

Day-29

Python DSA

Leetcode 153 Find Minimum in Rotated Sorted Array

<https://leetcode.com/problems/find-minimum-in-rotated-sorted-array/>

```
class Solution:
    def findMin(self, nums: List[int]) -> int:
        n= len(nums)
        low=0
        high= n-1
        minimum = float("inf")
        while low<=high:
            mid= (low + high)//2
            if nums[low] <= nums[mid]:
                minimum = min (minimum, nums[low])
                low= mid+1
            else:
                minimum = min(minimum , nums[mid])
                high = mid-1
        return minimum
```

TC – $O(\log N)$

SC- $O(1)$

Geekforgeeks Find Kth Rotation

<https://www.geeksforgeeks.org/problems/rotation4723/1>

class Solution:

def findKRotation(self, arr):

n= len(arr)

low, high = 0, n-1

while low<=high:

if arr[low]<=arr[high]:

```
    return low
mid= (low + high)//2
next= (mid +1)%n
prev= (mid-1+n)%n
if arr[mid]<= arr[next] and arr[mid]<= arr[prev]:
    return mid
elif arr[mid]>= arr[low]:
    low= mid+1
else:
    high= mid-1
return 0
```

TC- $O(\log N)$

SC- $O(1)$