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

   Answer: The **top three variables** contributing most towards the probability of a lead getting converted based on the coefficients are:

   1. **Lead Origin_Lead Add Form**

      - **Coefficient: 4.0410**

      - Leads originating from the "Lead Add Form" are highly likely to convert. This indicates that this source is the strongest driver of conversion.

   2. **Last Activity_Had a Phone Conversation**

      - **Coefficient: 2.8940**

      - Engaging leads via phone conversations significantly increases the probability of conversion. It emphasizes the importance of personal interaction in the sales process.

   3. **Last Notable Activity_Unreachable**

      - **Coefficient: 2.4662**

      - Persistently following up with unreachable leads shows a strong positive impact on conversion probability. This suggests that these leads, though initially hard to contact, are worth the effort.

   These variables highlight key areas where the sales team should focus their efforts to maximize 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?*

   Answer: The **top 3 categorical/dummy variables** in the model that should be focused on to   increase the probability of lead conversion are:

   1. **Lead Origin_Lead Add Form**

      - **Coefficient: 4.0410**

      - Leads originating from "Lead Add Form" are the most likely to convert. Focus on generating and nurturing leads from this source to improve conversion rates.

   2. **Last Activity_Had a Phone Conversation**

      - **Coefficient: 2.8940**

- Personal interaction through phone conversations plays a critical role in conversion. The sales team should ensure timely and effective phone engagements with leads.

3. **Last Notable Activity_Unreachable**

   - **Coefficient: 2.4662**

   - Persistence with unreachable leads has a strong positive impact. The team should employ strategies to re-engage these leads, such as follow-up calls or alternative communication channels.

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: For an aggressive lead conversion strategy during the 2-month intern period, X Education should focus on maximizing **sensitivity (recall)**—ensuring that most potential leads predicted as 1 by the model are identified and contacted.

Recommended Strategy

1. Adjust Model Cutoff to Increase Sensitivity

- Lower the cutoff probability (e.g., from **0.5 to 0.3**) to classify more leads as potential converters.

- At a **0.3 cutoff**, metrics show:

  - Sensitivity = **0.8426** (84.26% of potential leads are identified).

  - Specificity = **0.7524**, which is reasonable given the focus on aggressive outreach.

- This will ensure more potential leads are contacted without ignoring too many high-value leads.

2. Prioritize Leads by Conversion Probability

- Rank leads predicted as 1 by their **probabilities** (model output).

- Start with the top-scoring leads (highest conversion probability) and progressively move down the list.

- This helps allocate time and resources effectively to maximize returns.

3. Leverage Interns for Outreach

- **Divide Leads**: Distribute leads among interns based on their conversion probabilities.

4. Optimize Call Strategy

- Use data insights to time calls:

    - Leads with **"SMS Sent"** or **"Phone Conversation"** activities may respond better during similar time slots.

- Experiment with calling windows (e.g., lunch hours for working professionals).

5. Monitor and Reallocate Daily

- Track conversion rates in real-time to measure intern performance and lead quality.

- Redistribute unresponsive leads to other interns to maximize coverage.

6. Additional Engagement Channels

- Supplement phone calls with:

    - **SMS/Emails**: Send follow-ups post-call for those who express interest.

    - **Chatbots**: Engage low-priority leads via automated chats to convert them passively.

This approach ensures efficient use of intern resources while capturing as many potential converters 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: When X Education reaches its quarterly target early, the focus should shift from maximizing conversions to **minimizing unnecessary phone calls** while maintaining a reasonable conversion rate. This requires **increasing specificity**, ensuring that only the most likely-to-convert leads are contacted.

Recommended Strategy

1. Adjust Model Cutoff to Increase Specificity

- Raise the cutoff probability (e.g., from **0.5 to 0.6 or 0.7**) to focus on leads with the highest likelihood of conversion.

- At a **0.7 cutoff**, metrics show:

  - Specificity = **0.9483** (94.83% of leads classified as 0 are correctly identified).

  - Sensitivity = **0.5094**, which is acceptable since fewer leads need to be called.

2. Focus on High-Probability Leads

- Use the model's probabilities to rank and segment leads.

- Call only those leads with probabilities above the cutoff.

3. Leverage Other Engagement Channels

- For leads below the cutoff, avoid phone calls and use cost-effective engagement strategies:

  - **Email Campaigns**: Send personalized follow-ups or offers.

  - **Automated Chatbots**: Use chat tools to passively gauge interest.

  - **SMS/WhatsApp**: Send quick reminders or updates to low-probability leads.

4. Analyze Past Conversion Patterns

- Identify patterns in previous data to refine high-conversion segments:

  - For example, prioritize leads with specific "Last Activities" like **"SMS Sent"** or **"Phone Conversation"**, which indicate higher intent.

Key Metrics to Track

- **Conversion Rate per Call**: Should remain high, indicating calls are focused on quality leads.

- **Engagement Rates** (for emails/SMS): Monitor to assess the effectiveness of alternate channels.

This strategy minimizes unnecessary phone calls while maintaining a streamlined conversion process during downtime.