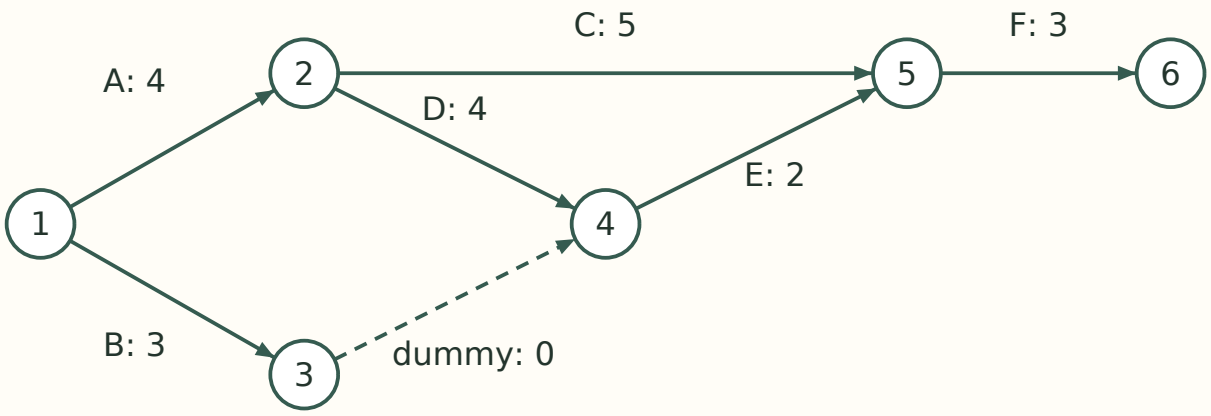
Dummy activities

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. For the displayed network, state the duration and purpose of the dashed arrow. [2 marks]



Activity-on-arrow network; durations are in days.

The arrow 3→4 is a logical connection.

It records B's completion without adding a real task.

Answer: Duration 0 days; it makes E wait for B as well as D.

2. A dummy joins an event reached at time 9 to an event otherwise ready at time 6. What is the earliest time of the receiving event? [2 marks]

The zero-duration dummy arrives at $9+0=9$.

Take $\max(6,9)=9$.

Answer: 9.

3. P and Q start together. R follows P only, S follows Q only, and T follows both P and Q. Explain why one joint event for the ends of P and Q can be unsuitable. [3 marks]

R and S have different predecessor sets.

Use separate finish events and logical dummy links to create T's joint requirement.

Answer: It would force R to wait for Q and S to wait for P.

4. A student gives a dummy a duration of 2 hours to represent administrative waiting. Is that still a dummy? [2 marks]

A dummy has exactly zero duration.

A genuine two-hour wait must be modelled as a real timed activity or lag.

Answer: No.

5. Can a dummy have a direct financial cost in this scheduling model? Explain. [2 marks]

It represents a dependency only, not real work.

Costs caused by the resulting schedule must be modelled separately.

Answer: No direct task cost is assigned to a dummy.

6. A finishes at 5, B at 8, and C at 6. Task D requires all three and takes 4 days. Dummies are used to join the requirements. Find D's earliest finish. [2 marks]

Its starting event is $\max(5, 8, 6) = 8$.

Finish time is $8 + 4 = 12$.

Answer: 12 days.