1. **Bayes Rule** Suppose you are a witness to a nighttime hit-and-run accident involving a taxi in Athens. All taxi cars in Athens are blue or green. You swear, under oath, that the taxi was blue. Extensive testing shows that, under the dim lighting conditions, discrimination between blue and green is 75% reliable. Is it possible to calculate the most likely color for the taxi? (Hint: distinguish carefully between the proposition that the taxi is blue and the proposition that the taxi appears blue.) What is your resulting estimate, given that 9 out of 10 Athenian taxis are green?

2. (5) In this exercise you will have to complete the normalization calculation for the meningitis example in the slides. First consider that the value for $P(s|m) = 0.7$ and use it calculate unnormalized values for $P(\neg m|s)$ and $P(m|s)$ ignoring $P(s)$ term. Suppose that $P(m) = 1/5000$. Compute the values and normalize them so they add to 1.