Bài 1:

Bài 2:

Bài 4:

m Resources – 4 Processes

1 Process needs at most 3 Resouces

- ⇨ In the worst situation, each process holds 2 and waits for 1 resource
- ⇨ Min number of R = 8 => Deadlock
- ⇨ 8 + 1 = 9 R => No deadlock

Key: Min value of m : 9 Resources -> No deadlock

Bài 7a:

	Allocation					Max					Need (Max – Allocation)				
	R1	R2	R3	R4	R5	R1	R2	R3	R4	R5	R1	R2	R3	R4	R5
P1	2	3	3	1	1	4	5	7	1	1	2	2	4	0	0
P2	1	0	2	1	4	2	2	3	1	5	1	2	1	0	1
P3	5	2	2	2	2	5	3	7	2	3	0	1	5	0	1
P4	4	1	0	1	0	5	2	1	2	2	1	1	1	1	2
P5	1	1	3	1	1	4	5	3	1	1	3	4	0	0	0

Bài 7b:

Available					
R1	R2	R3	R4	R5	
3	2	2	1	1	
8	3	4	3	5	P2, P4 finish
10	6	7	4	6	P1 finish
16	9	12	7	9	P3, P5 finish

The system in a safe state

Possible safe sequences : (P2, P4, P1, P3, P5), (P2, P4, P1, P5, P3),..