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:

- 1) Lead origin_Lead Add Form
- 2) Lead Source_Welingak Website
- 3) Occupation_Working Professional

Do Not Email	-42.0
Total Time Spent on Website	38.0
Lead Origin_Landing Page Submission	-36.0
Lead Origin_Lead Add Form	100.0
Lead Source_Olark Chat	39.0
Lead Source Welingak Website	88.0
Last Activity Email Opened	26.0
Last Activity_Olark Chat Conversation	-22.0
Last Activity_Other Activity	80.0
Last Activity SMS Sent	67.0
Last Activity Unreachable	30.0
Last Activity Unsubscribed	50.0
Specialization_Hospitality Management	-36.0
Specialization Others	-35.0
Occupation Unknown	-39.0
Occupation Working Professional	86.0

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:

- 1) Lead origin_Lead Add Form
- 2) Lead Source Welingak Website
- 3) Occupation_Working Professional
- 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 probabilty (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	0.600894	2240	1	1	1	1	1	1	1	1	0	0	0	1	60
1	0	0.794876	113	1	1	1	1	1	1	1	1	1	0	0	1	79
2	1	0.802664	4132	1	1	1	1	1	1	1	1	1	1	0	1	80
3	0	0.089476	5573	0	1	0	0	0	0	0	0	0	0	0	0	9
4	0	0.029809	1109	0	1	0	0	0	0	0	0	0	0	0	0	3
5	0	0.041753	2282	0	1	0	0	0	0	0	0	0	0	0	0	4
6	1	0.767093	2976	1	1	1	1	1	1	1	1	1	0	0	1	77
7	0	0.418665	8431	0	1	1	1	1	1	0	0	0	0	0	1	42
8	1	0.805010	2770	1	1	1	1	1	1	1	1	1	1	0	1	81
9	1	0.995568	5790	1	1	1	1	1	1	1	1	1	1	1	1	100
10	1	0.950498	2943	1	1	1	1	1	1	1	1	1	1	1	1	95
11	0	0.197985	1196	0	1	1	0	0	0	0	0	0	0	0	0	20
12	1	0.648304	8874	1	1	1	1	1	1	1	1	0	0	0	1	65
13	0	0.106911	1491	0	1	1	0	0	0	0	0	0	0	0	0	11
14	0	0.110507	7676	0	1	1	0	0	0	0	0	0	0	0	0	11
15	1	0.490611	8750	0	1	1	1	1	1	0	0	0	0	0	1	49
16	1	0.805010	5049	1	1	1	1	1	1	1	1	1	1	0	1	81
17	0	0.648304	5691	1	1	1	1	1	1	1	1	0	0	0	1	65
18	1	0.380602	5773	0	1	1	1	1	0	0	0	0	0	0	1	38
19	0	0.032619	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:

In order to minimize the rate of useless phone calls, the company may contact all the leads which have a conversion probabilty (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 actually converted but then the model wrongly predicted them as not converted. (See red highlights in the image below). This should not be a major cause for concern as the target has already be achieved.

	Converted	Converted_Prob	Leadld	predicted	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	8.0	0.9	final_predicted	lead_score
0	0	0.600894	2240	1	- 1	1	1	1	1	- 1	1	0	0	0	1	60
1	0	0.794876	113	1	1	1	1	1	1	1	1	1	0	0	1	79
2	1	0.802664	4132	1	1	1	1	1	1	1	1	1	1	0	1	80
3	0	0.089476	5573	0	1	0	0	0	0	0	0	0	0	0	.0	
4	0	0.029809	1109	0	1	0	0	0	0	0	0	0	0	0	0	3
5	0	0.041753	2282	0	1	0	0	0	0	0	0	0	0	0	0	4
6	1	0.767093	2976	1	1	1	1	1	1	1	1	1	0	0	1	77
7	0	0.418665	8431	0	- 1	1	1	1	1	0	0	0	0	0	1	42
8	1	0.805010	2770	1	1	1	1	1	1	1	1	1	1	0	1	81
9	1	0.995568	5790	1	1	1	1	1	1	1	1	1	1	- 1	1	100
0	1	0.950498	2943	1	1	1	1	1	.1	- 1	1	1	1	1	1	95
1	0	0.197985	1196	0	1	1	0	0	0	0	0	0	0	0	0	20
2	1	0.648304	8874	1	1	1	1	1	-1	1	1	0	0	0	1	65
3	0	0.106911	1491	0	1	1	0	0	0	0	0	0	0	0	.0	11
4	0	0.110507	7676	0	-1	1	0	0	0	0	0	0	0	0	0	
5	1	0.490611	8750	0	1	1	1	1	1	0	0	0	7 0	0	1	49
6	1	0.805010	5049	1	1	1	1	1	- 1	1	1	1	1	0	1	81
7	0	0.648304	5691	1	1	1	1	1	1	1	1	0	0	0	1	65
8	1	0.380602	5773	0	- 1	1	1	1	0	0	0	0	0	0	1	38
9	0	0.032619	3906	0	1	0	0	0	0	0	0	0	0	0	0	