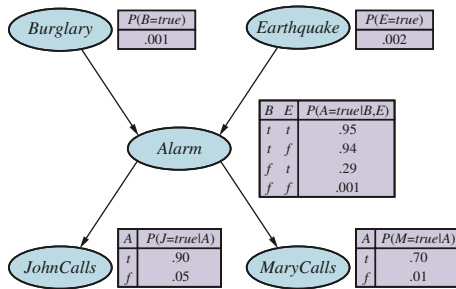


Probabilistic Inference Review (AIMA 13.3-13.4)

Artificial Intelligence

1. Given the network:



$$Pr(b | j, m) = \alpha Pr(b) \sum_e Pr(e) \sum_a Pr(a | b, e) Pr(j | a) Pr(m | a) \quad (13.5)$$

Annotate the factors in the expression for the network.

2. What is the difference between direct sampling and Markov chain Monte Carlo sampling?

3. What is the idea behind importance sampling?

4. The Metropolis-Hastings sampling algorithm is similar in structure to which local search algorithm?