Artificial Intelligence : Assignment 3

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1 BN creation

For BN creation we used basic class Node which have type : vertex or edge , children and parents in the network , probability table of the node given different parent's values . The network is build for vertices than for edges and than for edges at time greater than 0 . All the nodes are stored in dictionary by their type (vertices , edges time 0, edges time 1 ..) and id , in order to make it easier to look for nodes of particular type .

2 Inference algorithm

We used likelihood-weighting algorithm for reasoning , we computed the join probability for the entire network and then summed out the irrelevant variables.