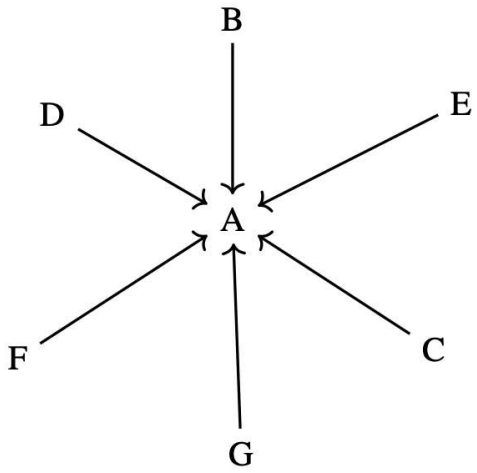
Graphs Worksheet results for Ishan Mukherjee

ⓘ Correct answers are hidden.

Score for this attempt: 10 out of 10
Submitted 22 Jan at 3:10
This attempt took 2 minutes.

Question 1
1 / 1 pts



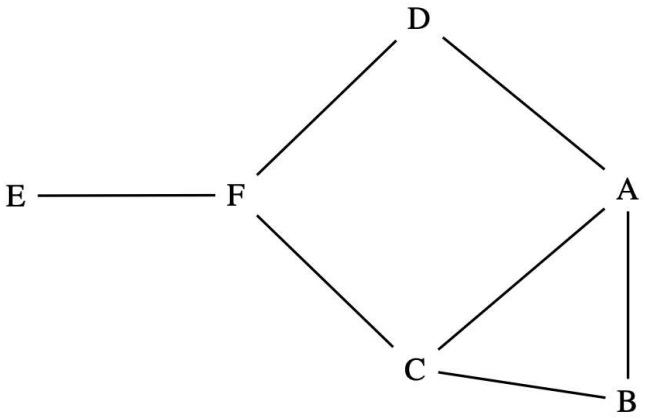
Is there a cycle in this graph?

If yes, answer with the nodes which are part of that cycle, in a valid order. Write the nodes one after the other, without spaces, like so: **XYZQRSX**

If no, answer: **no**

no

Question 2
1 / 1 pts



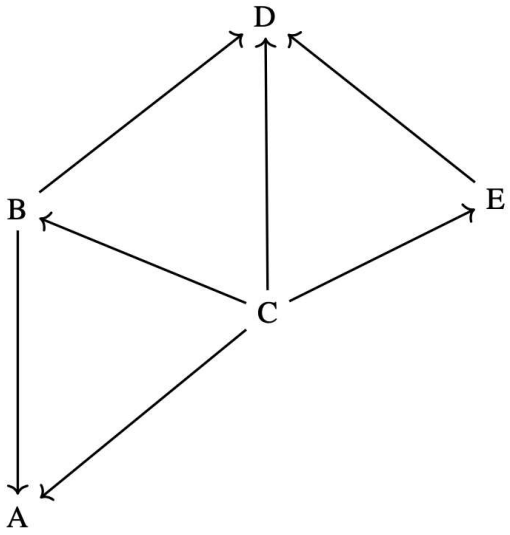
In this graph, is there a path from A to E that involves three edges?

If yes, answer with the four nodes along that path (including the endpoints) in the same format as above, like so: **XYZW**

If no, answer: **no**

ACFE

Question 3
1 / 1 pts



Is there a cycle in this graph?

If yes, answer with the nodes which are part of that cycle, in a valid order. Write the nodes one after the other, without spaces, like so: **XYZQRSX**

If no, answer: **no**

no

Question 4
1 / 1 pts

Answer the following questions about the previous graph.

If there are multiple nodes in your answer, format them as before, like so: **XYZ**

If there are no nodes in your answer, answer: **none**

What are the direct predecessors of E? C

What are the direct successors of E? D

Answer 1:
C
Answer 2:
D

Question 5
1 / 1 pts

Answer the following questions about the previous graph.

