


31. Next Permutation

Another way to express lexicographically greater is the next smallest number.

1 2 3 ^j5 ^k6 4 Swap

1 2 3 6 5 4 Sort

1 2 3 6 4 5 

^j4 6 3 Edge Case

^j1 ^k3 2 Swap

2 3 1 Sort

2 1 3 

③ Starting from the right, the least significant chars, identify index ^j |

$\text{nums}[j] < \text{nums}[j+1]$

① Identify index ^k | smallest value $> \text{nums}[j]$

② Swap $\text{nums}[j], \text{nums}[k]$

③ Sort $\text{nums}[j+1:]$, $\text{nums}[j+1]$ might not be smallest number in there

④ $j = -1 \rightarrow j$ not found

Reverse the string don't swap, skip to ③

TC: $O(n)$

SC: $O(1)$