Name:——————————————————————

NetID:————————————　　　　**Lecture:**　　**A**　　**B**

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

(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)　Is the above graph acyclic?

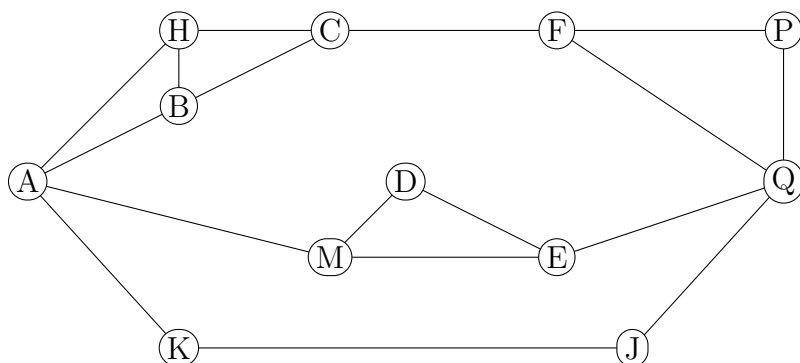(2 points)　Does the above graph have an Euler circuit?

(2 points)　What is the largest complete (K_n) subgraph of the above graph?

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

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

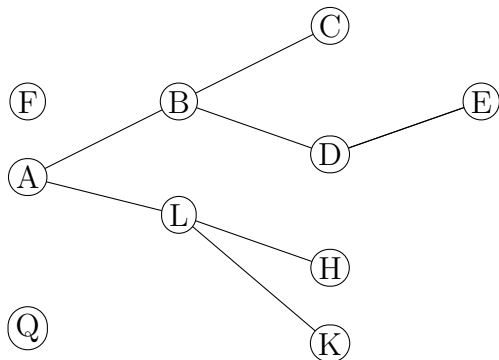(2 points) How many connected components does the above graph have?

(2 points) What is the largest complete (K_n) subgraph of the above graph?

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(9 points) In the graph below, how many paths are there from one node to a distinct (aka different) node? Consider all choices of start and end nodes. Explain or show work.

(2 points) Is the above graph acyclic?

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

(2 points) What is the largest complete (K_n) subgraph of the above graph?
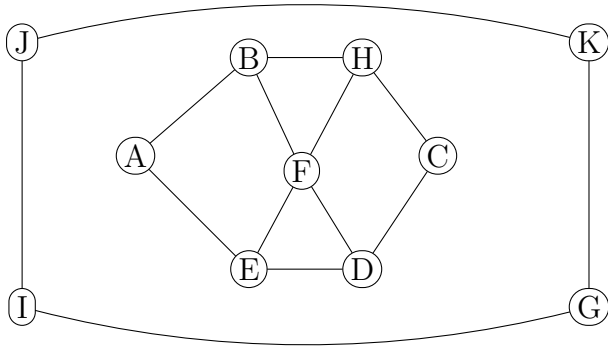
Name:_____

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 A to C in the graph below? Explain or show work.

(2 points) Does the above graph contain a 6-node cycle?

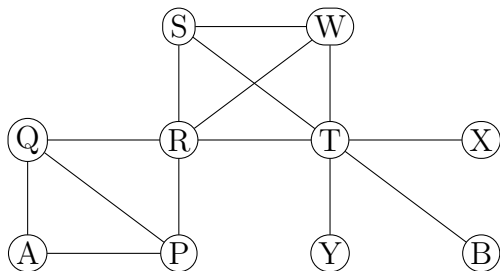(2 points) How many connected components does the above graph have?

(2 points) Is the above graph bipartite?

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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 a cut edge?

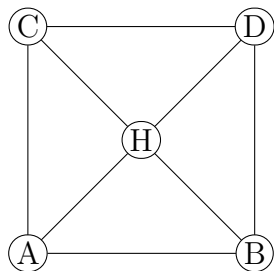(2 points) How many connected components does the above graph have?

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

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

(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) What is the largest complete (K_n) subgraph of the above graph?

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

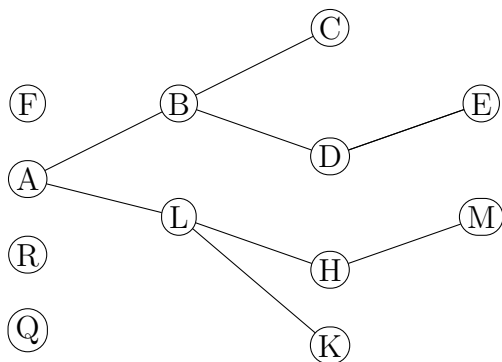(2 points) What is the diameter of the above graph?

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) Is the above graph acyclic?

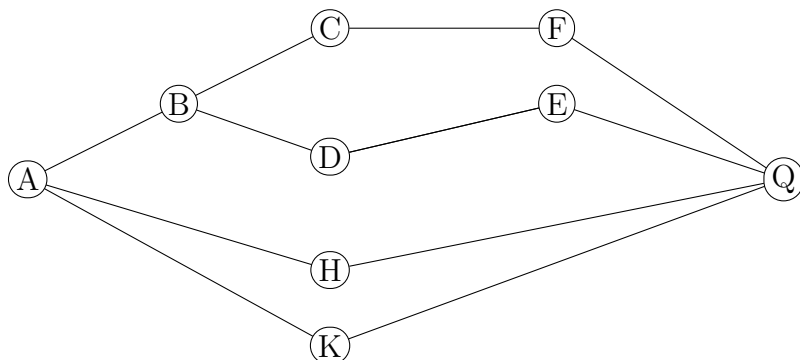(2 points) How many connected components does the above graph have?

(2 points) Is the above graph bipartite?

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

(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) What is the diameter of the above graph?

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

(2 points) Is the above graph bipartite?