

Chapter 8 Exercises

Exercise 1: Suppose A is a ranked node with 5 states and that it has 3 parent nodes each with 5 states. How many cells are there in the NPT of A? What kind of problems would you expect to encounter if you tried to complete this NPT manually? How could you avoid these problems?

Exercise 2: In the Asia model (which you will need to open and run to answer this question), suppose that the only information you have about a patient is that he/she has a positive x-ray. What would you conclude about their most likely condition? If you had the opportunity to ask just one more question about the patient what would it be (to ensure you get the most useful information)?

Exercise 3: Open the model “8.4.2 Heart Attack” on <http://bayesianrisk.com/models.html>. Suppose that a new independent risk factor is found: “Loneliness”. The impact of this factor on “heart attack before 60” is believed to be similar to that of “Poor diet”. Construct the revised model with the additional risk factor. It is also proposed that “Overweight” is a risk factor that should be added. Why is it not so simple to add this risk factor?