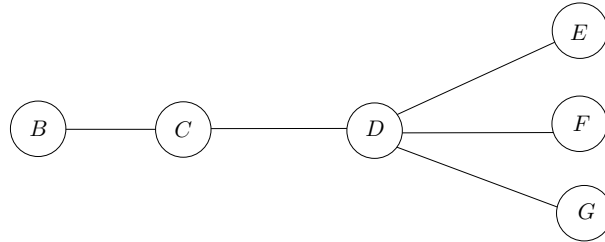# CS:5350 MIS Practice Problems, Fall 2019

1. Suppose that Luby's MIS algorithm is executed on the following graph. Calculate the exact probability that vertex D becomes inactive (i.e., status = ON or OFF) after the execution of the first round of Luby's algorithm. Assume that vertex IDs are in alphabetical order, i.e., vertex B has ID 1, vertex C has ID 2, vertex D has ID 3 and so on.

2. You are given an 10-vertex clique (i.e., a completely connected graph). What is the probability that Luby's MIS algorithm completes its job of finding an MIS on this graph in just one iteration?