1. The diagram below represents a project with a deadline of day 40.

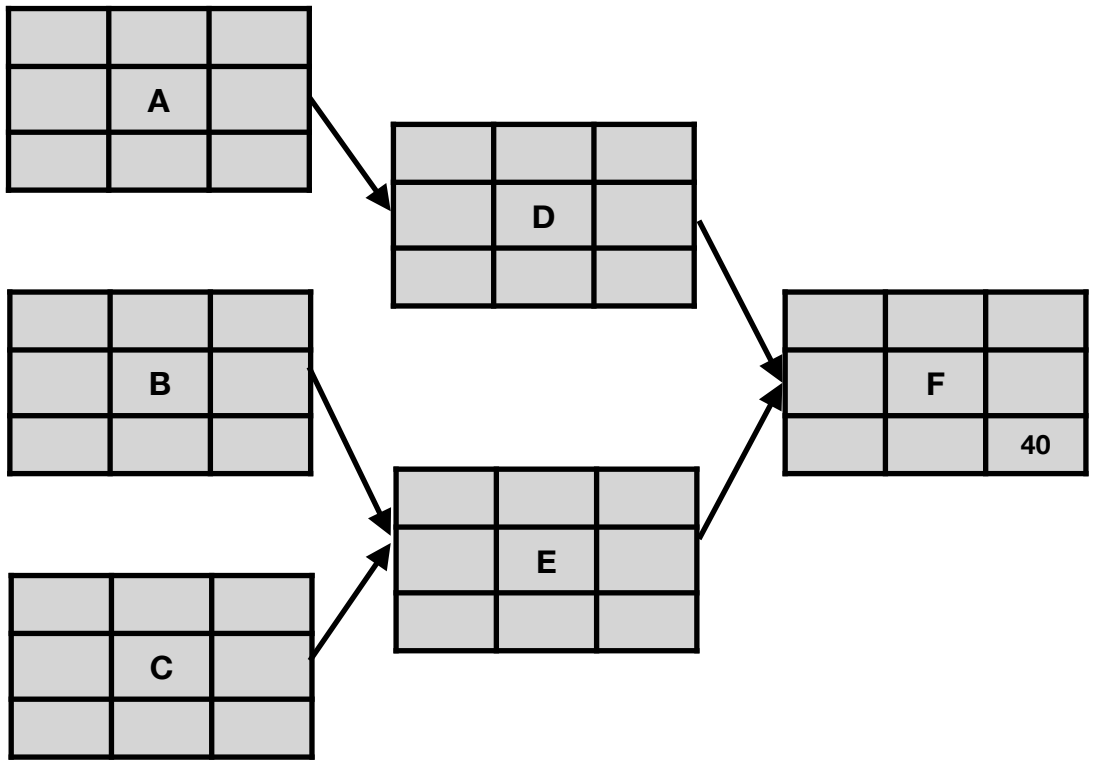


Table 2

A	8
B	5
C	4
D	4
E	9
F	3

EF	TF	ES
	Name	
LS	Duration	LF

Q1. What is the critical path?

Q2. What is the project float?

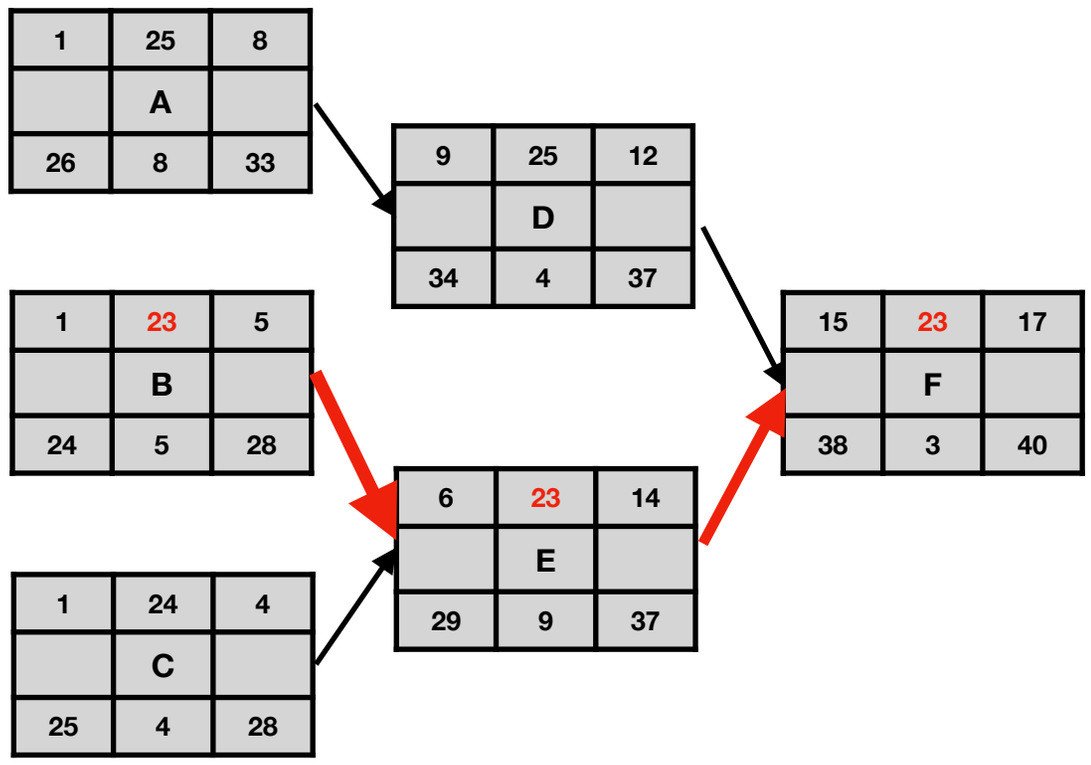
Q3. What is the Total float for task B?

