CSCE 582 Fall 2003

Programming Assignment

Assigned Thursday 03-11-06, due Thursday 03-11-20

In this assignment, you will implement in Java the variable elimination method (also called bucket elimination) for computation of marginal posterior probabilities in a Bayesian network.

The main criteria for evaluating your work are: correctness, readability, and conciseness. A secondary criterion, which is especially important as you design your program, is generality.

Your program should take as input a Bayesian net described using Hugin's net language version 5.7 (not 6.*), some evidence in the form of one of more (hard) findings, and the specification of a variable for which the marginal posterior probability is desired. Your program should output the marginal posterior probability for the variable specified in the input. Your program should be a batch program. An example of input and output files should be provided. There should be two input files: one for the Bayesian network, in Hugin net language version 5.7, and one for the remainder of the input, i.e., the findings and the specification of the variable for which the posterior probability is computed.

See Section 1.4.7 of your text for background and the web site of the course for pointers to relevant papers.