SIENAcollege
Computer Science

Computer Science 330
Operating Systems
Siena College
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Topic Notes: Banker's Algorithm Examples

Consider this resource allocation state for three different non-preemptible resource types R1, R2, and R3. Assume maximum claims and current resource assignments for four processes P1, P2, P3, and P4, are given in the following table, along with the total number of each resource available (not including allocated resources).

	Max Claims				Current Use				
Resource	**P1**	**P2**	**P3**	**P4**	**P1**	**P2**	**P3**	**P4**	**Avail**
R1	3	6	3	4	1	5	2	0	1
R2	2	1	1	2	0	1	1	0	1
R3	2	3	4	2	0	1	1	2	2

Is this state safe?

If P2 requests 1 unit of R1 and 1 unit of R3, should the request be allowed?

	Max Claims				Current Use				
Resource	**P1**	**P2**	**P3**	**P4**	**P1**	**P2**	**P3**	**P4**	**Avail**
R1	3	6	3	4	1	5	2	0	1
R2	2	1	1	2	0	1	1	0	1
R3	2	3	4	2	0	1	1	2	2

Going back to our original starting state, if P1 requests 1 unit of R1 and 1 unit of R3, should the request be allowed?

	Max Claims				Current Use				
Resource	**P1**	**P2**	**P3**	**P4**	**P1**	**P2**	**P3**	**P4**	**Avail**
R1	3	6	3	4	1	5	2	0	1
R2	2	1	1	2	0	1	1	0	1
R3	2	3	4	2	0	1	1	2	2