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Module 11 Discussion

In the first part of the first question, our answers are almost the same. I notice that you referenced the lecture slides, while I used the textbook directly. I also agree with your interpretation, where we take an estimate and use the estimate to understand the change in probability relative to for example a unit change in the regressor x. Looking at your confidence interval, I also have the same result, where we simply need to exponentiate both sides of the interval to get the confidence interval for the odds ratio. Something that I noticed was that both of our responses didn't directly state the interpretation of β itself, but rather the estimate of it. I wonder then if there is a more specific response related to just β itself.

In the second question, I think we had a similar approach. However, I ended up getting an alternate result after taking the difference. I see that your calculation is slightly different, where you are taking $\hat{\eta}(x_i + 1) - \hat{\eta}(x_i)$. On the other hand, I did $\hat{\eta}(x_2 + 1) - \hat{\eta}(x_2)$. I am not certain who is correct, but my understanding is that my calculation is mostly copying what I saw in the textbook. At the same time, I am not too confident on the interpretation yet, so I can't say that yours is automatically wrong somehow. Thinking about yours, I feel a bit unsure how to interpret $x_i + 1$, given that x_i really has three attributes and could be better indexed as x_{i1}, x_{i2} and x_{i3}. My thinking at the time was that it'd be similar to multiple linear regression, where we look at changes in one regressor while the others are kept constant. So, in this case, I only changed x_2, which by default happens to change x_{12} here also. In the end, you mention also something related to variance, which I perhaps missed in the textbook.