

Find answer here

Step 0 Find Allocation, Request, Available

$$\text{Allocation} = \begin{array}{c} P_0 \\ P_1 \\ P_2 \\ P_3 \\ P_4 \end{array} \begin{array}{c} A \ B \ C \\ \begin{bmatrix} 0 & 1 & 0 \\ 2 & 0 & 0 \\ 3 & 0 & 3 \\ 2 & 1 & 1 \\ 0 & 0 & 2 \end{bmatrix} \end{array}, \text{ Request} = \begin{array}{c} P_0 \\ P_1 \\ P_2 \\ P_3 \\ P_4 \end{array} \begin{array}{c} A \ B \ C \\ \begin{bmatrix} 0 & 0 & 0 \\ 2 & 0 & 2 \\ 0 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 0 & 2 \end{bmatrix} \end{array}, \text{ Available} = \begin{array}{c} A \ B \ C \\ [0 \ 0 \ 0] \end{array}$$

Step 1

Define
two variables

$$\text{work} = \text{Available} = [0 \ 0 \ 0]$$

$$\text{Finish} = [F \ F \ F \ F \ F]$$

② Check $P0$, $i = 0$

$$\text{Finish}[0] = F \quad \checkmark$$

$$\text{Request}_0 \leq \text{Work}$$

$$\underline{[0 \ 0 \ 0]} \leq \underline{[0 \ 0 \ 0]} \quad \checkmark$$

③ $P0$ finishes.

$$\text{update : } \text{Finish}[0] = T$$

$$\text{work} = \text{work} + \text{Allocation}_0$$

$$= [0 \ 0 \ 0] + [0 \ 1 \ 0]$$

$$= [0 \ 1 \ 0]$$

return the processes
that he owns

② Check P1, $j = 1$

Finish[1] = F ✓

Request₁ ≤ Work

[2 0 2] ≤ [0 1 0] X

② Check P2, $j = 2$

Finish[2] = F ✓

Request₂ ≤ Work

[0 0 1] ≤ [0 1 0] X

② check P_3 , $i = 3$

Finish $[3] = F \checkmark$

Request₃ $\leq$ Work

$[1 \ 0 \ 0] \leq [0 \ 1 \ 0] \quad \times$

③ check P_4 , $i = 4$

Finish $[4] = F \checkmark$

Request₄ $\leq$ Work

$[0 \ 0 \ 2] \leq [0 \ 1 \ 0] \quad \times$
