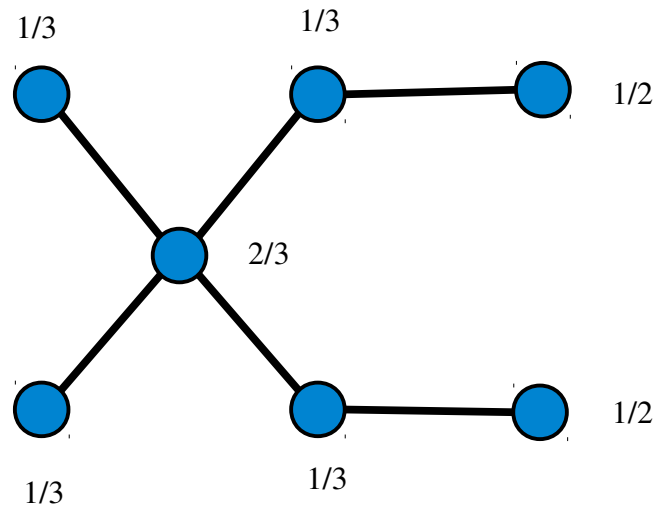
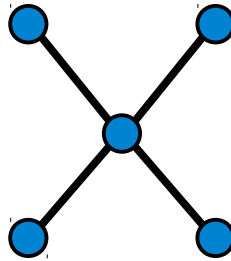


1. Consider this graph with labeled strategies.



- (a) Suppose that when there is a tie between your current strategy and another, you stick with your current strategy. How will this system evolve?
- (b) If you add one edge to the graph, you can make it so that demand $1/2$ evolves to take over. What edge is that?
- (c) Using the original graph from part (a) but not the labeled strategies, how many different stable states can you come up with for that graph? (Just consider a version of the game with $1/3$, $1/2$, and $2/3$ as demands.)

2. Consider this graph, the five-node star, for this problem.



- (a) How many stable strategies can you come up with for this graph?
- (b) Suppose that, when there is a tie between your current strategy and another strategy, you always stick with your current strategy. Now illustrate a *stable* state where there are only demand $1/3$ and demand $2/3$ types present. Show why it is stable.
- (c) Suppose that if there is a tie between demand two strategies you will adopt the strategy that demands more. Is the state you came up with in part (b) still stable? If so show that it is. If not, show where it leads.
- (d) Now what happens if when there is a tie people adopt the strategy that demands less? Is the state you came up with in part (b) still stable? If so, show that it is. If not, show where it leads.