

Day-32

Leetcode 875 Koko Eating Bananas

<https://leetcode.com/problems/koko-eating-bananas/description/>

```
class Solution:
    def minEatingSpeed(self, piles: List[int], h: int) -> int:
        left, right = 1, max(piles)
        result = right # initialize with max possible speed

        while left <= right:
            mid = (left + right) // 2
            hours = sum(math.ceil(p / mid) for p in piles)

            if hours <= h:
                result = mid # possible answer
                right = mid - 1 # try smaller k
            else:
                left = mid + 1 # need larger k

        return result
```

TC- $O(n * \log(\max(\text{piles})))$

SC- $O(1)$

Leetcode 1283 Find the Smallest Divisor Given a Threshold

<https://leetcode.com/problems/find-the-smallest-divisor-given-a-threshold/>

```
class Solution:
    def smallestDivisor(self, nums: List[int], threshold: int) -> int:
        left, right = 1, max(nums)
        res = right

        while left <= right:
            mid = (left + right) // 2
            total = sum(math.ceil(n / mid) for n in nums)
            if total <= threshold:
                res = mid
                right = mid - 1
            else:
                left = mid + 1

        return res
```

TC- $O(N * \log(\max(\text{nums})))$

SC- $O(1)$