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

   ANSWER:

   Based on the coefficient values from below screeshot, the following are the top three variables that contribute most towards the probability of a lead getting converted :

   a) Total Time Spent on Website
   b) Landing page submission Form (from Lead Origin)
   c) Lead Add Form (from Lead Origin)

	coef	std err	z	P>|z|	[0.025	0.975]
const	-0.0227	0.161	-0.141	0.888	-0.339	0.293
TotalVisits	0.9619	0.250	3.852	0.000	0.472	1.451
Total Time Spent on Website	4.6272	0.173	26.765	0.000	4.288	4.966
Lead Origin_Landing Page Submission	-0.9478	0.131	-7.221	0.000	-1.205	-0.691
Lead Origin_Lead Add Form	3.7432	0.270	13.844	0.000	3.213	4.273
Specialization_NOT AVAILABLE	-0.8584	0.129	-6.638	0.000	-1.112	-0.605
Lead Source_Olark Chat	1.4170	0.136	10.434	0.000	1.151	1.683
Lead Source_Welingak Website	2.8927	1.042	2.776	0.005	0.851	4.935
Do Not Email_Yes	-1.4704	0.208	-7.069	0.000	-1.878	-1.063
Last Activity_Email Bounced	-1.0318	0.394	-2.617	0.009	-1.804	-0.259
Last Activity_Olark Chat Conversation	-1.2717	0.200	-6.370	0.000	-1.663	-0.880
What is your current occupation_NOT AVAILABLE	-0.9777	0.089	-10.937	0.000	-1.153	-0.802
What is your current occupation_Working Professional	2.3998	0.194	12.399	0.000	2.020	2.779
Last Notable Activity_Email Link Clicked	-1.9085	0.267	-7.146	0.000	-2.432	-1.385
Last Notable Activity_Email Opened	-1.3533	0.090	-14.962	0.000	-1.531	-1.176
Last Notable Activity_Modified	-1.6854	0.100	-16.875	0.000	-1.881	-1.490
Last Notable Activity_Olark Chat Conversation	-1.3012	0.383	-3.398	0.001	-2.052	-0.551
Last Notable Activity_Page Visited on Website	-1.8450	0.213	-8.660	0.000	-2.263	-1.427

```
# Make a VIF dataframe
```

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:

   a) Landing page submission Form (from Lead Origin)
   b) Lead add(from Lead origin)
   c) Olark chat(from Lead source)

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:
   Solution:

   In the below image, the final prediction is calculated based on a optimal cut off value of 0.35

   In order to make the sales aggressive, the company may contact all the leads which have a conversion probabilty (value = 1) under a cut off 0.3

	Converted	Conversion_Prob	Predicted	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	final_predicted
0	0	0.521707	1	1	1	1	1	1	1	0	0	0	0	1
1	1	0.996842	1	1	1	1	1	1	1	1	1	1	1	1
2	1	0.415565	0	1	1	1	1	1	0	0	0	0	0	1
3	0	0.142458	0	1	1	0	0	0	0	0	0	0	0	0
4	0	0.130351	0	1	1	0	0	0	0	0	0	0	0	0

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:

   In order to minimize the rate of useless phone calls, the company may contact all the leads which have a conversion probability under column 0.7. However, the flipside here would be that, we may miss out on those leads that are actually converted but then the model wrongly predicted them as not converted.This should not be a major cause for concern as the target has already be achieved

	Converted	Conversion_Prob	Predicted	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	final_predicted
0	0	0.521707	1	1	1	1	1	1	1	0	0	0	0	1
1	1	0.996842	1	1	1	1	1	1	1	1	1	1	1	1
2	1	0.415565	0	1	1	1	1	1	0	0	0	0	0	1
3	0	0.142458	0	1	1	0	0	0	0	0	0	0	0	0
4	0	0.130351	0	1	1	0	0	0	0	0	0	0	0	0