Q4. What would the Total Float of task C be if there was no deadline?

Q5. What is the successor and predecessor activities for activity E?

Q6. If the deadline changed and you need to reduce the project duration what activity would yo crash?

1. **The diagram below represents a project with a deadline of day 40.**



Q1. What is the critical path?
B-E-F. The total duration of B+E+F is 17 and that is longer than another path

Q2. What is the project float?
23. The Project Float = the Deadline - the PED (40-17=23)

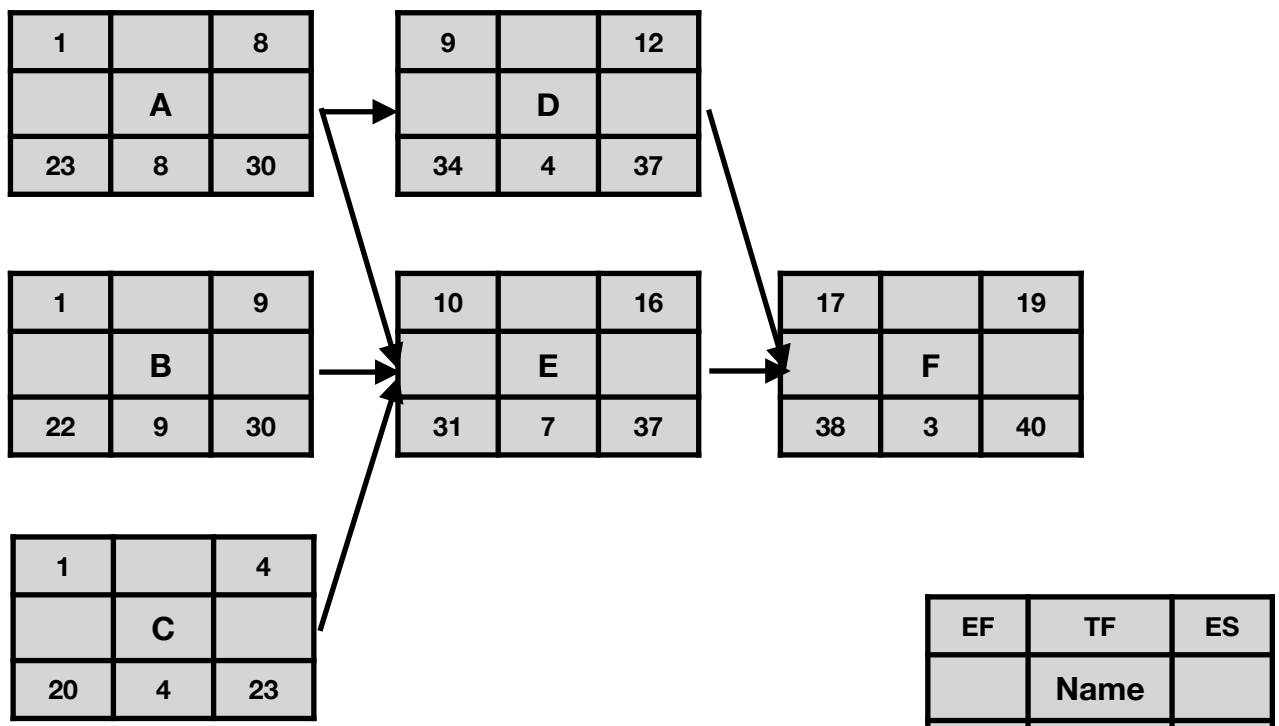
Q3. What is the Total float for task B?
23. The Total Float of an activity on the Critical Path will always be = to the Project Float.

