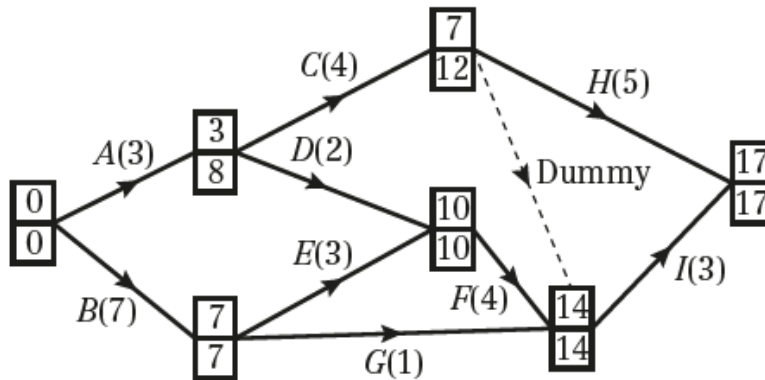## Critical path analysis 8D

1 $x = 3, y = 17, z = 17$

2 a   The critical activities are B, E, H, J and N.

   b I as even though it connects two critical events the duration of I can be increased by up to 14 hours without affecting the total time.

3 a

   b $7 + 1 \neq 14$
        G is not a critical activity as an increase in its duration does not result in a corresponding increase in the duration of the whole project.

   c   The critical activities are B, E, F, and I. Adding the durations of the critical activities gives the total duration for the project, as shown by the early and late event times at the sink node. The critical path is $B - E - F - I$.

4 a

Activity	Depends on
A	–
B	–
C	–
D	A
E	B
F	C
G	D
H	D
I	E, F
J	E, F
K	G
L	H, I
M	J

b The early event times are calculated starting from 0 at the source node and working towards the sink node.
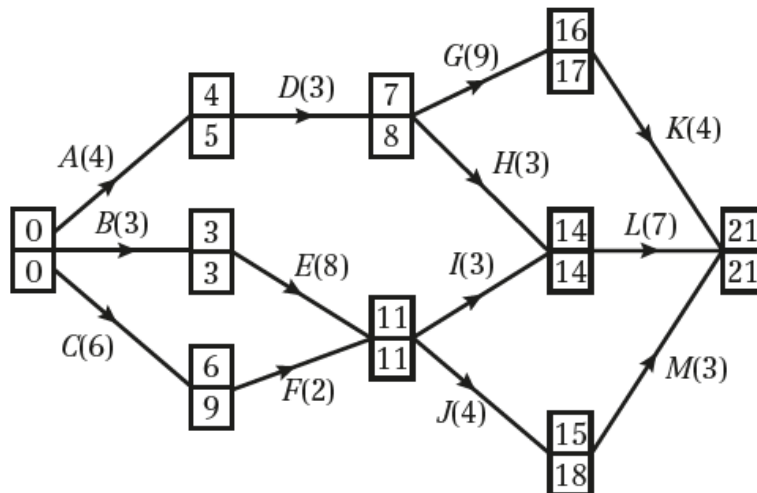
The late event times are calculated starting from the sink node and working backwards towards the source node.

c Critical activities are B, E, I, L.
Critical path is $B - E - I - L$ and of length 21 days.