

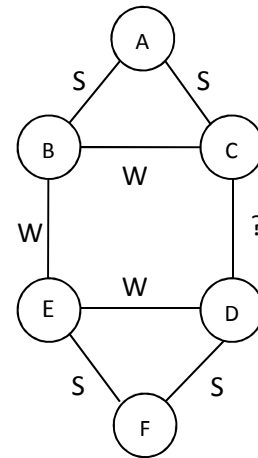
Triadic Closure and Tie Strength

Intro to Web Science
10 points

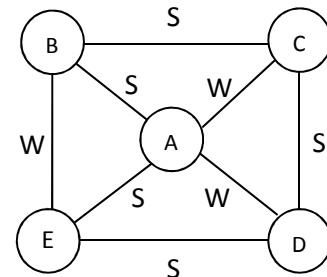
Name _____

1. (2 pts) Briefly explain the three reasons why **triadic closure** commonly occurs in a social network.

2. (2 pts) In the social network on the right, each edge is labeled strong tie (S) or weak tie (W) except one. Assuming that all nodes hold to the Strong Triadic Closure property, what would you expect the edge connecting C and D to be labeled? Write two or three sentences explaining your answer.



3. (2 pts) In reference to the social network on the right, which node(s) **satisfy** the Strong Triadic Closure property? Provide a brief explanation for your answer.



4. (2 pts) In reference to the social network on the right, which node(s) **violate** the Strong Triadic Closure property? Provide a brief explanation for your answer.

5. (2 pts) Draw the smallest network possible (use the fewest number of nodes and edges) where all nodes satisfy the Strong Triadic Closure property, and there exists exactly one **local bridge**. Label all edges as strong (S) or weak (W), and point out where the local bridge occurs.