Q4. What would the Total Float of task C be if there was no deadline?
1. **Replace the Deadline with the PED so the LF and EF of Task F would =17 this would then change all the late times but the difference between path C-E-F and path B-E-F is still only 1 so the Total Float of C will be 1.**

Q5. What is the successor and predecessor activities for activity E?
Successor = B and C Predecessor= F

Q6. If the deadline changed and you need to reduce the project duration what activity would yo crash?
Any task on the Critical Path, in this case most likely task E because it has the longest duration of the critical path activities. It is also a shared task with C-E-F the second most critical path therefore reducing both paths. Honestly you would need to look at the critical path actives and compare the risks to one another to determine the best to crash.

The diagram below represents a project with no deadline but is missing Task Q. Task Q a successor of task C and must be completed before task F can be started. Now task F must wait for tasks D, E and Q in order to start. Task Q has a duration of 14.

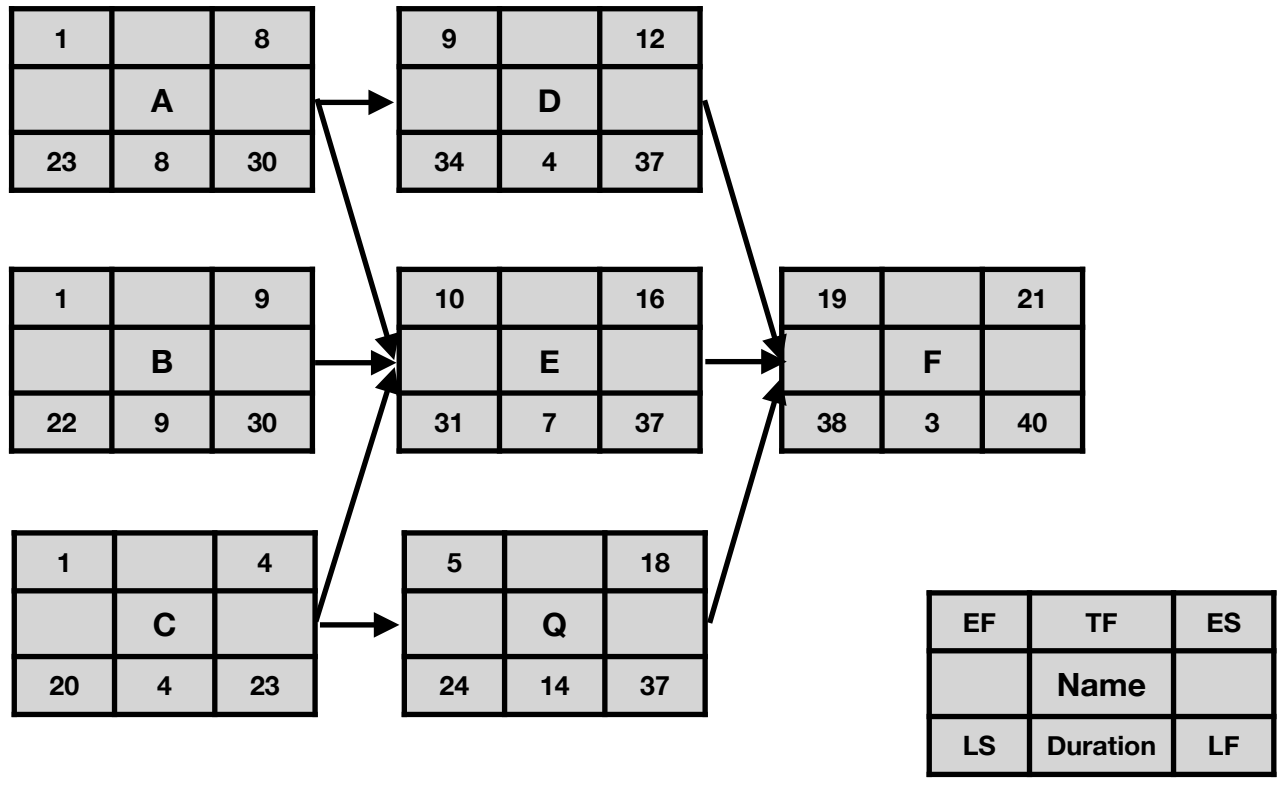


Q1. What is the critical path after adding activity Q?

Q2. What is the project float?

Q3. What is the Free Float between activities E and F?

3. <u>The diagram below represents a project with no deadline but is missing Task Q. Task Q a successor of task C and must be completed before task F can be started. Task Q has a duration of 14.</u>



Q1. What is the critical path after adding activity Q?
C-Q-F. Adding task Q to the diagram has changed the critical path because the duration of C and D is greater than B+E, A+E or A+D.

