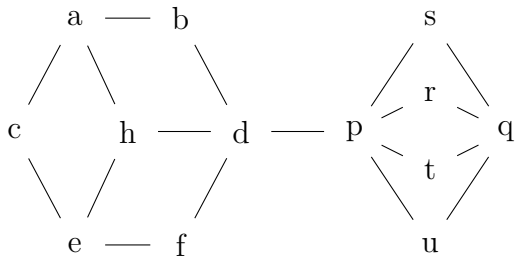
CS 173, Fall 17 Examlet 6, Part B

Name:_____

NetID:_____ **Lecture: A B**

Discussion: Thursday Friday 9 10 11 12 1 2 3 4 5 6

(9 points) How many paths are there from c to q in the graph below? Explain or show work.



(2 points) Is the above graph acyclic?

(2 points) How many connected components does the above graph have?

(2 points) Does the above graph contain a 5-node cycle?

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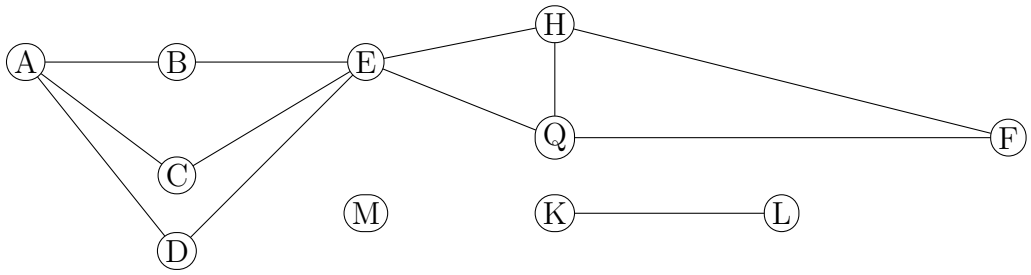
(9 points) How many paths are there from A to F in the graph below? Explain or show work.



(2 points) Does the above graph contain a 5-node cycle?

(2 points) How many connected components does the above graph have?

(2 points) Does the above graph have an Euler circuit?

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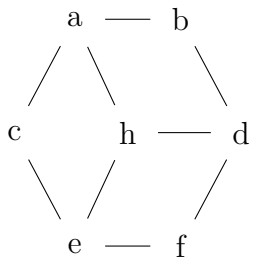
(9 points) How many cycle subgraphs (i.e. subgraphs isomorphic to C_n for some n) does the graph below contain? Count two cycles as the same if they have the same set of nodes and the same set of edges. Don't worry about which node is the start/end node. Briefly justify and/or show work.



(2 points) Does the above graph have an Euler circuit?

(2 points) Is the above graph bipartite?

(2 points) Does the above graph contain a 4-node cycle?

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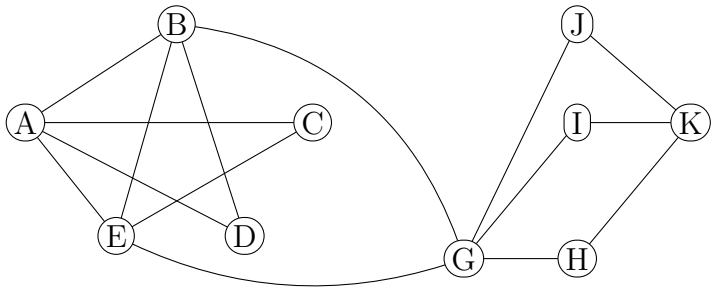
(9 points) How many paths are there from A to K in the graph below? Explain or show work.



(2 points) Does the above graph contain a 5-node cycle?

(2 points) What is the diameter of the above graph?

(2 points) Is the above graph bipartite?

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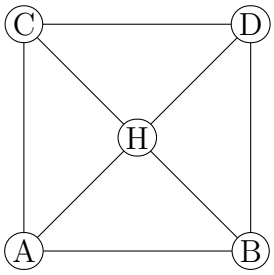
(9 points) How many paths are there from B to C in the graph below? Explain or show work.



(2 points) Is the above graph acyclic?

(2 points) Does the above graph have a cut edge?

(2 points) What is the diameter of the above graph?

Name:_____

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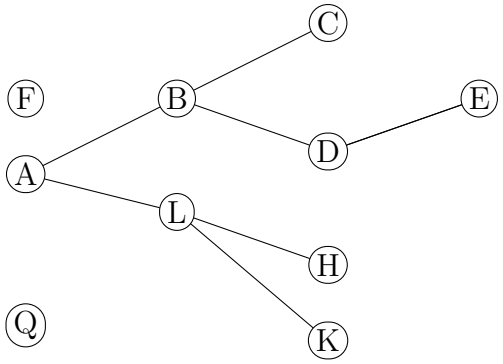
(9 points) How many paths are there in the graph below? Consider all choices of start and end nodes. Explain or show work.



(2 points) How many connected components does the above graph have?

(2 points) Is the above graph bipartite?

(2 points) Does the above graph contain a 4-node cycle?