ICS 275B
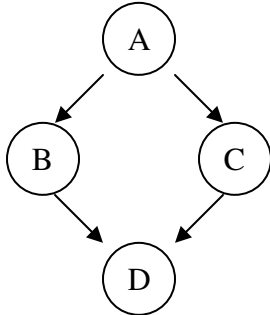## Homework Assignment 5
Spring 2005

Instructor: Rina Dechter   Due: Wednesday, May 11th

P(A)=(0.9,0.1)

A	P(B=0)	P(B=1)
0	0.9	0.1
1	0.1	0.9

A	P(C=0)	P(C=1)
0	0.9	0.1
1	0.1	0.9

BC	P(D=0)	P(D=1)
00	0.99	0.01
01	0.1	0.9
10	0.1	0.9
11	0.05	0.95

Evidence: D=0

Show how you would generate 10 samples using forward sampling. How many samples do you get where D=0? Can you compute posterior marginals for B, C, A based on those 10 samples ?

Show how you would generate 3 samples using regular Gibbs sampler and compute posterior marginals.

Show how you would generate 3 samples using Gibbs sampling from cutest {B,C} only sampler and compute posterior marginals for B, C, A.

Compare your results with exact.

You can carry out computation by hand or use any Bayesian Network tool.