Critical path analysis 8I

- 1 a $\frac{64}{22}$ = 2.9... so, lower bound = 3
 - **b** The float time for activity *B* is 3 hours which is more than the 2 hour delay and will not result in a delay for the whole project.
 - \mathbf{c} Activities J and H

d

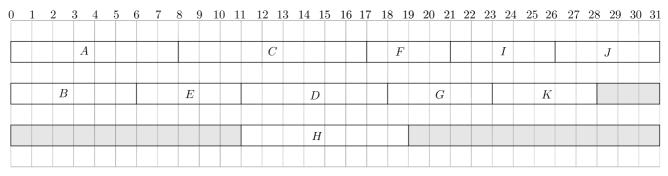
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	7 8 9 10 11	12 13 14 15	16 17 18 19 20 3	21 22
A	D	F	J	
B		E	I	
		G		

4 workers are needed to complete the project in 22 hours.

2 a

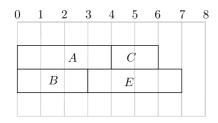
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2 b

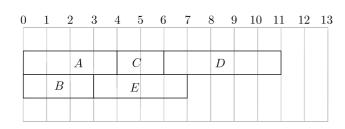


3 workers are needed to complete the project in the critical time.

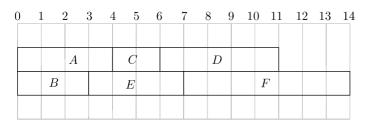
3



When worker 2 completes activity B, only activity E may be started.



When worker 1 completes activity C, the next activity to start is either D or F. Activity D is chosen because it has the lowest value for its latest finish time.



The lowest late time is now 14 so Activity F is allocated to Worker 2.

At this point, activities G and I are available to Worker 1. They all have the same late time, so care is needed to make the right choice and this may require some trial and improvement. Worker 1 has been used for 3 hours less than Worker 2 so, in this case, it may be worth allocating the activity with the greatest duration to Worker 1. Now allocate activity G to Worker 2.

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Finally allocate activities H and J.

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Looking at this diagram, it seems that this is an example where following the general advice does not lead to an optimal solution. By assigning Activities D and H to worker 2 and Activity F to worker 1, activity J can be started one hour earlier as below.

() 1	1 2	2 :	3 4	4	5	6 '	7 8	3 9	9 1	0 1	11	21	3 1	4 1	5 1	6 1	7 1	8 1	92	0 2	1 2	2 23	24	1 25
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