Week 6 – Tutorial I

Deadlock

Exercise 1.

Consider a system with the following information.
Determine whether **the system is in safe state**.

R1	R2	R3
9	3	6

Resource vector R

	R1	R2	R3
P1	3	2	2
P2	6	1	3
P3	3	1	4
P4	4	2	2

Max = C

	R1	R2	R3
P1	1	0	0
P2	6	1	2
P3	2	1	1
P4	0	0	2

Allocation = A

Exercise 2.

Consider a system with the following information.
Suppose **P1 requests one unit each of R1 and R3**.
Determine whether the system is in safe state.

R1	R2	R3
9	3	6

Resource vector R

	R1	R2	R3
P1	3	2	2
P2	6	1	3
P3	3	1	4
P4	4	2	2

Max = C

	R1	R2	R3
P1	1	0	0
P2	5	1	1
P3	2	1	1
P4	0	0	2

Allocation = A

Exercise 3.
Deadlock detection

R1	R2	R3	R4	R5
2	1	1	2	1

Resource vector

Request matrix Q

	R1	R2	R3	R4	R5
P1	0	1	0	0	1
P2	0	0	1	0	1
P3	0	0	0	0	1
P4	1	0	1	0	1

Request matrix Q

Allocation matrix A

	R1	R2	R3	R4	R5
P1	1	0	1	1	0
P2	1	1	0	0	0
P3	0	0	0	1	0
P4	0	0	0	0	0

Allocation matrix A