1. The key assumption you are making is that the generalizations provided hold for the convention you are at.
2. P(Sh | St) = 0.8 = 80%, P(Sh | E) = 0.15 = 15%, P(E) = 0.9 = 90%
3. You have information about the probabilities that are dependent upon another probability. You are then given a probability and need to predict that originally given probability. The best way to do this is using the conditional probability methods provided by Bayes.
4. This approach is the best because it allows you to calculate the odds without actually calculating the denominator, enabling us to be creatively lazy.
5. 1 = (Posterior odds in favor of St over E) , 2 = (Prior odds in favor of St over E), 3 = (Bayes factor in favor of St over E)
6. . You are calculating the odds by multiplying the odds that a given person is a statistician vs economist by the probability that a person is shy given if they’re a statistician or economist; this gives you the odds that they are a statistician vs an economic given they are shy.
7. Even though statisticions are much more likely to be shy, there are 9 times as many economists at the conference. This is similar to the credit card case study where when a card was marked as bad there was a decent chance it was in fact good, even though cards marked good where almost always good. This was caused by a similar situation where the number of truly good cards vastly outweighed the number of truly bad cards.