

# SC4000/CZ4041/CE4041: Machine Learning

## Lecture 4 Tutorial Question Sets

**Question 1:** Given the Bayesian Belief Network shown in Figure 1 (the same as on the lecture notes), if the person has high blood pressure, but exercises regularly and eats a healthy die, to estimate the probability that the person has heart disease.

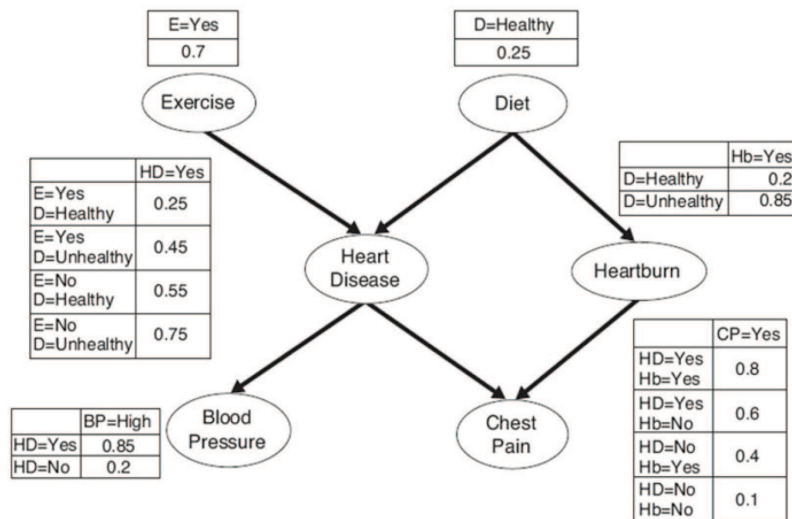


Figure 1: The Bayesian Network for Question 1.

**Question 2:** Consider the Bayesian Belief Network shown in Figure 2. Given that the outcomes of medical test  $A$  and medical test  $B$  for a specific patient are positive and negative, respectively. That is,  $A = \text{Pos}$  and  $B = \text{Neg}$ . Predict the probability that the patient has high cholesterol.

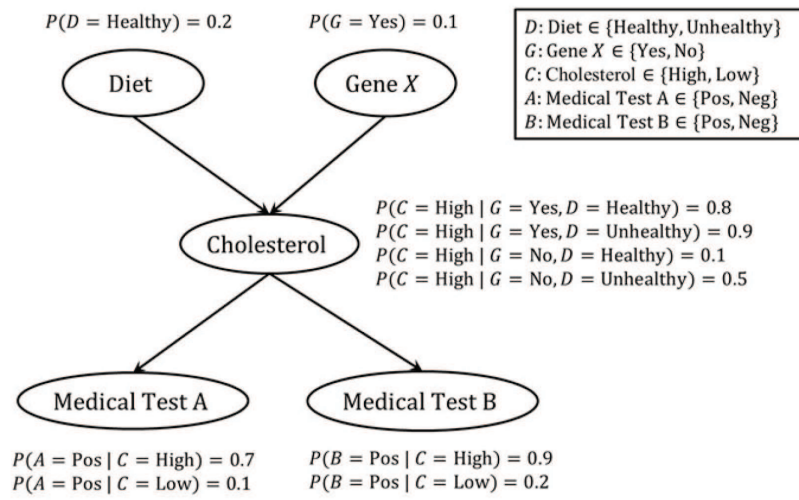


Figure 2: The Bayesian Network for Question 2.