In this problem, you will apply the Bankers algorithm. You are given the following maximum claim matrix and the current resource allocation matrix.

Maximum Claim			
	A	B	C
P0	7	4	4
P1	4	2	2
P2	10	0	2
P3	1	2	2
P4	3	3	3

Current Resource Allocation			
	A	B	C
P0	0	1	0
P1	3	0	2
P2	3	0	2
P3	1	1	1
P4	0	0	2

Remaining Needs			
	A	B	C
P0	7	3	4
P1	1~~4~~	2	0
P2	7	0	0
P3	0	1	1
P4	3	3	1

Total System Resources		
A	B	C
10	4	7

a. Determine the remaining needs of each process for each resource and then show if the system is in a safe state. Assume that each process will request its maximum resource needs.

Available
A B C

3 2 0 kill P1
6 2 2 kill P3
7 3 3 kill P2
10 3 5 kill P0
10 4 5 kill P4

all processes can end.
we are in a safe state.

b. Starting with the given initial state, if Process P2 makes a request for 2 resources of type A, should the resource request be granted if we want to prevent deadlocks? Show your work.

Revised needs

P0 7 3 4
P1 1 2 0
P2 5 0 0
P3 0 1 1
P4 3 3 1

Available

1 2 0 kill P1
4 2 2 kill P3
5 2 2 kill P2

... from here it proceeds as above

∴ the request can be safely granted