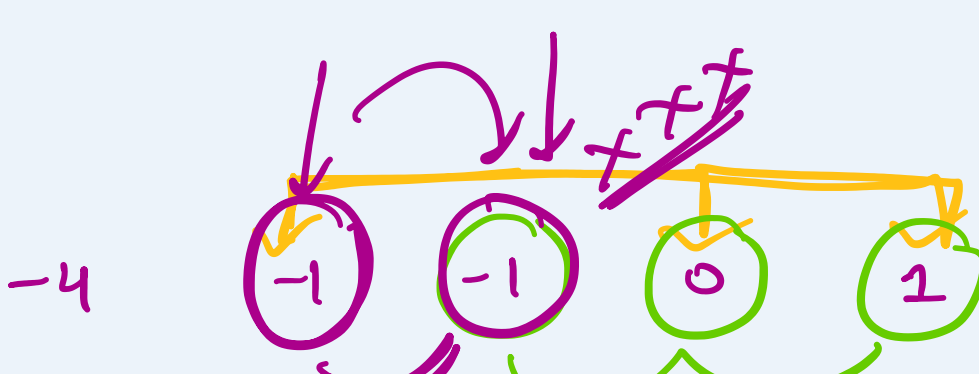


Q Given an integer array, return all the triplets $[arr[i], arr[j], arr[k]]$, such that $i \neq j$, $i \neq k$, & $j \neq k$ & $arr[i] + arr[j] + arr[k] == 0$

Eg: $arr = [-1, 0, 1, 2, -1, -4]$
 output = $\begin{bmatrix} [-1, -1, 2] \\ [-1, 0, 1] \end{bmatrix}$

① Sort the array

0 1 -1 -4 -1 2



$$arr[i] + arr[j] + arr[k] = 0$$

$$arr[j] + arr[k] = -arr[i]$$

$$TC \rightarrow (n \times n) \rightarrow O(n^2)$$

Q Find missing positive

Given an unsorted array, return the smallest missing positive integer.

① $arr \rightarrow [1, 2, 0]$

ans \rightarrow 3

② $arr \rightarrow [3, 4, -1, 1]$

ans \rightarrow 2

③ $arr \rightarrow [7, 8, 9, 11, 12]$

ans \rightarrow 1

Data clean up : replace by 1

- negative no's.
- zeroes
- numbers greater than n

$n = 8$

$[1, 2, 3, 4, 5, 6, 7, 8] \rightarrow 9$

$[1, 2, 4, 8, 14, 15, 16, 17, 18] \rightarrow 3$

$[1, 2, 3, 4, 5, 6, 7, 18] \rightarrow 8$

max possible first missing no $\rightarrow 9$

Smallest \rightarrow 1

$[3, 4, -1, -2, 1, 5, 16, 0, 2, 0]$

$[3, -4, -1, -1, -1, -5, 1, 1, 2, 1]$

0 1 2 3 4 5 6 7 8 9

$-4 \rightarrow 4$ $-1 \rightarrow 1$ $-1 \rightarrow 1$ $-1 \rightarrow 1$ $-5 \rightarrow 5$

$ind[i] \rightarrow -ve$

$-2 \rightarrow 2$

$-3 \rightarrow 3$

$arr[x] = n$ $n = size\ of\ array$

$arr[n] = -ve$

$arr[0] = -ve$

$n \rightarrow ele$

Given an array, rearrange numbers into the lexicographically next greater permutation of numbers.

If such arrangement is possible, it must rearrange it as the lowest possible order.

$arr \rightarrow [1, 2, 3]$
 ans $\rightarrow [1, 3, 2]$

$arr \rightarrow [3, 2, 1]$
 ans $\rightarrow [1, 2, 3]$

ans $\rightarrow [1, 1, 5]$
 ans $\rightarrow [1, 5, 1]$