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

Based on the coefficients in your model, the top three variables contributing to the probability of a lead getting converted are:

| **Variable** | **Coefficient** |
| --- | --- |
| Tags\_Will revert after reading the email | 2.469370 |
| Lead Profile\_Potential Lead | 1.522266 |
| Lead Quality\_Worst | -1.394923 |

These variables have the largest impact on lead conversion, either positively or negatively.

* The variable **Tags\_Will revert after reading the email** has the highest positive contribution, meaning leads with this tag are highly likely to get converted.
* The **Lead Profile\_Potential Lead** is another strong positive predictor of conversion.
* **Lead Quality\_Worst**, though negatively associated, suggests that leads with the worst quality rating are less likely to convert.

1. 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?

The top three categorical/dummy variables based on the absolute value of their coefficients are:

 **Top 3 Categorical Variables**:

1. **Lead Source** (e.g., Direct Traffic)
2. **Lead Profile** (e.g., Potential Lead)
3. **Last Activity** (e.g., SMS Sent)

 **Implication**:

* Leads from **Direct Traffic** and **Potential Lead** profiles show a higher likelihood of conversion.
* **Focus sales efforts on these categories** to improve conversion rates.

To increase the probability of lead conversion, focusing on these variables can be beneficia

1. 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.  
     
   To increase conversion aggressively during the two-month intern phase, the strategy should focus on maximizing contact with leads predicted as potential converters:

* **Prioritize Calling High-Probability Leads:** Use the **predict\_proba** function from your model to rank leads based on their likelihood of conversion. Focus on leads with a **high predicted probability of conversion (close to 1)**.
* **Use a Segmented Approach:** Interns should focus on leads tagged as "Will revert after reading the email" or classified as **Potential Leads**. These have a high likelihood of conversion, as indicated by their strong positive coefficients.
* **Optimize Lead Assignment:** Divide the leads among interns based on lead scores, ensuring higher-probability leads are contacted first. This can help maximize conversion while utilizing intern resources effectively.

1. 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.

* **Threshold for Calling:** Set a threshold for the predicted probability of conversion, such as 0.8 or higher. Only call leads that meet this probability, as they have a higher chance of conversion. This will help reduce the number of low-probability leads being contacted unnecessarily.
* **Focus on Key Indicators:** Prioritize calling leads based on high-impact variables, such as "Will revert after reading the email" or "Potential Lead". Leads with tags like **Lead Quality\_Worst** can be deprioritized during this phase since they have a low likelihood of conversion.
* **Consider Alternative Channels:** For leads that have a lower predicted probability, use non-intrusive methods like email follow-ups or SMS to maintain contact without committing phone call resources unless absolutely necessary.