**For Tuesday, please write a description of the rule that will allow for identification of a collider whether or not the non-adjacent nodes in question form a fork with a different third variable (i.e., correlation of X and Y are statistically significant with no controls, not statistically significant with Q as a control, are statistically significant with Q and Z as controls).**

A collider is a third variable that is influenced by a pair of variables (outcome and exposure). This is illustrated graphically as a node that receives edges from two other nodes. When X, Y, and Q are used, there is no significant relationship between X and Y without controlling for Q. However, when Q is controlled for, a relationship between X and Y emerges. Controlling for, or constrained by, a collider can introduce an erroneous link between the collider's causes (exposure and outcome). A collider is the variable in the center of an inverted fork in DAG terminology. If a variable Q is the point of collision between two variables X and Y and there is only one path between them, then X and Y are unconditionally independent but conditionally dependent on Q and any descendants of Q. The following rules govern collider identification:

1. X and Q are likely dependent
2. Y and Q are likely dependent
3. X and Y are independent
4. X and Y are likely dependent conditional on Q