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

   Answer:

   The top 3 variables in the model that contribute to a lead being converted can be arrived at by picking the variables that contribute most to increasing the calculated lead score. These variables are:

   i. **Lead Origin (when origin is 'Lead Add form')**
   ii. **Last Activity (when it is 'Had a phone conversation')**
   iii. **Last Notable Activity (when it is 'Unreachable')**

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:

   The top 3 variables in the model that can be worked on to increase the probability of lead conversion are:

   i. **Last_Activity_Email Bounced**
   ii. **Last_Activity_Olark Chat Conversation**
   iii. **Last_Notable_Activity_Modified**

   The above variables have a negative coefficient and reduce the lead score. Making sure these variables have a low value (i.e. 0 since the values can be only 0 or 1) would ensure a higher lead score.

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:

   With the current model, we've considered a lead score value of above 43 as predicted to be a converted client. To get more customers predicted as 1 and to be able to include more potential leads, they need to **increase the sensitivity** of our model. This can be achieved by increasing the number of True Positives that we catch. For doing this we'd need to **reduce the cutoff score further (say 35)**. This would however also increase the False Negatives thereby reducing the accuracy which is a trade off in an aggressive strategy. So we'll end up having more leads that are correctly predicted as converted and a few leads that are incorrectly predicted as converted will also slip in.

$$\text{Sensitivity} = \frac{\text{True Positives}}{\text{True Positives + False Negatives}}$$

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:

   The strategy at these times would be to **increase the Lead score cutoff to say 55 or 60.** This would **increase the Precision** since we would be able to identify the True positives correctly and reduce false positives. So our call list would have leads that are predicted correctly as converted and fewer number of incorrectly predicted as converted leads.

$$\text{Precision} = \frac{\text{True Positives}}{\text{True Positives + False Positives}}$$