

Deadlock detection

Banker's algorithm

Suppose you have 3 types of resources A,B,C. The resource A has 10 instances, resource B has 4 instances and resource C has 6 instances. There are 4 processes P1, P2, P3, P4 that need maximum:

	A	B	C
P1	8	4	1
P2	2	3	5
P3	5	3	3
P4	2	4	3

There is following situation of current allocation:

	A	B	C
P1	5	0	1
P2	0	0	1
P3	3	0	1
P4	0	2	1

It is safe to allow allocation of 1 resource B for process P2?

It is safe to allow allocation of 1 resource A for process P2?

It is safe to allow allocation of 1 resource B for process P4?

RAG

Suppose there are four processes P1,P2, P3, P4 and five resources R1, R2, R3, R4, R5. The process P1 is using resources R1, R5, the process P3 is using resources R2, R3 and process P4 is using resource R4. Now the process P1 is asking for resource R4, process P2 is asking for resource R1 and process P4 is asking for resource R2. Is there deadlock situation?

Can process P3 ask for resource R1?