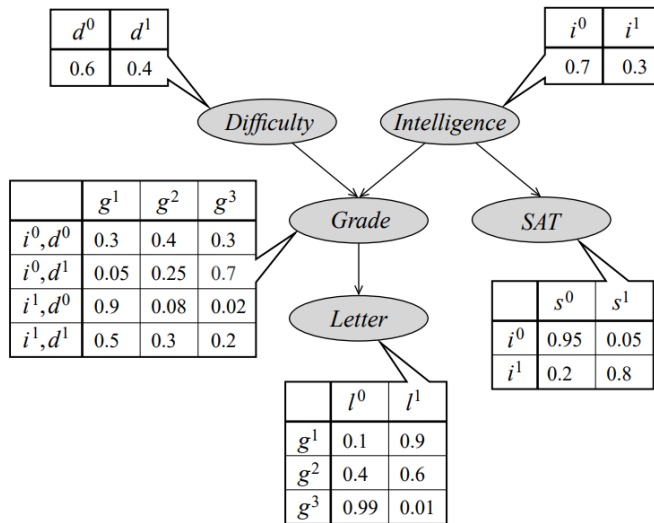


CMSC 478
Spring 2024
Homework 7
Due 11:59pm May 17th

Consider the Bayes net below that has variables for a student's intelligence, performance on the SAT, the difficulty of a course, the student's grade in the course, and the quality of a recommendation letter written by the instructor of the course. All variables except grade are binary, but grade can take on 3 values.



Answer the following questions:

- How many distinct joint observations are in the probability distribution defined by this network?
- What is $p(d^1, i^0, g^3, s^0, l^1)$?
- What is $p(i^0 | s^1)$? Note that this is the opposite of what the CPT for SAT gives you. You'll need to apply Bayes rule and the law of total probability.