Q2. What is the project float?
19. To solve take the project deadline and subtract the PED (Project Estimated end Date aka the last EF on the diagram) 40-21=19

Q3. What is the Free Float between activities E and F?
2. To solve take the EF of task E and add 1 to it (16+1=17) then subtract it from ES of task F (19-17=2)

2. Draw the diagram for a project that has 9 activities, and no deadline. Activities D and C have one predecessor activity A. Activity H has three predecessors D, C and E. Activity G also has three predecessors I, H and F. Activity I has only one predecessor activity D. Activity F also has one predecessor E. Activity B must occur before activity E can start. No deadline has been given for this project. The table shows the estimated durations for each activity.

Table 2

Task	Duration
A	8
B	5
C	9
D	4
E	13
F	6
G	4
H	7
I	3

EF	TF	ES
	Name	
LS	Duration	LF

Q1. What is the critical path?

Q2. What is the project float?

Q3. What is the Total float for task F?

2. Draw the diagram for a project that has 9 activities, and no deadline. Activities D and C have one predecessor activity A. Activity H has three predecessors D, C and E. Activity G also has three predecessors I, H and F. Activity I has only one predecessor activity D. Activity F also has one predecessor E. Activity B must occur before activity E can start. No deadline has been given for this project. The table shows the estimated durations for each activity.

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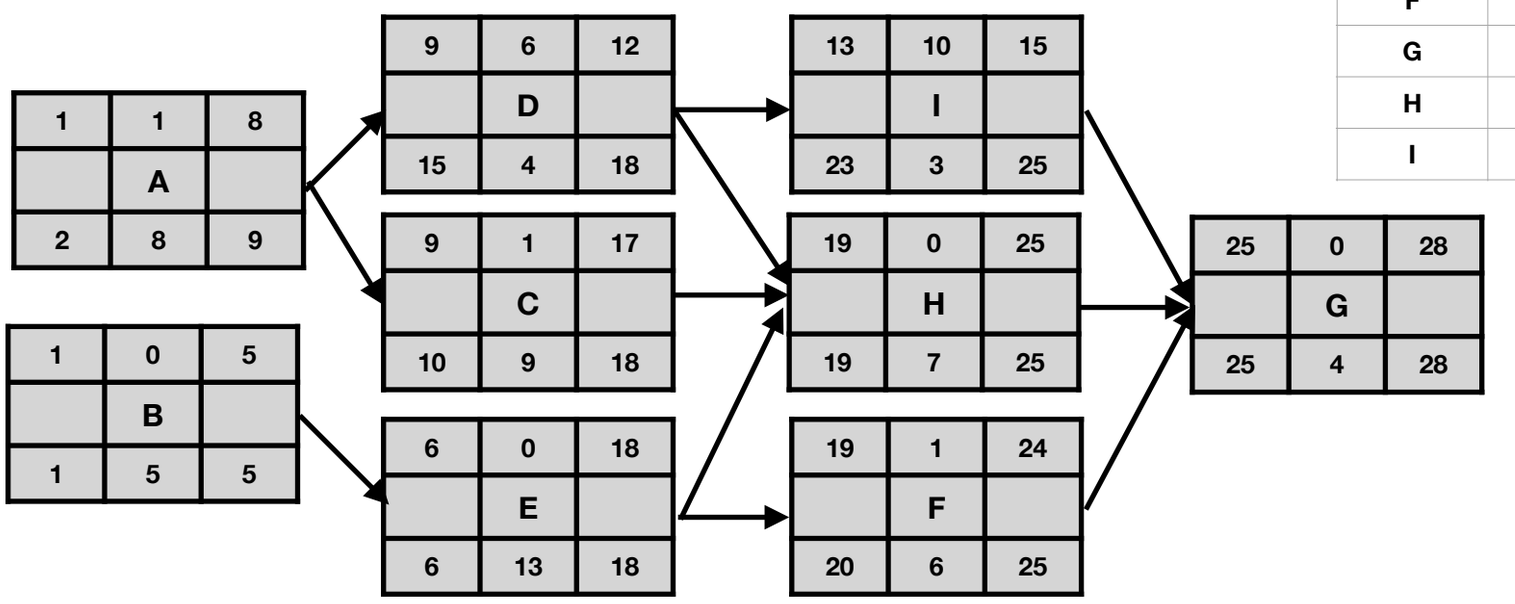

EF	TF	ES
	Name	
LS	Duration	LF

Q1. What is the critical path?
B-E-H-G

Q2. What is the project float?
0. The project float is = to the Deadline - PED (28-28=0) when no deadline is given the Project Float is always 0. The diagram isn't need to solve this one

Q3. What is the Total float for task F?
1. Total Float = LS-ES (20-19=1)