My statistical questions were:

1. Is there a relationship between demographic variables and a customer leaving?
2. Is there a relationship between the company’s product variables and a customer leaving?
3. Which one has the great effect, (1) or (2), and what is the correlation between those variables and customer attrition?
4. Lastly, can I predict when a customer will leave based on variables from (1) or (2)?

I found that there was not a significant relationship between demographics and customer attrition. A company’s product variables were more important. (2) had the greatest effect. I found out through EDA that I could predict with 87% accuracy if a customer will leave or stay.

What did I feel was missed during the analysis? I do not think much was missed by my analysis. I answered what I set out to answer.

Were there any variables I felt could have helped in the analysis? I think maybe keeping the demographic variables and running analysis. Then, seeing if omitting those and keeping the other product variables I dropped helped the EDA. I think the other product might have helped a little, but with multicollinearity I think it might have led to bad results.

Were there any assumptions made I felt were incorrect? When I did linear regression, I assumed the assumptions were met. I never went and tested them rigorously to confirm. I felt those were incorrect judging by the model not being very good. I never checked logistic regression assumptions but checking them out I think I met assumptions.

What challenges did I face, what did I not fully understand? I face a lot of challenges. From the start, my dataset was imbalanced which had to be dealt with. Second, learning all the code to convert variables, drop variables, and so on was challenging and time consuming. Lastly, doing the SMOTE analysis was a challenge. This was not only from a coding standpoint but also understanding it for EDA. I did not fully understand this method since we did not cover it in class and I had to do outside research. However, the challenge was worth it and I learn a lot.