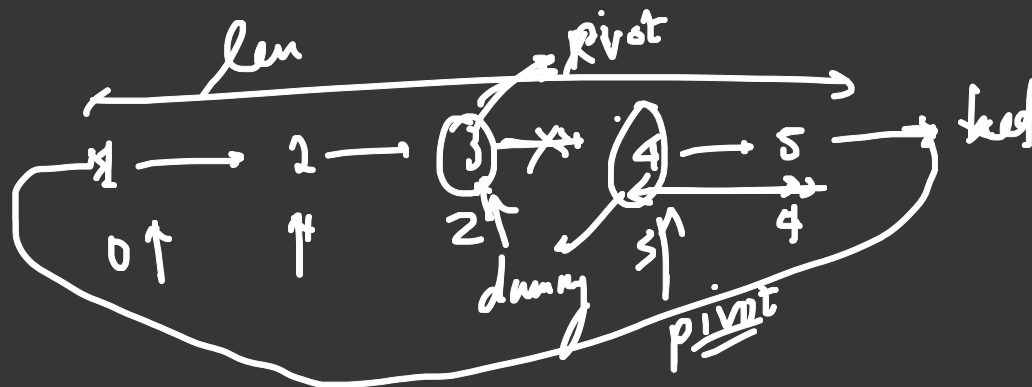
**Example 1:**



**Input:** `head = [1,2,3,4,5]`, `k = 2`

**Output:** `[4,5,1,2,3]`

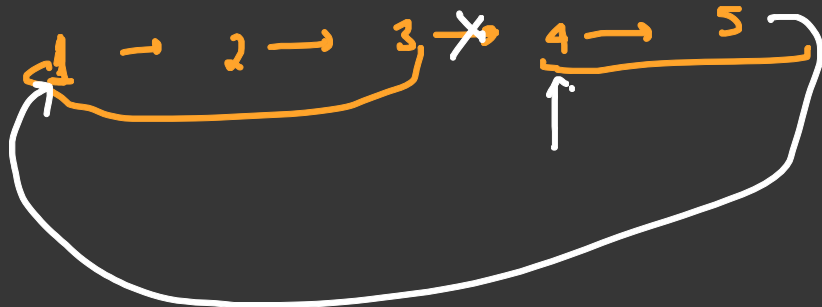
Given, linked list head and K



5 → 1 → 2 → 3 → 4 → x

4 → 5 → 1 → 2 → 3 → x

pivot = NULL



$$K = 2$$

$$\text{len} = 5 - 2 = 3$$

$$\text{len} = 5 - 2 = 3$$

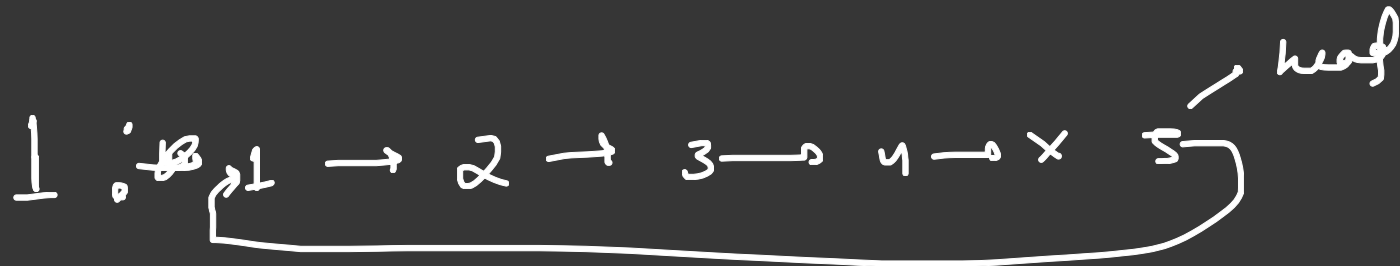
dummy

dummy

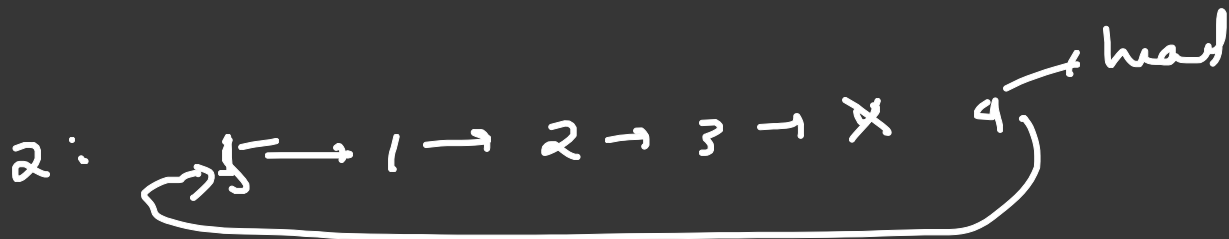
Brute force:

for  $k$  times point last node to head.

$1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow x$

1:   $1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow x$   $5$  <sup>head</sup>

$5 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow x$

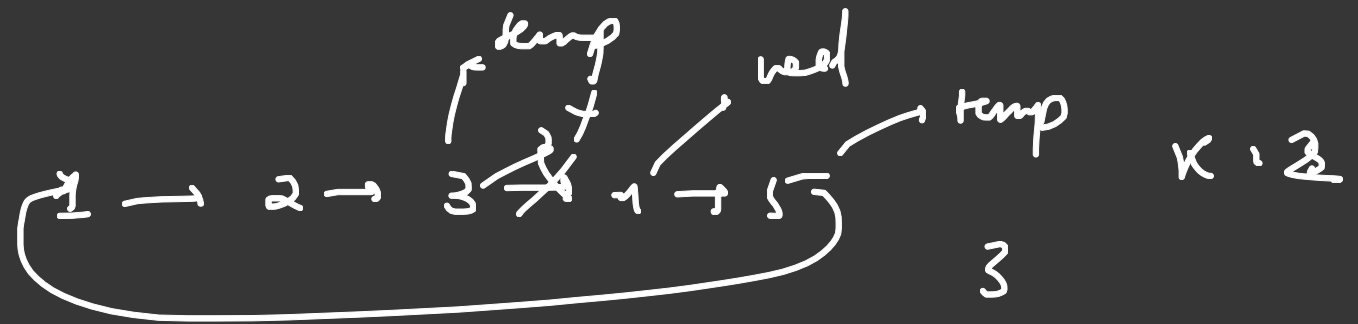
2:   $5 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow x$   $4$  <sup>head</sup>

$4 \rightarrow 5 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow x$

T.C =  $O(N^k)$

Optimal

Like 1 dec Above



connect last node to head.

and move temp temp to diff (Cur - K) to the

~~temp~~ ~~next~~ = head = temp → next

temp → next = Null

4 → 5 → 1 → 2 → 3 →

T.C =  $O(2N - K) \approx O(N)$

5-6 2 0(1)