

### Steps to compute the “chase strategy”

1. Compute the column of “Total production”:  

$$\text{Total production}_t = \text{Demand}_t - \text{Inventory}_{t-1}$$
2. Compute the column of “Workforce size”:  

$$\text{Workforce size}_t = \frac{\text{Total production}_t}{\text{Regular time per day} * \text{Working days per month} / \text{Labor hours required per unit}}$$

$$= \frac{\text{Total production}_t}{8*20/4}$$
3. Compute the column of “No. laid off”  

$$\text{No. laid off}_t = \max(0, \text{Workforce size}_{t-1} - \text{Workforce size}_t)$$
4. Compute the column of “No. Hired”  

$$\text{No. Hired}_t = \max(0, \text{Workforce size}_t - \text{Workforce size}_{t-1})$$

### Steps to compute the “level strategy”

1. Compute the total demand over 6 periods. It equals 16000.
2. Compute the total production quantity over 6 periods:  

$$\text{Total production over 6 periods} = \text{total demand} - \text{initial inventory} + \text{ending inventory}$$

$$= 16000 - 1000 + 500 = 15500$$
3. Compute the column of “Workforce size”:  

$$\text{Workforce size}_t = \frac{\text{Total production over 6 periods}}{\text{number of periods} * \text{Regular time per day} * \text{Working days per month} / \text{Labor hours required per unit}}$$

$$= \frac{15500}{6*8*20/4} = 64.58$$

Because workforce size is integer, round it up to 65.
4. Compute the column of “Total production”  

$$\text{Total production}_t = \text{Workforce size}_t * \text{Regular time per day} * \text{Working days per month} / \text{Labor hours required per unit}$$
5. Compute the column of “Inventory”  

$$\text{Inventory}_t = (0, \text{Inventory}_{t-1} + \text{Total production}_t - \text{Demand}_t)$$
6. Compute the column of “Stockout”  

$$\text{Stockout}_t = (0, \text{Demand}_t - \text{Inventory}_{t-1} - \text{Total production}_t)$$
7. Compute the column of “No. laid off”  

$$\text{No. laid off}_t = \max(0, \text{Workforce size}_{t-1} - \text{Workforce size}_t)$$