1. Which are the top three variables in your model which contribute most towards the probability of a lead getting converted?
   Solution:
   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) Lead Add Form (from Lead Origin)
   c) Had a Phone Conversation (from Last Notable Activity)

	coef
const	-0.6693
Do Not Email	-1.0393
Do Not Call	21.9646
TotalVisits	1.6037
Total Time Spent on Website	4.5014
Page Views Per Visit	-0.8014
Search	-1.4701
LeadOrigin_Landing Page Submission	-0.1115
LeadOrigin_Lead Add Form	3.3856
LeadSource_Direct Traffic	-0.4254
LeadSource_Olark Chat	1.1890
LeadSource_Organic Search	-0.1576
LastActivity_Not Sure	-0.7918
LastActivity_Olark Chat Conversation	-0.6996
LastActivity_SMS Sent	1.4076
CurrentOccupation_No Information	-2.4429
CurrentOccupation_Student	-1.2946
CurrentOccupation_Unemployed	-1.2058
CurrentOccupation_Working Professional	1.4530
LastNotableActivity_Email Link Clicked	-0.5067
LastNotableActivity_Email Opened	-0.6330
LastNotableActivity_Had a Phone Conversation	3.0626
LastNotableActivity_Modified	-0.8390
LastNotableActivity_Olark Chat Conversation	-0.5084
LastNotableActivity_Unreachable	1.5794

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?
   Solution: Again, based on the coefficient values from the screen shot in the question above, the following are the top three categorical/dummy variables that should be focused the most in order to increase the probability of lead conversion :
   a) Lead Add Form (from Lead Origin)
   b) Had a Phone Conversation (from Last Notable Activity)
   c) Working Professional (from What is your current occupation)

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.

Solution: In the below image, the final prediction is calculated based on a optimal cut off value of 0.37.In order to make the sales aggressive, the company may contact all the leads which have a conversion probability (value = 1) under a cut off 0.3 (column 0.3 highlighted in yellow).

	Converted	Converted_Prob	LeadId	predicted	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	final_predicted	lead_score
0	0	0.715082	2240	1	1	1	1	1	1	1	1	1	0	0	1	72
1	0	0.462256	113	0	1	1	1	1	1	0	0	0	0	0	1	46
2	1	0.718547	4132	1	1	1	1	1	1	1	1	1	0	0	1	72
3	0	0.101120	5573	0	1	1	0	0	0	0	0	0	0	0	0	10
4	0	0.016267	1109	0	1	0	0	0	0	0	0	0	0	0	0	2
5	0	0.057108	2282	0	1	0	0	0	0	0	0	0	0	0	0	6
6	1	0.742741	2976	1	1	1	1	1	1	1	1	1	0	0	1	74
7	0	0.414250	8431	0	1	1	1	1	1	0	0	0	0	0	1	41
8	1	0.802442	2770	1	1	1	1	1	1	1	1	1	1	0	1	80
9	1	0.996230	5790	1	1	1	1	1	1	1	1	1	1	1	1	100
10	1	0.961947	2943	1	1	1	1	1	1	1	1	1	1	1	1	96
11	0	0.233618	1196	0	1	1	1	0	0	0	0	0	0	0	0	23
12	1	0.470665	8874	0	1	1	1	1	1	0	0	0	0	0	1	47
13	0	0.119815	1491	0	1	1	0	0	0	0	0	0	0	0	0	12
14	0	0.097556	7676	0	1	0	0	0	0	0	0	0	0	0	0	10
15	1	0.438095	8750	0	1	1	1	1	1	0	0	0	0	0	1	44
16	1	0.833076	5049	1	1	1	1	1	1	1	1	1	1	0	1	83
17	0	0.672945	5691	1	1	1	1	1	1	1	1	0	0	0	1	67
18	1	0.467141	5773	0	1	1	1	1	1	0	0	0	0	0	1	47
19	0	0.030419	3906	0	1	0	0	0	0	0	0	0	0	0	0	3

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.

Solution: To minimize the rate of useless phone calls, the company may contact all the leads which have a conversion probability (value = 1 highlighted in yellow color) under column 0.7. However, the flipside here would be that we may miss out on those leads that are converted but then the model wrongly predicted them as not converted. (See highlights in the image below). This should not be a major cause for concern as the target has already been achieved.

	Converted	Converted_Prob	LeadId	predicted	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	final_predicted	lead_score
0	0	0.715082	2240	1	1	1	1	1	1	1	1	1	0	0	1	72
1	0	0.462256	113	0	1	1	1	1	1	0	0	0	0	0	1	46
2	1	0.718547	4132	1	1	1	1	1	1	1	1	1	0	0	1	72
3	0	0.101120	5573	0	1	1	0	0	0	0	0	0	0	0	0	10
4	0	0.016267	1109	0	1	0	0	0	0	0	0	0	0	0	0	2
5	0	0.057108	2282	0	1	0	0	0	0	0	0	0	0	0	0	6
6	1	0.742741	2976	1	1	1	1	1	1	1	1	1	0	0	1	74
7	0	0.414250	8431	0	1	1	1	1	1	0	0	0	0	0	1	41
8	1	0.802442	2770	1	1	1	1	1	1	1	1	1	1	0	1	80
9	1	0.996230	5790	1	1	1	1	1	1	1	1	1	1	1	1	100
10	1	0.961947	2943	1	1	1	1	1	1	1	1	1	1	1	1	96
11	0	0.233618	1196	0	1	1	1	0	0	0	0	0	0	0	0	23
12	1	0.470665	8874	0	1	1	1	1	1	0	0	0	0	0	1	47
13	0	0.119815	1491	0	1	1	0	0	0	0	0	0	0	0	0	12
14	0	0.097556	7676	0	1	0	0	0	0	0	0	0	0	0	0	10
15	1	0.438095	8750	0	1	1	1	1	1	0	0	0	0	0	1	44
16	1	0.833076	5049	1	1	1	1	1	1	1	1	1	1	0	1	83
17	0	0.672945	5691	1	1	1	1	1	1	1	1	0	0	0	1	67
18	1	0.467141	5773	0	1	1	1	1	1	0	0	0	0	0	1	47
19	0	0.030419	3906	0	1	0	0	0	0	0	0	0	0	0	0	3