

Day-38

Painter's Partition Problem

https://www.naukri.com/code360/problems/painter-s-partition-problem_1089557?leftPanelTabValue=PROBLEM

```
def isPossible(arr,n,k,mid):
    painter_count=1
    time_sum=0
    for length in arr:
        if time_sum+length<=mid:
            time_sum +=length
        else:
            painter_count +=1
            if painter_count > k or length> mid:
                return False
            time_sum=length
    return True
```

```
def findLargestMinDistance(boards:list, k:int):
    n=len(boards)
    low= max(boards)
    high= sum(boards)
    ans= high
    while low<=high:
        mid= (low + high)//2
        if isPossible(boards,n,k,mid):
            ans= mid
            high = mid-1
        else:
            low= mid+1
    return ans
```

TC- $O(n * \log(\text{sum}(\text{arr})))$

SC- $O(1)$