

**Answers to Problems**

1.	<u>Product</u>	<u>Current Inventory</u>	<u>Demand Rate (month)</u>	<u>Run-out Time(months)</u>	
	Kraft paper	80,000	30,000	80,000/30,000	2.67
	duplicator bond	40,000	20,000	40,000/20,000	2
	regular bond	150,000	60,000	150,000/60,000	2.5
	carbon tissue	40,000	10,000	40,000/10,000	4

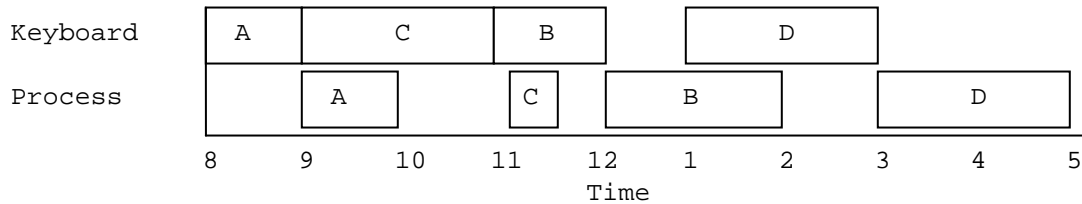
Duplicator paper will run out first and therefore should be produced next.

3. Report D (2 hours) - B (3 hours) - A (4 hours) - C (6 hours)

5. a.

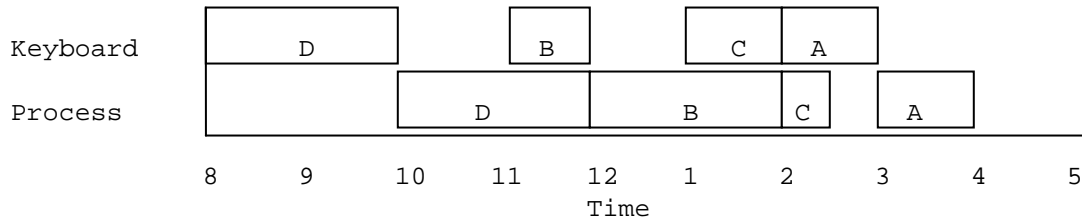
Shortest Processing Time

A (2 hours) - C (2.5 hours) - B (3 hours) - D (4 hours)



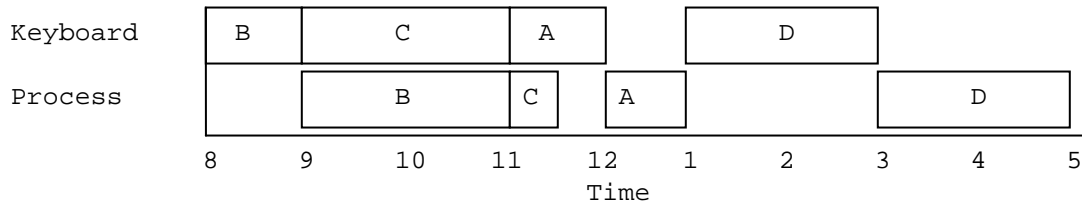
Longest Processing Time

D (4 hours) - B (3 hours) - C (2.5 hours) - A (2 hours)



Earliest Due Date

B (12:00 noon) - C (2:00 p.m.) - A (3:00 p.m.) - D (5:00 p.m.)



b.

<u>Rule</u>	<u>Job</u>	<u>Time Due</u>	<u>Time of Completion</u>	<u>Hours Late</u>
Shortest Processing Time	A	3:00 p.m.	10:00 a.m.	0
	B	12:00 noon	2:00 p.m.	2
	C	2:00 p.m.	11:30 a.m.	0
	D	5:00 p.m.	5:00 p.m.	0

average lateness = 0.5 hr.

Longest Processing Time	A	3:00 p.m.	4:00 p.m.	1
	B	12:00 noon	2:00 p.m.	2
	C	2:00 p.m.	2:30 p.m.	0.5
	D	5:00 p.m.	12:00 noon	0
				average lateness = 0.875 hr.

