

Due at beginning of class Monday, April 6

This should be your own work (no other people or software (including AI)).

Questions about quiz should be directed to Prof. Arnold

Short explanations are helpful.

Name: _____

1. Let G be a digraph on n vertices.

(a) If G is weakly connected, explain how you could make a strongly connected digraph from G by adding at most $n-1$ (directed) edges.

(b) Explain how you could make a strongly connected digraph from G by adding another vertex and new edges to and/or from this new vertex. What is an upper bound on how many of these new edges would need to be added (hint: consider the case where G had no edges at all.)?