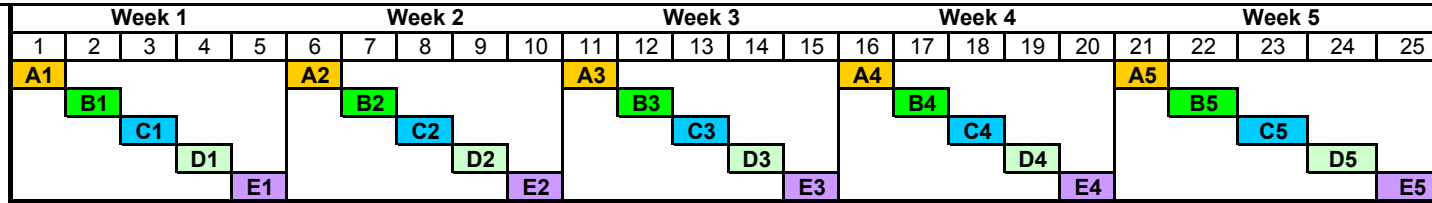


Example #1

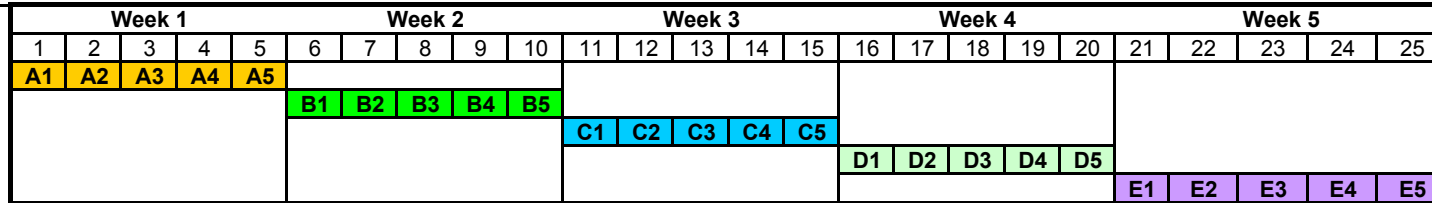
All 5 projects same priority



		Project completion date					Comments
Example	A	B	C	D	E		
1	21	22	23	24	25	Long lead time for projects. Projected completion dates very unrealistic due to the lost efficiencies of managing 5 projects at once. Also delays in any projects will cause a domino effect delaying all subsequent projects.	

Example #2

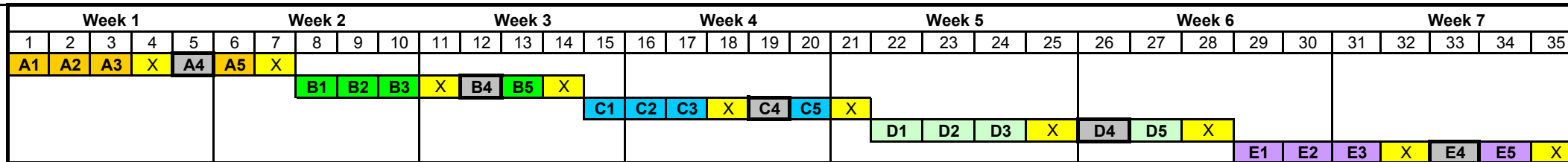
Projects scheduled as though project A is highest priority and project E is lowest



		Project completion date					Δ Example 1					Comments
Example	A	B	C	D	E	A	B	C	D	E		
1	21	22	23	24	25	0	0	0	0	0	Long lead time for projects. Projected completion dates very unrealistic due to the lost efficiencies of managing 5 projects at once. Also delays in any projects will cause a domino effect delaying all subsequent projects.	
2	5	10	15	20	25	-16	-12	-8	-4	0	Project lead times short. Project completion dates significantly shorter for first 4 projects, however projected dates are unrealistic since any minor problem will cause a domino effect delaying all subsequent projects.	

Example #3

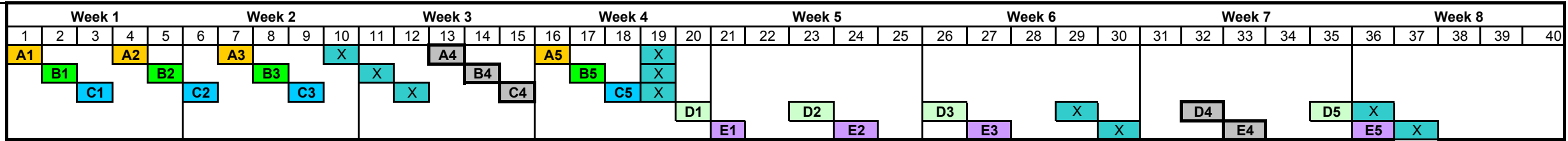
Projects scheduled as in example 2, with "safety buffers" to insulate the minor problems of one project from causing a "domino effect" with remaining projects



		Project completion date					Δ Example 1					Comments
Example	A	B	C	D	E	A	B	C	D	E		
1	21	22	23	24	25	0	0	0	0	0	Long lead time for projects. Projected completion dates very unrealistic due to the lost efficiencies of managing 5 projects at once. Also delays in any projects will cause a domino effect delaying all subsequent projects.	
2	5	10	15	20	25	-16	-12	-8	-4	0	Project lead times short. Project completion dates significantly shorter for first 4 projects, however projected dates are unrealistic since any minor problem will cause a domino effect delaying all subsequent projects.	
3	6	13	20	27	34	-15	-9	-3	3	9	Addition of "buffers" insulates key activities from being delayed due to minor problems, and avoids domino effect between projects caused by minor project delays. Projected completion dates are realistic, and are still significantly earlier than first example for the top 3 priority projects. In addition, because only 1 project is being managed at a time, there is greater focus and less stress - which generally results in greater efficiency.	

