

Koko Eats Bananas → Return the min integer k

such that koko can eat all bananas with h hours.

$piles[] = [3, 6, 7, 11]$ $k=8$

if $k=2 \rightarrow$ no. of bananas eat in 1 hr

$3 \quad 6 \quad 7 \quad 11$
 $\uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 2 hours 3 hrs 4 hrs 6 hrs
 to eat

$$2+3+4+6 > 8$$

$3 \quad 6 \quad 7 \quad 11$
 $\uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 2 hrs 2 hrs 3 hrs 4 hrs
 $k=3$

$$1+2+3+4 > 8$$

$k=4$

$3 \quad 6 \quad 7 \quad 11$
 $\uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 1 hr 2 hrs 2 hrs 3 hrs $\Rightarrow 8$ hrs

so $k=4$ is the min integer

if $k=5$ also possible but 4 is

k values ranges from $0 \rightarrow \max(arr)$

$$0 \rightarrow 11$$

$\frac{0+11}{2} \rightarrow mld = 5$, calculate floor by
 $for(i=0; i<n; i++)$

$sum += \lceil arr[i] / mld \rceil \rightarrow \text{cell value}$

→ this is possible so try for min value

low = 0, high = mid - 1

low = 0

high = 4

$$\frac{0+4}{2} \Rightarrow \underline{\text{mid} = 2}$$

3 6 7 11 \rightarrow not possible

$$\Rightarrow \text{low} = \text{mid} + 1$$

low = 3

high = 4

$$\text{mid} = \frac{3+4}{2} = \frac{7}{2} = 3.5$$

3 6 7 11

mid = 3 also not possible

$$\text{low} = \text{mid} + 1, = 4$$

low = 4

high = 4

mid = 4

3 6 7 11

7 11

\rightarrow possible for 4

so ans = 4;

$$\text{high} = \text{mid} - 1 \Rightarrow 3$$

low = 4

exit

ans = 4