

## Q Minimum cost to hire k workers

n workers.

$$\text{quality} = \begin{bmatrix} 10 & 20 & 5 \end{bmatrix}$$

$$\text{wage} = \begin{bmatrix} 70 & 50 & 30 \end{bmatrix}$$

ans  $\rightarrow$  105

$$\begin{matrix} 70 & 35 \\ + \\ 105 \end{matrix}$$

$\frac{70}{10} = 7$

At least one worker will be paid their minimum wage expectations.

Appoint each worker as captain once.

For each captain, that will be paid their min wage expectation, we need to calculate the cost of hiring k workers with

$$\frac{\text{wage [captain]}}{\text{quality [captain]}}$$

$10 \times 7 = 70$   
 $20 \times 7 = 140$   
 $5 \times 7 = 35$   
 $70 + 35$

## Q Minimum domino rotations for equal row

$\text{top} = [2, 1, 2, 4, 2, 2]$   
 $\text{bottom} = [5, 2, 6, 2, 3, 2]$

ans  $\rightarrow$  2

min no. of rotations

Three possible cases:-

- ① All elements of A/B to be same or equal to A[i].
- ② All elements of A/B to be same or equal to B[i].
- ③ It's impossible to do so.

## Q Split array largest sum

$$[7, 2, 5 | 10, 8] \quad n = 2$$

minimise the longest sum.

Binary Search

f(x)  $\rightarrow$  ensures that the max largest subarray sum will not exceed x.

$$\text{mid} = \frac{(l + r)}{2}$$

f(mid)  $\rightarrow$  false  $\checkmark$   
 true  $\swarrow$  false  $\searrow$   
 [left, mid-1]  $\rightarrow$  [mid+1, right]