

## Day-37

### Python DSA

Leetcode 410 Split Array Largest Sum

<https://leetcode.com/problems/split-array-largest-sum/>

```
class Solution:
    def splitArray(self, nums: List[int], k: int) -> int:
        def canSplit(maxSumAllowed):
            current_sum=0
            pieces=1
            for num in nums:
                if current_sum + num > maxSumAllowed:
                    pieces +=1
                    current_sum = num
                    if pieces > k:
                        return False
                else:
                    current_sum += num
            return True
        left , right= max(nums) , sum(nums)
        result= right
        while left<= right:
            mid= (left + right)//2
            if canSplit(mid):
                result=mid
                right=mid -1
            else:
                left = mid+1
        return result
```

TC –  $O(n \cdot \log(\text{sum}(\text{nums})))$

SC-  $O(1)$