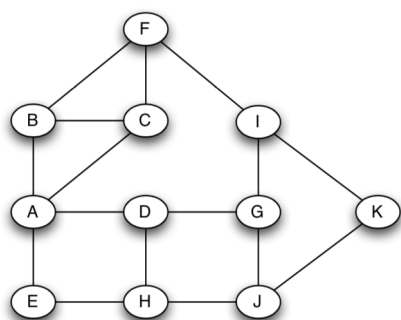## Exercise 2 (Betweenness) [60 points]

Consider the graph example we saw in class:

We saw in class how to calculate the flow that reaches a single node from every other node. This corresponds to a single iteration of the betweenness algorithm. In class we focused on A. Using the same procedure, calculate the flow to D from all the other nodes.

Exercise 3 (Strong/Weak Ties) [40 points]

1. Consider the graph below, in which each edge—except the edge connecting b and c—is labeled as a strong tie (S) or a weak tie (W).
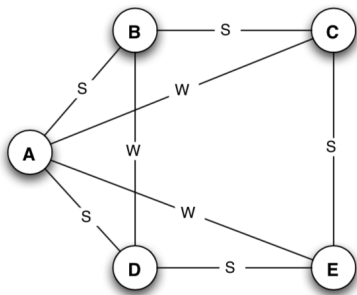
   According to the theory of strong and weak ties, with the Strong Triadic Closure assumption, how would you expect the edge connecting b and c to be labeled? Give a brief (1–3 sentence) explanation for your answer.
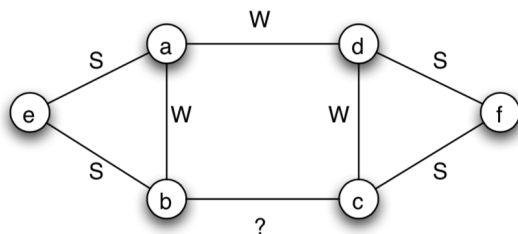
2. In the network below, which nodes satisfy the Strong Triadic Closure Property, and which do not? Provide an explanation for your answer.
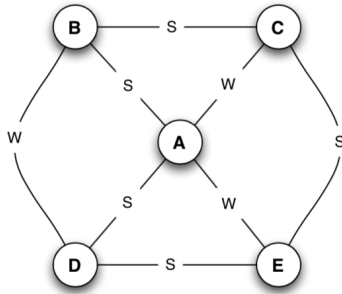
3. In the network below, which two nodes violate the Strong Triadic Closure Property? Provide an explanation for your answer.

4. In the network below, which nodes satisfy the Strong Triadic Closure Property, and which do not? Provide an explanation for your answer.