Day-36

Python DSA

Allocate Books

https://www.naukri.com/code360/problems/allocate-books 1090540?leftPanelTabValue=PROBLEM

```
def findPages(arr: [int], n: int, m: int) -> int:
 # If books < students, allocation not possible
 if m > n:
    return -1
 def isPossible(arr, n, m, mid):
    student_count = 1
    page_sum = 0
   for pages in arr:
     # If adding this book exceeds mid, allocate to next student
     if page_sum + pages > mid:
       student_count += 1
       page_sum = pages # start new allocation
       # Too many students needed
       if student_count > m:
         return False
     else:
       page_sum += pages
   return True
  # Binary search range
 low = max(arr)
 high = sum(arr)
 result = high
```

```
while low <= high:
    mid = (low + high) // 2

if isPossible(arr, n, m, mid):
    # mid is feasible, try to minimize further
    result = mid
    high = mid - 1
    else:
     # mid not feasible, increase limit
    low = mid + 1

return result

TC- O(n * log(sum(arr)))

SC-O(1)</pre>
```