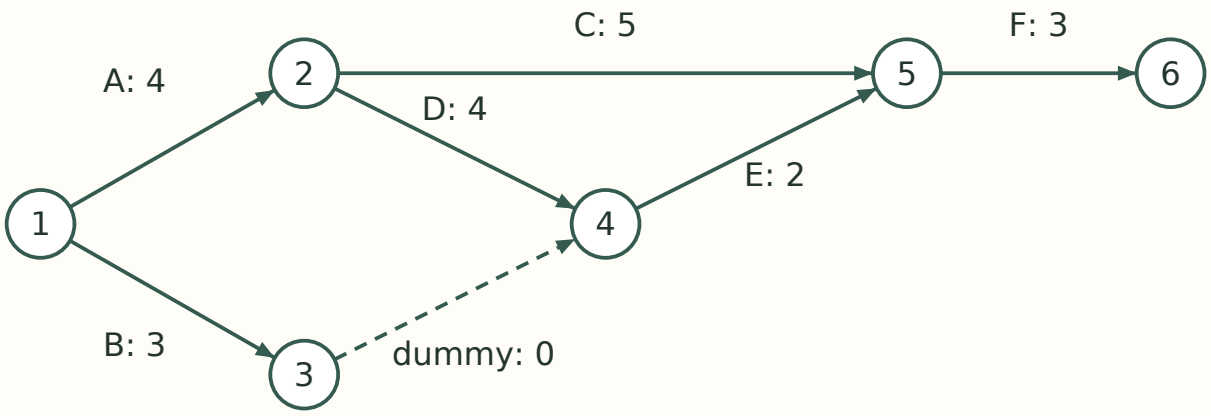
Directed project networks

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. In the displayed network, give the start and finish event numbers for D. [1 mark]

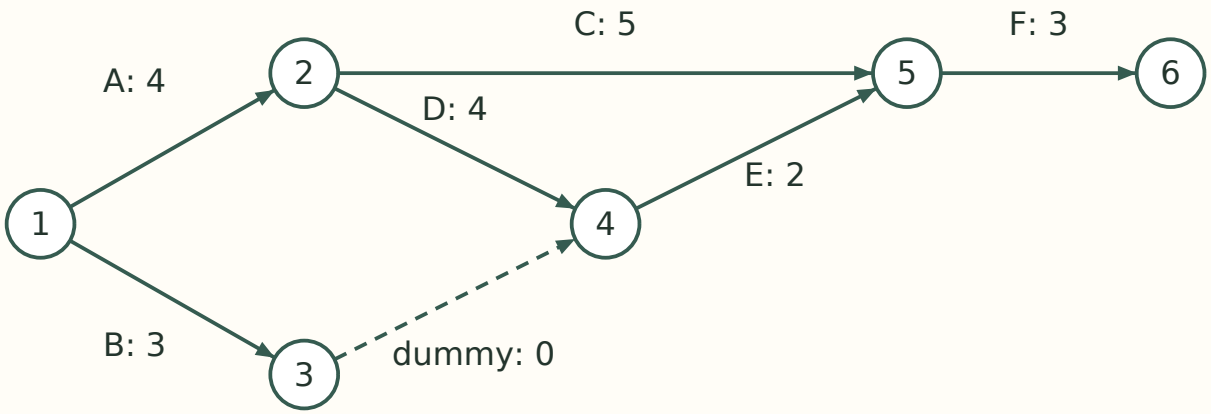


Activity-on-arrow network; durations are in days.

Read the tail and head of the arrow labelled D: 4.

Answer: D runs from event 2 to event 4.

2. In the displayed network, which labelled real activities may start directly at event 1? [2 marks]



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

Their arrows leave the project start.

A dummy is not needed for either starting task.

Answer: A and B.

3. A network has A: 1→2, B: 1→3 and C: 2→4. Does C require B to finish? Explain. [2 marks]

There is no dependency path from event 3 to event 2.

C requires the incoming work at event 2, which is A.

Answer: No.

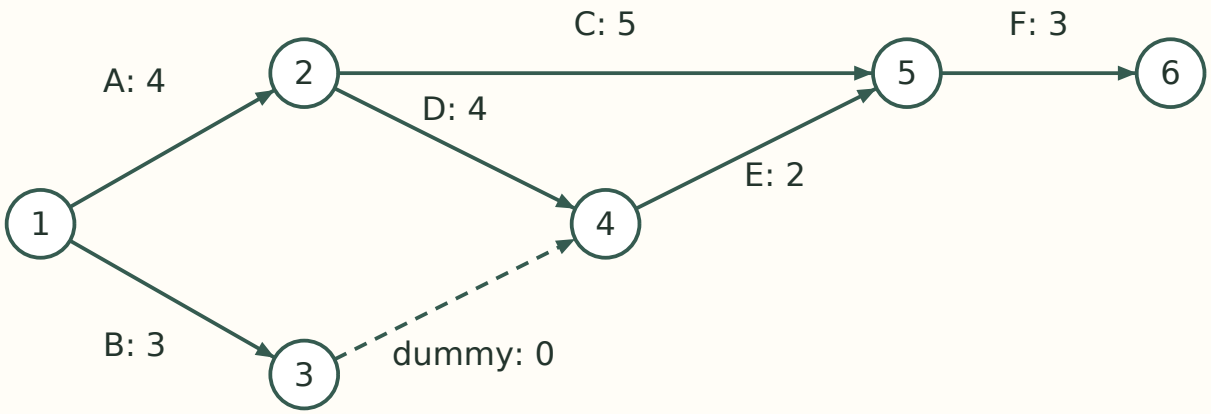
4. A project diagram uses arrow lengths 3 cm and 8 cm for tasks of 9 days and 2 days. Is the drawing necessarily wrong? [2 marks]

Activity durations are read from their numerical labels.

Project networks are dependency diagrams, not scaled time lines.

Answer: No; arrow length does not encode duration unless a scale is explicitly stated.

5. List the real activity sequences along the displayed start-to-finish paths, ignoring the dummy as a real task. [3 marks]



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

Trace each directed route from event 1 to event 6.

The B route reaches event 4 through the zero-duration dummy.

Answer: A-C-F; A-D-E-F; B-E-F through the dummy connection.

6. Describe one check that detects an accidental extra dependency in a project network. [2 marks]

A valid drawing must include every stated requirement.

It must not force an activity to wait for an unrelated branch.

Answer: Compare the incoming requirements at each activity's start with its immediate predecessors in the table.