

CS 173, Fall 2015
Examlet 6, Part B

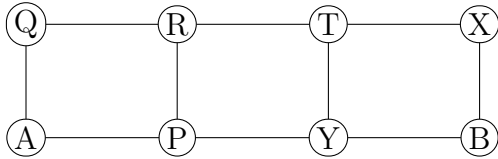
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Discussion: Thursday 2 3 4 5 Friday 9 10 11 12 1 2

1. (9 points) How many paths are there from Q to B in the graph below? Explain or show work.



2. (3 points) How many connected components does the above graph have?
3. (3 points) Does the above graph have a cut edge? Briefly explain why or why not.

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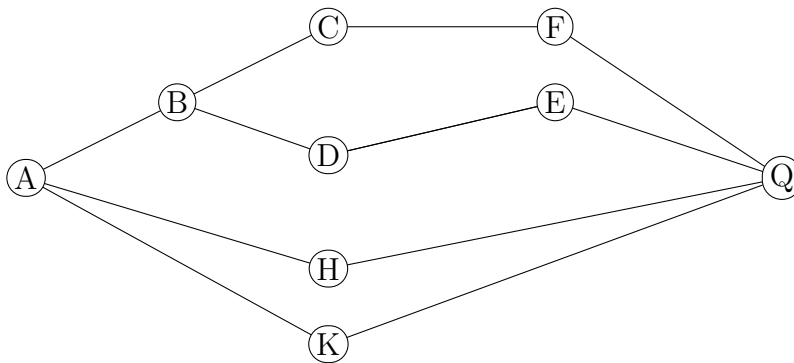
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1. (9 points) How many cycle subgraphs (i.e. subgraphs isomorphic to C_n for some n) does the graph below contain? Count two cycles as the same if they have the same set of nodes; don't worry about (for example) which node is the start/end node. Briefly justify and/or show work.



2. (3 points) What is the diameter of this graph?
3. (3 points) Is this graph bipartite? Briefly justify your answer.

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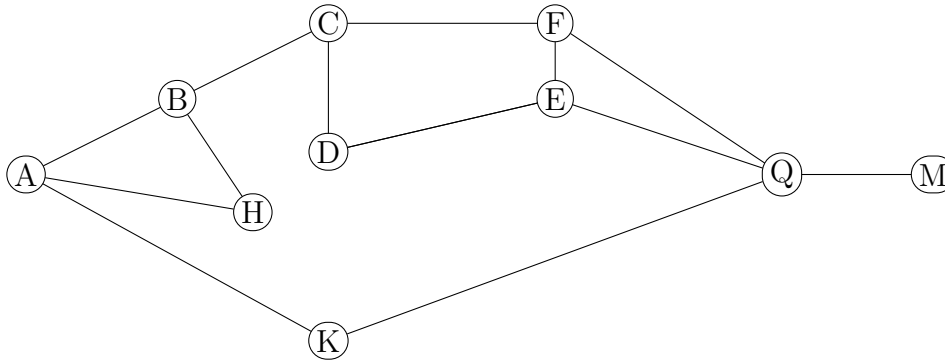
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Discussion: Thursday 2 3 4 5 Friday 9 10 11 12 1 2

1. (9 points) How many paths are there from A to Q in the graph below? Explain or show work.



2. (3 points) Does this graph contain a 6-node cycle? Briefly justify your answer
3. (3 points) Does the above graph have a cut edge? Briefly explain why or why not.

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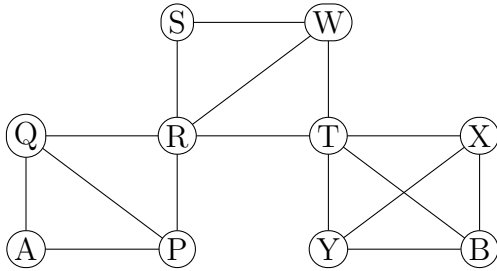
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Discussion: Thursday 2 3 4 5 Friday 9 10 11 12 1 2

1. (9 points) How many paths are there from A to B in the graph below? Explain or show work.



2. (3 points) How many connected components does the above graph have?
3. (3 points) Does this graph contain a 4-node cycle? Briefly justify your answer

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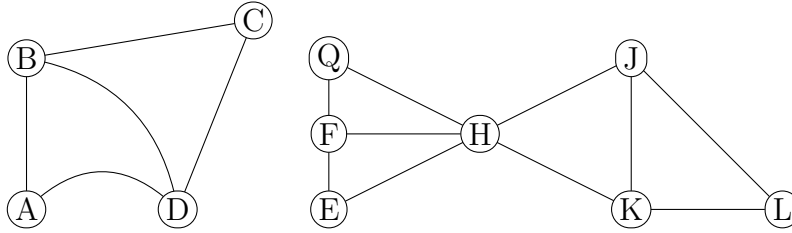
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1. (9 points) How many paths are there from Q to L in the graph below? Explain or show work.



2. (3 points) How many connected components does the above graph have?
3. (3 points) Is this graph bipartite? Briefly justify your answer.

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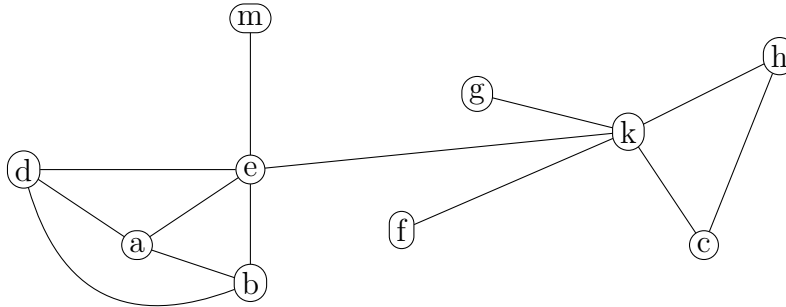
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1. (9 points) How many paths are there from a to h in the graph below? Explain or show work.



2. (3 points) Does this graph have an Euler circuit? Briefly explain why or why not.
3. (3 points) Does the above graph have a cut edge? Briefly explain why or why not.