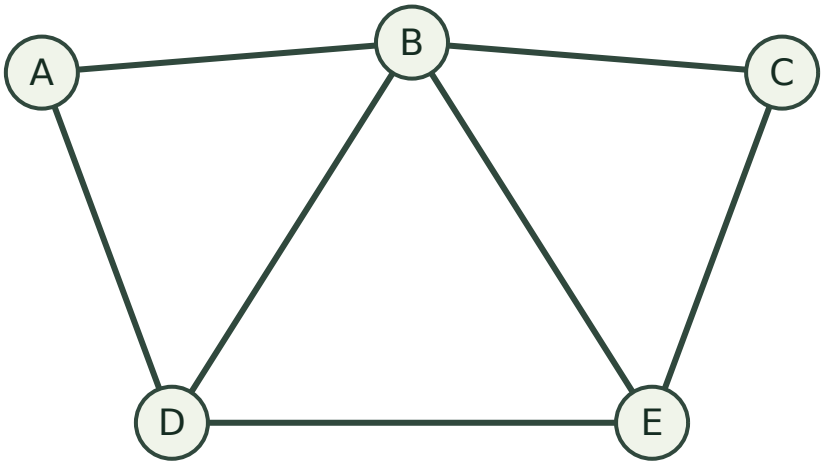
Interpreting connectedness and routes

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

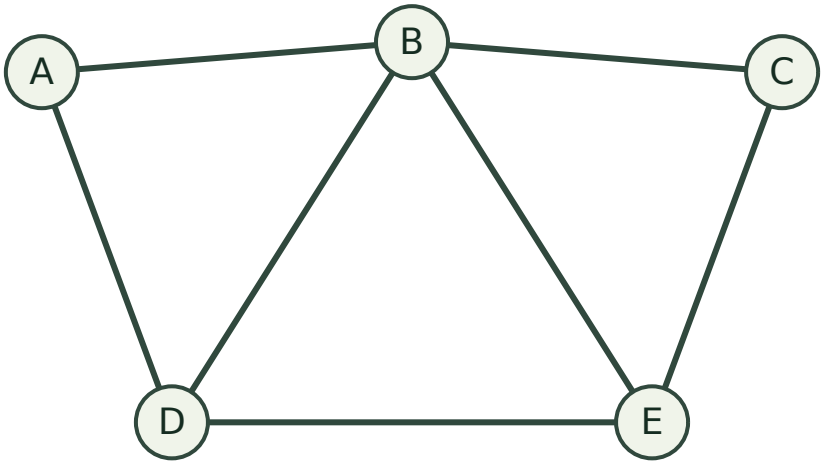
1. Give two routes from A to C. [2 marks]



Check consecutive pairs against the edges.

Answer: For example A-B-C and A-D-E-C.

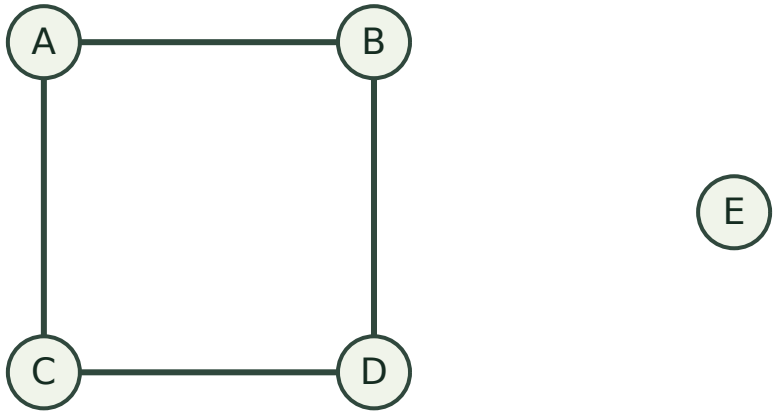
2. Is A-C-E a valid route? [2 marks]



AC is not an edge.

Answer: No.

3. Name all components. [2 marks]



The square is joined; E is isolated.

Answer: {A,B,C,D} and {E}.

4. A cycle has edges AB, BC, CD, DA. Does deleting AB disconnect it? [2 marks]

A-D-C-B remains an alternative route.

Answer: No.

5. Three components contain 3,4,2 vertices. What is the minimum number of links to connect all of them? [3 marks]

One link can merge two components.

A second joins the third.

Answer: 2.

6. Edges are AB, BC, CA, CD, DE. List the bridges. [3 marks]

Triangle edges have alternatives.

CD and DE are the only links to their later sections.

Answer: CD and DE.