Use MCMC to solve for the probability of rain given that the sprinkler was on last night in the network below. Write a simple program to solve this problem (as in the programs in the lecture notes) and comment the code to describe what each step of the program does. E-mail a copy of your program and the output to the TA and instructor by midnight May 19th. You may use any programming language for this assignment as long as you write all of the inference code yourself.