

Process	Allocation				Max				Needs				Done
	A	B	C	D	A	B	C	D	A	B	C	D	
p0	3	0	1	4	5	1	1	7	2	1	0	3	
p1	2	2	1	0	3	2	1	1	1	0	0	1	x
p2	3	1	2	1	3	3	2	1	0	2	0	0	x
p3	0	5	1	0	4	6	1	2	4	1	0	2	
p4	4	2	1	2	6	3	2	5	2	1	1	3	

Scenario 1

Available 1 0 0 2

Steps Working

p1 3 2 1 2 Add p1's allocation to Available

p2 6 3 3 3

run the rest

SAFE STATE

Scenario 2

Available 0 3 0 0

Steps Working

p2 3 4 2 1

p1 5 6 3 1

UNSAFE

Safe State from Scenario 1

Available 1 0 0 2

p0 requests 1 0 0 1

Update allocation and available

Process	Allocation				Max				Needs			
	A	B	C	D	A	B	C	D	A	B	C	D
p0	4	0	1	5	5	1	1	7	1	1	0	2
p1	2	2	1	0	3	2	1	1	1	0	0	1
p2	3	1	2	1	3	3	2	1	0	2	0	0
p3	0	5	1	0	4	6	1	2	4	1	0	2
p4	4	2	1	2	6	3	2	5	2	1	1	3

Available 0 0 0 1

No processes can run to completion.
Could deadlock, UNSAFE