CS378 HW3

(1) Consider the "Carmen Sandiego" scenario from class with four variables:

C: city she's in
N: nation she's in
T: temperature in her city
D: today's date

Starting with the following expression of the Chain Rule, use conditional independence relationships to create the "boldest" Bayesian network you can.

$$P(c,d,n,t) = P(c)\,P(d|c)\,P(n|c,d)\,P(t|c,d,n)$$

(2) Now do the same thing, but start with the following expression of the Chain Rule:

$$P(t,n,d,c) = P(t)\,P(n|t)\,P(d|t,n)\,P(c|t,n,d)$$

(3) Create the "best" Bayesian network you can (i.e. fewest edges) over the following variables:

C: city she's in
N: nation she's in
T: temperature in her city
D: today's date
F: colors of the flag of N
A: altitude of the city she's in
L: latitude of the city she's in
G: longitude of the city she's in