Exercise 6F

1

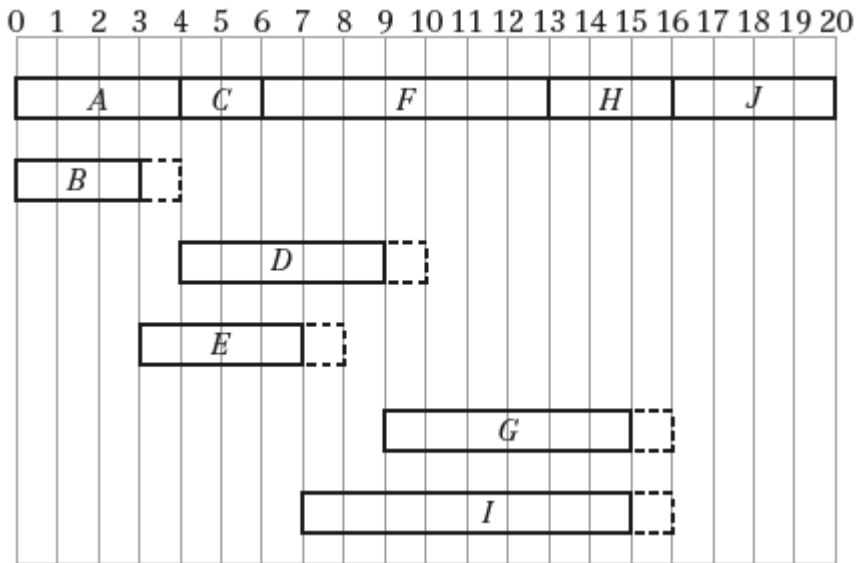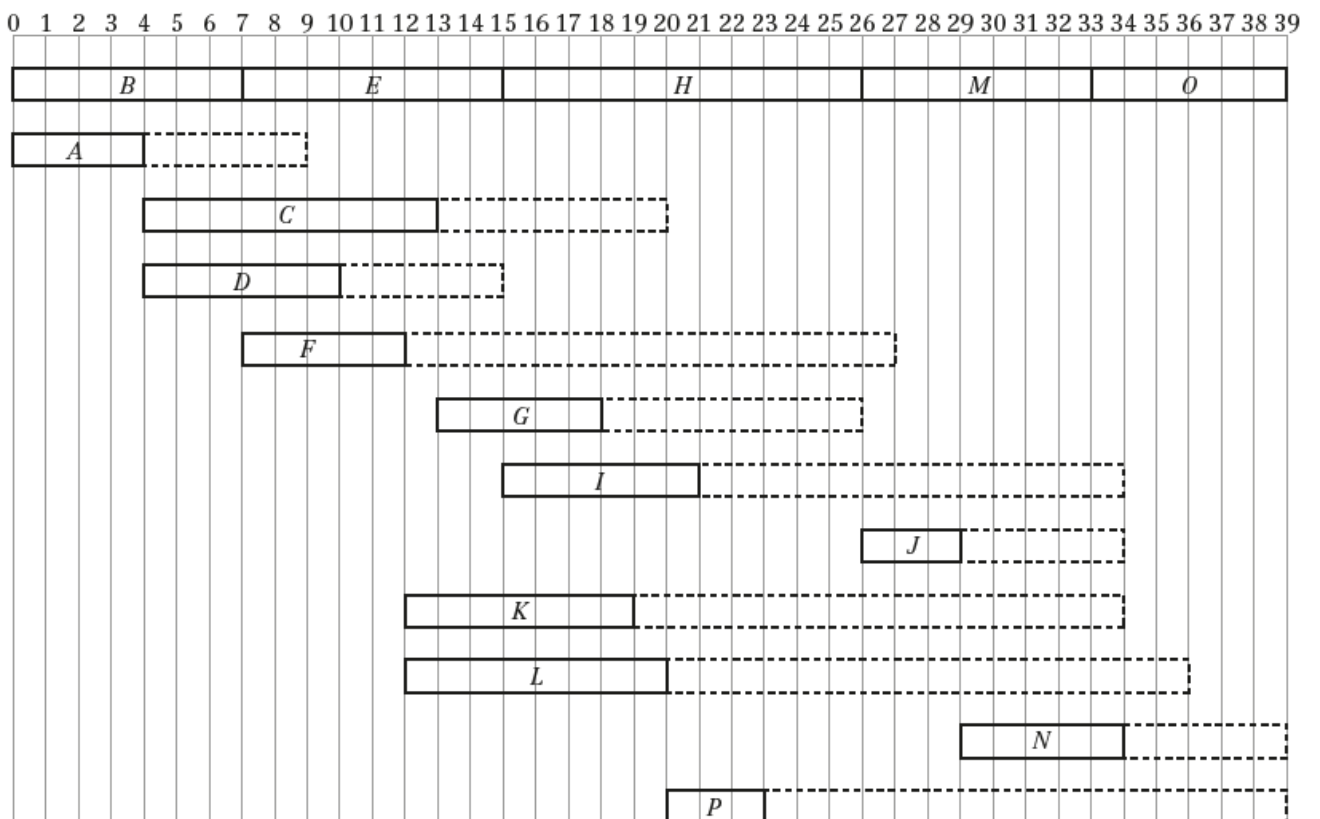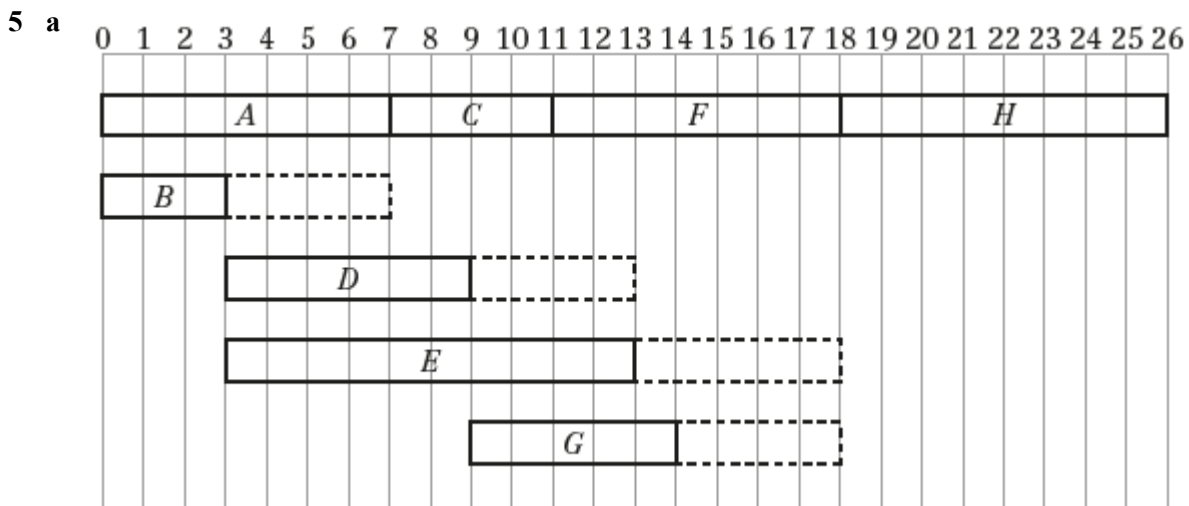**2 a** $w = 26$ $x = 29$ $y = 34$ $z = 26$