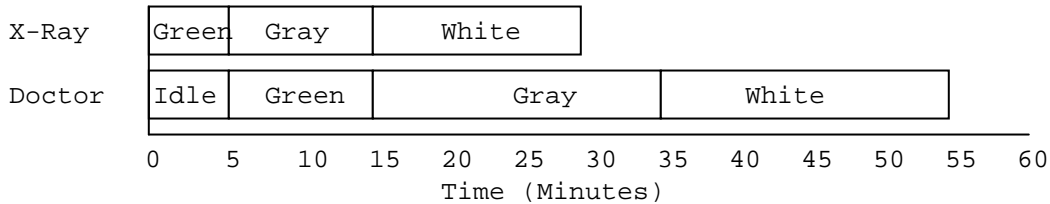
Earliest Due Date	A	3:00 p.m.	1:00 p.m.	0
	B	12:00 noon	11:00 a.m.	0
	C	2:00 p.m.	11:30 a.m.	0
	D	5:00 p.m.	5:00 p.m.	0
				average lateness = 0

The earliest due date rule provides best customer service by meeting all delivery times. The next best is shortest processing time with the longest processing time rule producing the poorest customer service results.

7. This problem can be solved using Johnson's rule. Based on that, the sequence of patients would be:

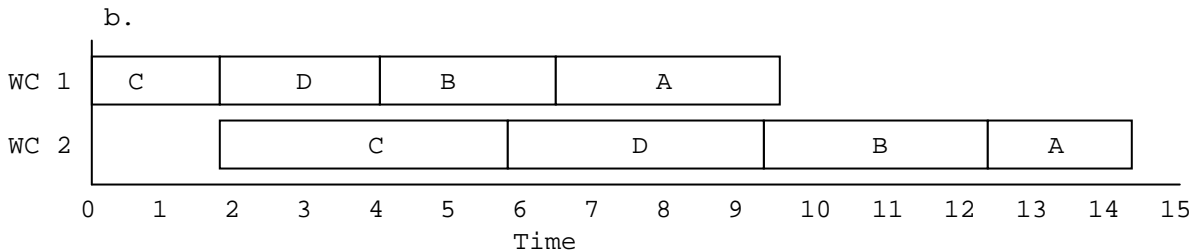
Mrs. Green - Miss Gray - Mr. White

The Gantt chart is shown below.

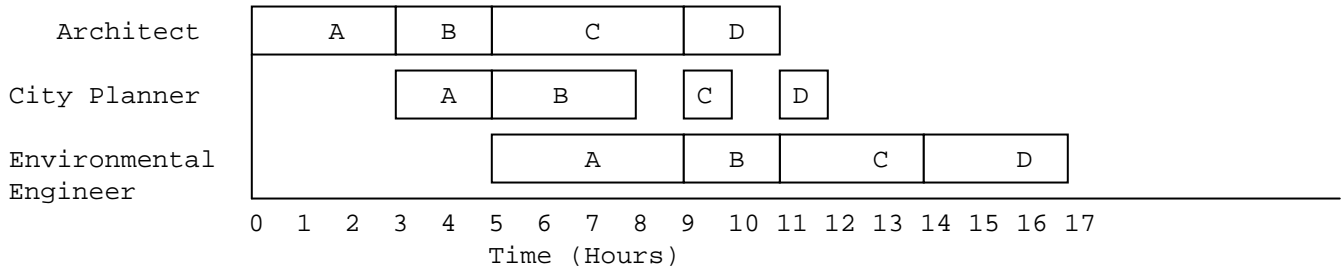


9. a. Using Johnson's Rule, the job with shortest processing time at either work center is job C at Work Center 1. Thus, job C is scheduled first in the sequence. The next shortest time is for job A. Because its shortest time is at Work Center 2, it is scheduled last in the sequence. The next shortest time is for job D at Work Center 1. Therefore, it is scheduled at the beginning of the sequence after job C. Finally, job B is scheduled into the remaining slot producing the sequence:

C - D - B - A



11. Reviewer



13.

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