If there are multiple nodes in your answer, format them as before, like so: **XYZ**

If there are no nodes in your answer, answer: **none**

What are the direct predecessors of A? CB

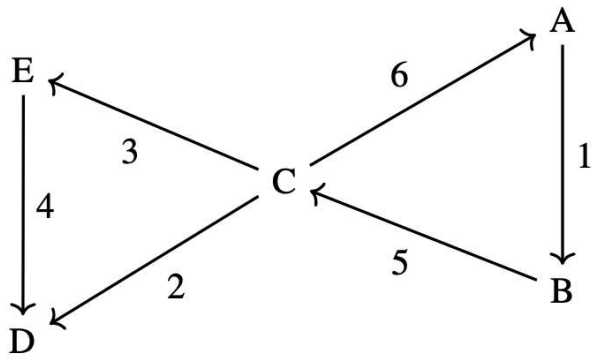
What are the direct successors of A? none

Answer 1:
CB
Answer 2:

none

Question 6

1 / 1 pts



Is there a cycle in this graph?

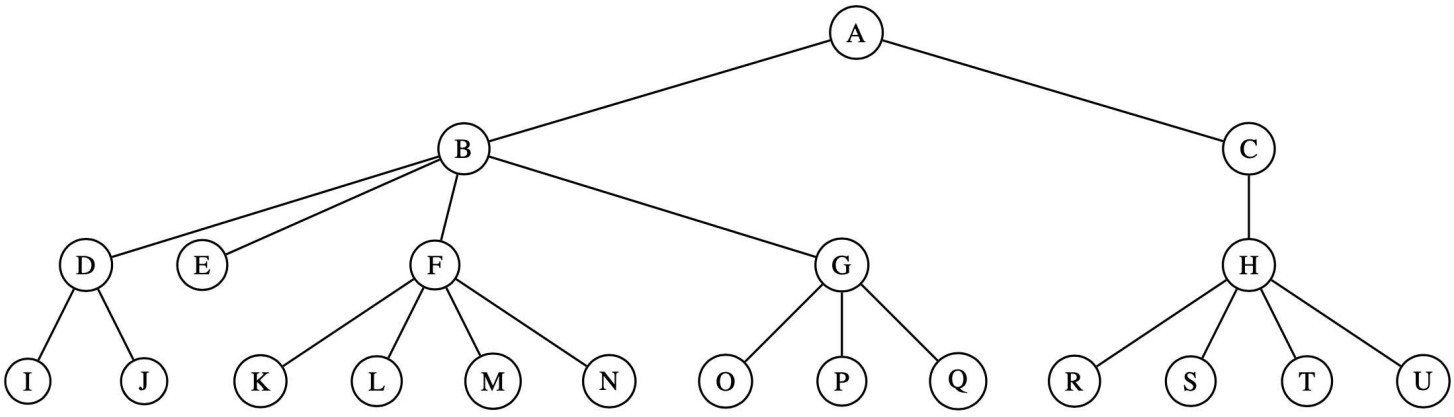
If yes, answer with the nodes which are part of that cycle, in a valid order. Write the nodes one after the other, without spaces, like so: **XYZQRSX**

If no, answer: **no**

ABCA

Question 7

1 / 1 pts



If this tree were a k-ary tree rooted at A, what would be the smallest possible k this tree could satisfy?

4

Question 8
1 / 1 pts

Answer the following questions about the previous graph.

How many interior nodes does this tree have? 7

How many leaves? 14

Answer 1:
7
Answer 2:
14

Question 9
1 / 1 pts

Answer the following questions about the previous graph.

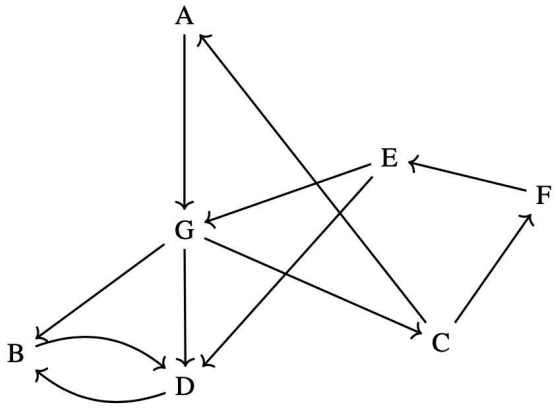
How many nodes in the subtree rooted at C? 6

Which node is the parent of M? F

Which nodes are the children of B? (Answer in the same format as before) DEFG

Answer 1:
6
Answer 2:
F
Answer 3:
DEFG

Question 10
1 / 1 pts



What are the strongly connected components of this graph?

Write your answer in the format: **XYZ and QRT and IJK**

I.e., each group in ***alphabetical order*** without spaces, and groups separated with " and " (no commas).

ACEFG and BD

Quiz score: 10 out of 10