

DEADLOCK TUTORIAL

- 1) Consider a system with three processes and four allocable resources. The total four resources types in the amount as $E=(4,2,3,1)$. The current allocation matrix and request matrix are as follows. Using Banker's algorithm find:
- What will be the context of need matrix?
 - Is the system in safe state? If yes, then what is the safe state sequence?

Current Allocation Matrix					Allocation Request Matrix (Max)				
Process	R0	R1	R2	R3	Process	R0	R1	R2	R3
P0	0	0	1	0	P0	2	0	1	1
P1	1	0	0	0	P1	2	0	0	1
P2	0	1	0	0	P2	2	1	2	0

- 2) Consider a system with five processes and three allocable resources. The total three resources types in the amount as $A=(3,3,2)$. The current allocation matrix and request matrix are as follows. Using Banker's algorithm find:
- What will be the context of need matrix?
 - Is the system in safe state? If yes, then what is the safe state sequence?

Current Allocation Matrix				Allocation Request Matrix			
Process	A	B	C	Process	A	B	C
P0	0	1	0	P0	7	5	3
P1	2	0	0	P1	3	2	2
P2	3	0	2	P2	9	0	2
P3	2	1	1	P3	2	2	2
P4	0	0	2	P4	4	3	2

- 3) Consider a system with four processes and four allocable resources. The total four resources types in the amount as Available=(4,2,4,3). The current allocation matrix and request matrix are as follows.

Using Banker's algorithm find:

- What will be the context of need matrix?
- Is the system in safe state? If yes, then what is the safe state sequence?

Current Allocation Matrix					Allocation Request Matrix				
Process	R0	R1	R2	R3	Process	R0	R1	R2	R3
A	8	2	2	0	A	12	4	10	10
B	2	0	2	5	B	7	3	6	8
C	1	1	0	2	C	5	2	2	4
D	2	0	1	0	D	10	2	6	10

- 4) Consider a system with three processes (P0-P2) and four allocable resources (A, B, C, D). The total four resources types in the amount as Available= (4, 2, 3, 1). The current allocation matrix and request matrix are as follows.

Using Banker's algorithm find:

- What will be the context of need matrix?
- Is the system in safe state? If yes, then what is the safe state sequence?

Current Allocation Matrix					Allocation Request Matrix				
Process	A	B	C	D	Process	A	B	C	D
P0	0	0	1	0	P0	0	1	2	1
P1	1	0	0	0	P1	2	0	0	1
P2	0	0	2	0	P2	1	1	2	0

