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

Ans. The top three variables that contribute the most to the probability of a lead getting converted:
   a) Total Time Spent on Website
      o Leads who convert tend to spend significantly more time on the website compared to non-converted leads.
   b) TotalVisits
      o Converted leads generally have higher visits, especially in the upper percentile ranges.
   c) Page Views Per Visit
      o Converted leads tend to have a higher range of page views per visit, showing more engagement.

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 analysis of categorical variables (e.g., univariate analysis, count plots, and correlation), the following three categorical variables significantly contribute to increasing the probability of lead conversion:
   1. Lead Origin
      o Certain lead origins (e.g., "Lead Add Form" or "API") are highly correlated with conversions. Leads coming through these origins tend to convert more often.
   2. Last Activity
      o This variable tracks the last interaction a lead had. Activities like "Email Opened" or "SMS Sent" have strong relationships with conversions. Focusing on leads with these last activities can improve results.
   3. Lead Source
      o The platform or channel (e.g., "Google", "Direct Traffic") through which the lead was generated plays an important role. Leads from sources like "Google" tend to have a higher likelihood of conversion.

Insight: These variables reflect the leads' engagement and origin, providing actionable targets to focus marketing and outreach efforts on specific activities, sources, and origins.

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. Make lead conversion more aggressive during the 2-month intern period:
- Prioritize Leads Predicted as 1 (High Probability of Conversion):
  Use the model's predictions to identify leads with a probability of conversion close to or above a certain threshold (e.g., 0.7 or higher). These are the "hot leads" worth contacting aggressively.
- Segment Leads Based on Engagement (Last Activity):
  Focus phone calls on leads with recent high-engagement activities like:
    o "Email Opened"
    o "SMS Sent"
    o "Page Visited Multiple Times"
      Such leads are already engaged and are closer to conversion.
- Assign Specific Interns to Key Categories (Lead Source/Origin):
  Interns can be divided into teams, with each group focusing on the most productive channels (e.g., leads from "Google", "API"). This targeted approach increases efficiency.
- Automated Follow-Ups Before Calls:
  Before making phone calls, send automated follow-up emails or SMS messages to re-engage leads. This increases the probability of a successful call.
  Summary: Use model predictions to prioritize high-probability leads, segment based on engagement levels, and allocate interns to focus on the most promising leads.

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**.

When the company has already met its quarterly targets and wants to minimize unnecessary phone calls:
- Raise the Threshold for Predicting Conversions:
  Use a higher probability cutoff (e.g., 0.9 or 0.95) for predicting leads as "converted" (1). This ensures that only the most promising leads are targeted for phone calls.
- Filter Leads Based on Recent Activities:
  Focus phone calls on leads with specific last activities that have shown high conversion rates historically:
    o "Email Opened"
    o "Form Submitted"
      Avoid calling leads with less meaningful activities like "Email Bounced" or "Unresponsive".
- Use Lead Scoring to Rank Leads:
  Rank all leads based on their lead scores (from the model). Only target the top-ranked leads for follow-ups. Leads with lower scores can be excluded from calls unless re-engagement occurs.

- Automated Messaging for Lower-Priority Leads:
  For leads that fall below the high-conversion threshold, use non-intrusive methods like:
    o Follow-up emails
    o SMS reminders
      This avoids unnecessary phone calls while maintaining a line of communication.

Summary: Focus on leads with high probability thresholds and strong engagement indicators, and minimize phone calls to lower-priority leads by using automated follow-ups.