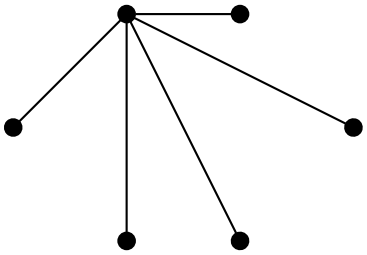
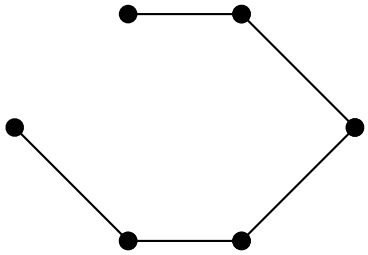
This project asks you to work with different spanning trees of the same graph.

The distance between two spanning trees T_1 and T_2 of a simple connected graph is the number of edges that are in T_1 or T_2 that are not common to T_1 and T_2. (So $\text{dist}\,(T_1, T_2) = |(T_1 \cup T_2) - (T_1 \cap T_2)|$.)

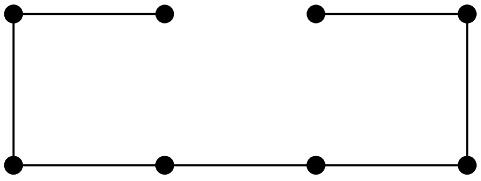
(a) Find the distance between the two spanning trees below of the complete graph K_6.

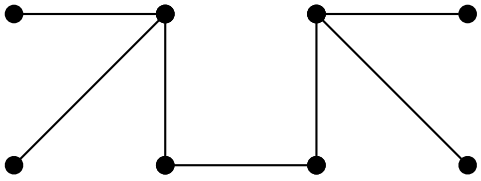




(b) Given a pair of spanning trees T_1 and T_2, it is possible to find a sequence of spanning trees from T_1 to T_2 such that each tree can be formed from the previous one by removing just one edge and replacing it with another. Find such a sequence between the two trees given above. (Note that I am not asking you to actually prove the fact given.)

(c) Find the distance between the two spanning trees below.





(d) Find a sequence, such as the one given in part (b), between the two trees in part (c).

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