Assignment-based Subjective Questions

1. **Which are the top three variables in your model which contribute most towards the probability of a lead getting converted?**

Answer: Top Three variable which contribute most towards the probability of a lead getting converted are:

- Lead Origin - lead add form
- Occupation - Working Professional
- Lead source - Wellingak website

2. **What are the top 3 categorical/dummy variables in the model which should be focused the most on in order to increase the probability of lead conversion?**

Answer: Top 3 categorical/Dummy Variables which should be focused the most in order to increase the probability of lead conversion are:

- Lead Origin - lead add form
- Occupation - Working Professional
- Lead source - Wellingak website

3. X Education has a period of 2 months every year during which they hire some interns. The sales team, in particular, has around 10 interns allotted to them. So during this phase, they wish to make the lead conversion more aggressive. So they want almost all of the potential leads (i.e. the customers who have been predicted as 1 by the model) to be converted and hence, want to make phone calls to as much of such people as possible. Suggest a good strategy they should employ at this stage.

Answer:

Sensitivity in our model can be defined as the ratio of 'total actual Conversions correctly predicted' to 'the total actual Conversions'.

Similarly, Specificity will be the ratio of 'total actual non-Conversions correctly predicted' to 'the total actual non-Conversions'.

As we know, as one increases; the other decreases and vice versa. We can achieve different values of the sensitivity and specificity for the same model by changing the Conversion Probability cutoff threshold value.
Now, since X Education has more people working for then in these 2 months and they want to make the lead conversion more aggressive, by wanting almost all of the potential leads. For this a lower threshold value can be used for Conversion Probability.

This will make the Sensitivity rating to go very high which in turn will make sure almost all leads who are likely to Convert can be identified correctly and the employee/intern can make phone calls to as many of such people as possible.

4. Similarly, at times, the company reaches its target for a quarter before the deadline. During this time, the company wants the sales team to focus on some new work as well. So during this time, the company's aim is to not make phone calls unless it's extremely necessary, i.e. they want to minimize the rate of useless phone calls. Suggest a strategy they should employ at this stage.

Answer:
Following the logic and context from the previous question, High Specificity will imply that the model will correctly figure out almost all leads who are not likely to Convert. However, It will be done at the cost of losing out some 'low Conversion rate risky leads' to the competition, that is, it will misclassify some Conversion cases as non-Conversions.

So, since X Education has already achieved its target for the quarter and doesn't want to make any phone calls unless it's extremely necessary, a higher threshold value can be used for Conversion Probability.

This will make the Specificity rating very high, which in turn will make sure all leads who are on the brink of the probability of getting Converted or not are not selected. As a result, the employee won't have to make non-necessary phone calls and will be able to focus on some new work.