

# OS Task

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Q1)

Process	Allocation	Max	Available	Need
			2100	0000
P1	0012	0012		0750
P2	2000	2750		
P3	0134	6656		6522
P4	2354	4356		2002
P5	0332	0652		0320

$$\text{Work} = 2100$$

$$\text{Need} = \text{Max} - \text{Allocation}$$

$$\begin{aligned} P1 &= \text{Need} \leq \text{Work} \\ &= 0000 \leq 2100 \quad (\text{True}) \end{aligned}$$

$$\text{Work} = 2112$$

$$P2 = 0750 \leq 2112 \quad (\text{False})$$

$$P3 = 6522 \leq 2112 \quad (\text{False})$$

$$P4 = 2002 \leq 2112 \quad (\text{True})$$

$$\text{Work} = 4466$$

$$P5 = 0320 \leq 4466 \quad (\text{True})$$

$$\text{Work} = 4798$$

$$P2 = 0750 \leq 4798 \quad (\text{True})$$

$$\text{Work} = 6798$$

$$P3 = 6522 \leq 6798 \quad (\text{True})$$

$$\text{Work} = 681212$$

Sequence :  $\langle P1, P4, P5, P2, P3 \rangle$

②

Yes, the system is in safe state because  $\text{Finish}[i]$  is true for all values of  $i$ .

③

No, the system is not deadlocked because every process is executing and



all the process are  
fulfilling their needs.

④ No, the process 4  
is deadlock.

⑤

a) Yes, request will  
be granted.

b) And the system  
will go with safe  
state.