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

   Ans: Below graph depicts the relative importance of different features basis their coefficient values.

   The Top 3 variables contributing towards the probability of lead conversion are:
   1) Lead add form (Lead origin)
   2) Working Professional (Current occupation)
   3) Welingak website (Lead source)

   Since all 3 top variables are positively correlated to conversion, X Education can focus on them to increase the lead conversion
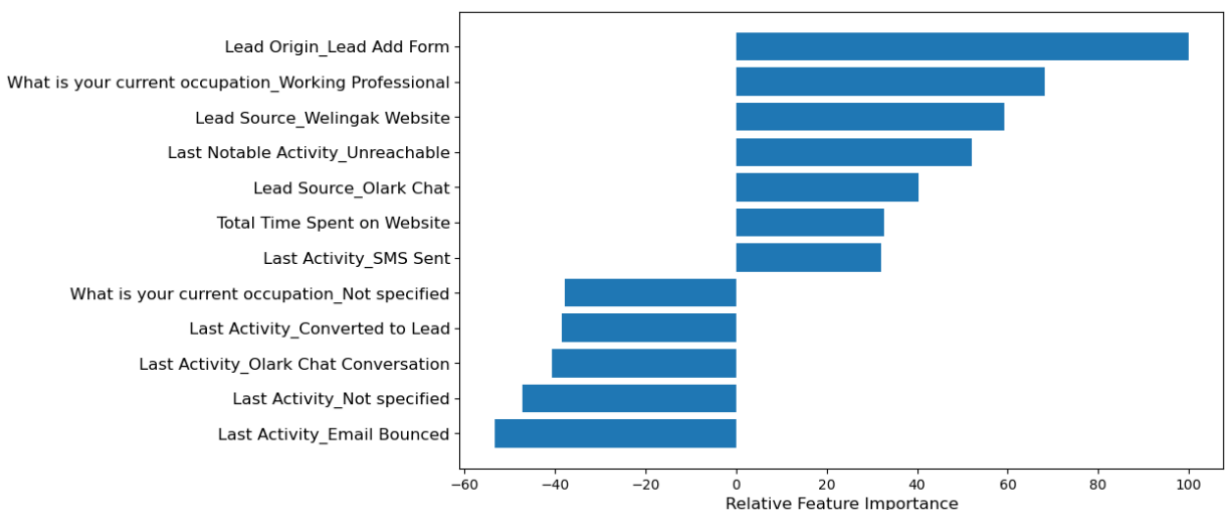
2. What are the top 3 categorical/dummy variables in the model which should be focused the most on in order to increase the probability of lead conversion?

   Ans: From the graph, it is evident that the top 3 categorical/dummy variables to be focused upon are:

   1) Lead add form (Lead origin)
   2) Working Professional (Current occupation)
   3) Welingak website (Lead source)

   Note: Answer to both the questions is same because the top 3 variable which came out of model are all categorical variables

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.

    Ans: Since X Education has extra manpower for 2 months, company needs to decide on how to utilize them optimally. Among the metrics, 'Sensitivity' will be most suitable measure to focus in this scenario as sensitivity is defined as:

    Sensitivity = True Positives / (True Positives + False Negatives)

    In our case study, Sensitivity can be defined as number of actual conversions predicted correctly out of total number of actual conversions
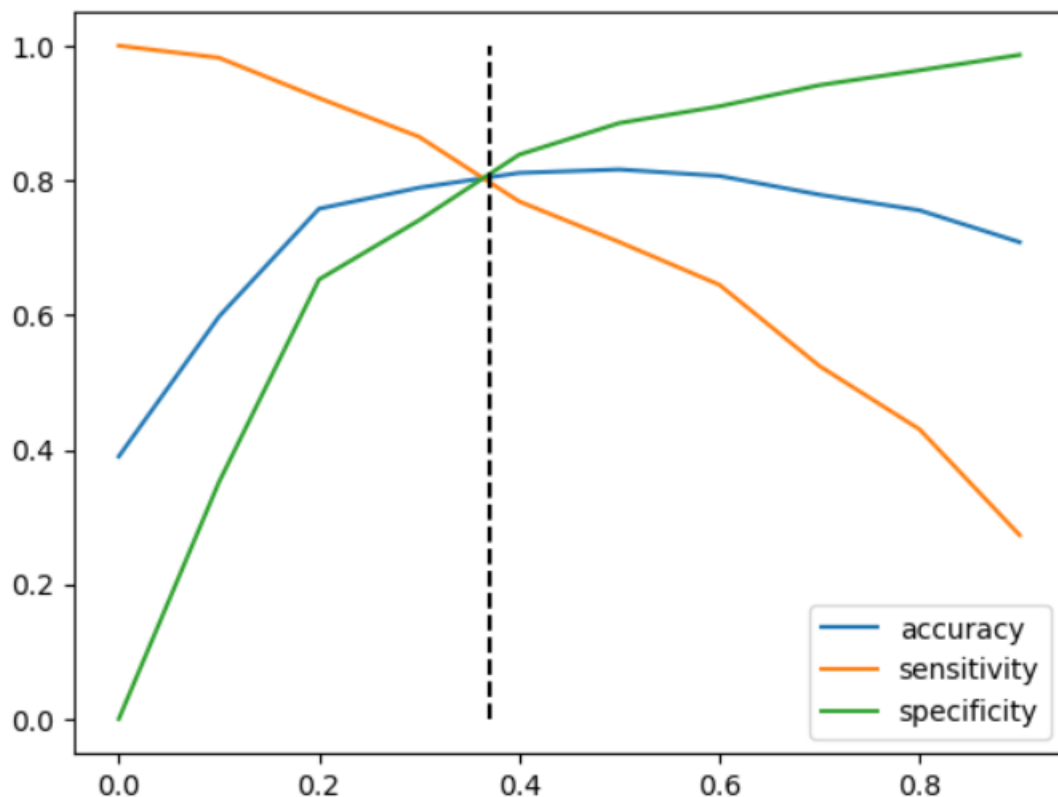
    As we can see in the above graph, Sensitivity decreases as the threshold increases. However, since the company have additional manpower for 2 months, they can go for high sensitivity as resource is available to make phone calls and make lead conversion more aggressive

    Below are examples of few set of customers to whom phone calls can be made:
    -   'API' and 'Landing Page Submission' generate the most leads but have less conversion rates, target them to increase the conversion rate from these origins.

- Focus on improving lead conversion of olark chat
- Focus on people spending more time in X Education website as it has a positive correlation with conversion.

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.

   Ans: In this scenario, the strategy to follow is to focus on Specificity

   Specificity = True Negatives / (True Negatives + False Positives)

   In our case study, Specificity is number of actual non conversions predicted correctly out of total number of actual non conversions

   From the above graph (in Q3), it is evident that the Specificity also increases as the threshold increases. But since the company has already reached its target for the quarter, it should not make phone calls unless its extremely necessary. Hence focus should be on high specificity here and they should make phone calls only to the leads who have very high probability of conversion.

   Below are examples of few set of customers to whom phone calls can be made:
   - Focus on 'Lead Add Form' as the conversation rate is pretty high at 93%
   - Follow up on leads from Welingak website as the conversion rate is too high at 99%
   - Company should focus on working professionals as they are easier to convert with good conversion rate of 92%