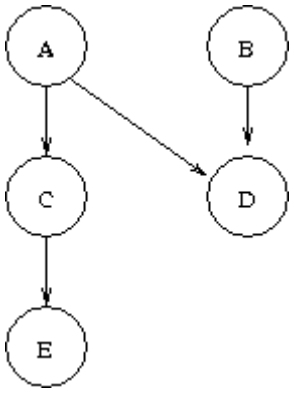
CSCU9T6 Bayesian Networks – Tutorial

Consider the following Bayesian network:



Thus, the independence expressed in this Bayesian net are that
A and B are (absolutely) independent.
C is independent of B given A.
D is independent of C given A and B.
E is independent of A, B, and D given C.

Suppose that the net further records the following probabilities:

Prob(A=T) = 0.3
Prob(B=T) = 0.6
Prob(C=T|A=T) = 0.8
Prob(C=T|A=F) = 0.4
Prob(D=T|A=T,B=T) = 0.7
Prob(D=T|A=T,B=F) = 0.8
Prob(D=T|A=F,B=T) = 0.1
Prob(D=T|A=F,B=F) = 0.2
Prob(E=T|C=T) = 0.7
Prob(E=T|C=F) = 0.2

Do the following computations:

1) Prob(D=T)

2) Prob(D=F,C=T)

3) Prob(A=T|C=T)

4) Prob(A=T|D=F)

5) Prob(A=T,D=T|B=F)

6) Prob(C=T | A=F, E=T)