b   Critical activities: B, E, H, M, O

c   Total float for $G = 26 - 5 - 13 = 8$
Total float for $N = 39 - 5 - 29 = 5$

d

3 a A, E

 b G, H

 c F, H

4 a C, D

 b E, G

5 a

 b B, D and E may be happening at midday on day 5.

 c Only A must be happening at midday on day 7.

6 a The largest value y is an early event time and calculated starting from 0 at the source node and working towards the sink node.

$$y = 12 + 11 + 2$$
$$\quad = 25$$

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

$$x = 42 - 15 - 5 - 7$$
$$\quad = 15$$
$$z = 42 - 15$$
$$\quad = 27$$

 b The critical path is $BFHKM$

 c

Maximum total float for $A = 15 - 8 - 0 = 7$

Maximum total float for $C = 22 - 7 - 8 = 7$
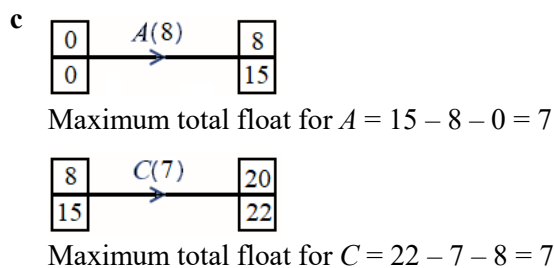
6 d
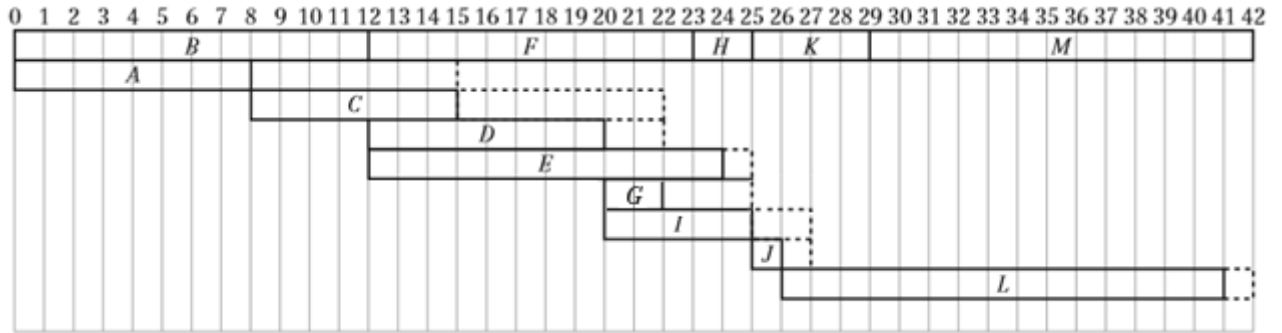
e Activity *I* has duration 5 hours, an earliest start time of 20 days and a latest finish time of 27 days. Activity *I* can start on day 22 for the project to be completed on time.