Artificial Intelligence (CPS 270) : Homework 5

Due November 18, 2004

Problem 1: Do problem 15.2.

Problem 2: Do problem 15.4.

Problem 3: Do problem 15.12.

Problem 4: In class, we sketched an argument that the forward-backard algorithm was to equivalent to variable elimination with a particular elmination ordering. For this problem, prove that the forward pass of computing $p(X_k)$, $1 \leq k \leq n$ is mathematically and algorithmically equivalent to doing variable elimination from variable X_1 through X_{k-1}. Prove the same for the backward pass, and the elimination of variables X_n through X_{k+1}.