**Example #4**

Projects scheduled as in example 3, however assuming that there is a FS2d dependency between all sequential activities. This simulates the complexity resulting from the scheduling of multiple projects



Example	Project completion date					Δ Example 1					Comments
	A	B	C	D	E	A	B	C	D	E	
1	21	22	23	24	25	0	0	0	0	0	Long lead time for projects. Projected completion dates very unrealistic due to the lost efficiencies of managing 5 projects at once. Also delays in any projects will cause a domino effect delaying all subsequent projects.
2	5	10	15	20	25	-16	-12	-8	-4	0	Project lead times short. Project completion dates significantly shorter for first 4 projects, however projected dates are unrealistic since any minor problem will cause a domino effect delaying all subsequent projects.
3	6	13	20	27	34	-15	-9	-3	3	9	Addition of "buffers" insulates key activities from being delayed due to minor problems, and avoids domino effect between projects caused by minor project delays. Projected completion dates are realistic, and are still significantly earlier than first example for the top 3 priority projects. In addition, because only 1 project is being managed at a time, there is greater focus and less stress - which generally results in greater efficiency.
4	16	17	18	35	36	-5	-5	-5	11	11	Three projects are overlaid to utilize remaining capacity resulting from the lag time (FS2d) between tasks. Despite juggling three projects, projects are insulated from one another by using strategically placed buffers which protect the most critical activities (#4) within each project. Project completion dates of top 3 priority projects is still much earlier than example 1. Note that if the #4 activity of each project takes longer than the 1 day scheduled, a domino effect will still occur causing the subsequent #4 activities to be rescheduled. Unless the #4 task is a "fixed duration" task (which would never take longer than the scheduled time), an additional buffer would be required after each #4 activity as well. (see example below).

## Alternative for example 4 in which #4 activities are also buffered between projects.

**Example #4 Alternate answer**

Projects scheduled as in example 3, however assuming that there is a FS2d dependency between all sequential activities. This simulates the complexity resulting from the scheduling of multiple projects

		Week 1			Week 2			Week 3			Week 4			Week 5			Week 6			Week 7			Week 8																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
A1											X												X																		
B1												X											X																		
C1													X										X																		
A2																																									
B2																																									
C2																																									
A3																																									
B3																																									
C3																																									
A4																																									
B4																																									
C4																																									
A5																																									
B5																																									
C5																																									
D1																																									
E1																																									
D2																																									
E2																																									
D3																																									
E3																																									
D4																																									
E4																																									
D5																																									
E5																																									

Example	Project completion date					Δ Example 1					Comments
	A	B	C	D	E	A	B	C	D	E	
1	21	22	23	24	25	0	0	0	0	0	Long lead time for projects. Projected completion dates very unrealistic due to the lost efficiencies of managing 5 projects at once. Also delays in any projects will cause a domino effect delaying all subsequent projects.
2	5	10	15	20	25	-16	-12	-8	-4	0	Project lead times short. Project completion dates significantly shorter for first 4 projects, however projected dates are unrealistic since any minor problem will cause a domino effect delaying all subsequent projects.
3	6	13	20	27	34	-15	-9	-3	3	9	Addition of "buffers" insulates key activities from being delayed due to minor problems, and avoids domino effect between projects caused by minor project delays. Projected completion dates are realistic, and are still significantly earlier than first example for the top 3 priority projects. In addition, because only 1 project is being managed at a time, there is greater focus and less stress - which generally results in greater efficiency.
4	16	17	18	35	36	-5	-5	-5	11	11	Three projects are overlaid to utilize remaining capacity resulting from the lag time (FS2d) between tasks. Despite juggling three projects, projects are insulated from one another by using strategically placed buffers which protect the most critical activities (#4) within each project. Project completion dates of top 3 priority projects is still much earlier than example 1. Note that if the #4 activity of each project takes longer than the 1 day scheduled, a domino effect will still occur causing the subsequent #4 activities to be rescheduled. Unless the #4 task is a "fixed duration" task (which would never take longer than the scheduled time), an additional buffer would be required after each #4 activity as well. (see example below).
Alternate approach	19	20	21	39	40	-2	-2	-2	15	15	In this example, buffers are placed between the #4 activities to ensure that there would be time to complete the #4 task if it were to take longer than expected, without impacting the next project. Rather than having a full day buffer at the end of each project, the final project buffer is shared between all three projects. The wisdom of this approach would be based on the assessment of risk exposure based on the probability and consequence of having two or three of the projects experience problems with the last task. Despite the additional buffer between the #4 tasks, project completion dates for the top 3 priority projects are still earlier than the first example, and completion dates of the last two projects, while significantly later than the first example, are realistic and do not require evenings and weekends to absorb problems.

**Example 5:**

In this example, stickers are treated as project phases in which phase 4 of each project contains drum resource. Other phases may also have resources in common as well. If many resource conflicts are anticipated, the size of feeding buffers will have to be increased to accommodate the inevitable delays as resources manage their time. Projects are synchronized to drum resource based on their priority. Buffers are added to protect drum resource and project completion. Projects are scheduled ALAP around drum resource so that focus is maintained on top priority projects.

