

Assigning Lead Score Model

- Built an ML model using Support Vector Machine Model to predict the lead score as an OUTPUT on the basis of various INPUT sets of features.
 - The model generated an accuracy of 65%.

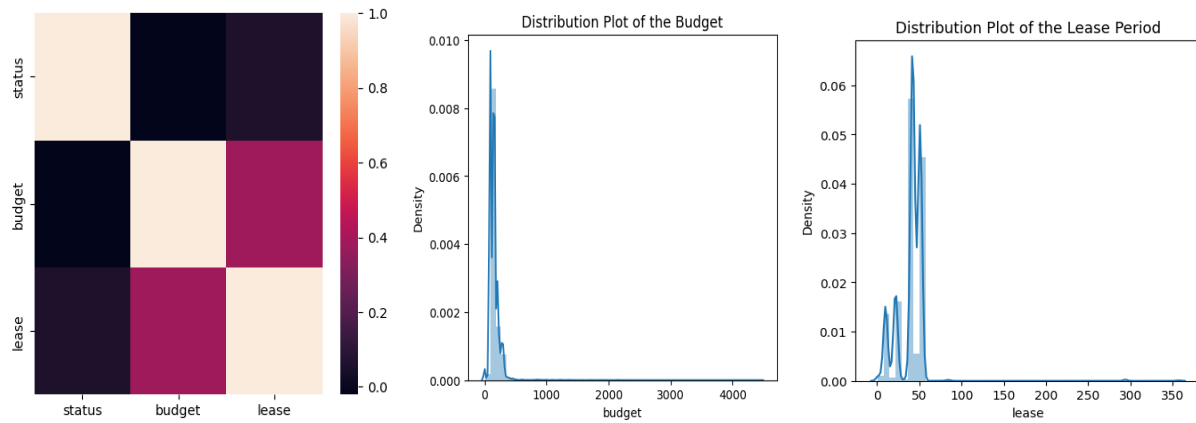
Data Cleaning

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1		Agent_id	status	lost_reason	budget	lease	movein	source	source_city	source_country	utm_source	utm_medium	des_city	des_country	room_type	lead_id
2		0	1deba9e96f404f	LOST	Not responding			9b2d5b4678781	9b2d5b4678781	9b2d5b4678781	3d597548e1a72	268ad70eb5bc4	ecc0e7dc084f14	8d23a6e37e0a6431a8f1b43a910	c5d5cd0d9393f35	
3		1	299ae77a4ef35c	LOST	Low budget			9b2d5b4678781	9b2d5b4678781	9b2d5b4678781	3d597548e1a72	268ad70eb5bc4	5372372f2b5f589	8d23a6e37e0a6431a8f1b43a910	b54693673a5f71	
4		2	c213697430c00f	LOST	Not responding	£121 - £180 Per	Full Year Course	31/08/22	7aae3e806e89f	9b8cc3c63cdf44	e09e10e67812e	bbdefa2950f498	09076eb7665d1	11ab03a1a8c36	8d23a6e37e0a6	Ensulte
5		3	eac9815a5009f	LOST	Low budget	0-0	0		ba2d0a29556ac	a5f0d2d08eb05f	e09e10e67812e	bbdefa2950f498	09076eb7665d1	19372f4a4c57a	8d23a6e37e0a6431a8f1b43a910	1d2b34d8ad02
6		4	1deba9e96f404f	LOST	Junk lead			9b2d5b4678781	9b2d5b4678781	9b2d5b4678781	3d597548e1a72	268ad70eb5bc4	9b2d5b4678781	9b2d5b4678781	e53038e91ea532	fc10fdd29cfbe93
7		5	2386878a9ad9b	LOST	Wants private accomm	120	semester-stay	7bctca0e9d7337	7b7f159f9b9eb90	8da82000e9fc44	bbdefa2950f498	09076eb7665d1	119d051291043f	8d23a6e37e0a6431a8f1b43a910	b2682b65f7d94f	
8		6	2386878a9ad9b	LOST	Short stay	0-0	0	9ba9134a91dc5	3c1de4f8af45cd	e09e10e67812e	4688fa9ce4f64d	09076eb7665d1	ecc0e7dc084f14	8d23a6e37e0a6431a8f1b43a910	7ea9686bb6b4e	
9		7	44864c96fa1c3f	LOST	Wants private accomm	£181 - £240 Per	51	08/09/22	7aae3e806e89f	8593b9db65212	e09e10e67812e	bbdefa2950f498	09076eb7665d1	8593b9db65212	8d23a6e37e0a6	Entire Place
10		8	a8b0a550a994	LOST	Low budget	100	Semester Stay 20 - 24 weeks	069105a4c402f	4a64e0d55d5dc0c	8da82000e9fc44	bbdefa2950f498	09076eb7665d1	5372372f2b5f589	8d23a6e37e0a6431a8f1b43a910	b2682b65f7d94f	
11		9	131127203c89a	LOST	Booked with manager	270	51	9ba9134a91dc5	39ae78ec341cf	dffa6fc4bc17102	bbdefa2950f498	09076eb7665d1	bffae433b5b477	8d23a6e37e0a6431a8f1b43a910	dffa6fc4bc17102	
12		10	2fca346db6561f	LOST	Low availability	150	semester-stay	7bctca0e9d7337	b2586a6c0f569f	e09e10e67812e	bbdefa2950f498	09076eb7665d1	5e02dadaf7e4c	8d23a6e37e0a6431a8f1b43a910	7ea9686bb6b4e	
13		11	d419206768abf	LOST	Not responding	£121 - £180 Per	Full Year Course	15/09/22	7aae3e806e89f	18d4925b0e2af	e09e10e67812e	bbdefa2950f498	09076eb7665d1	11ab03a1a8c36	8d23a6e37e0a6	Ensulte
14		12	44864c96fa1c3f	LOST	Wants private accomm	£121 - £180 Per	Full Year Course	02/09/22	7aae3e806e89f	b1d2da0941873	e09e10e67812e	bbdefa2950f498	09076eb7665d1	8593b9db65212	8d23a6e37e0a6	Entire Place
15		13	50750ee68276f	LOST	Not responding	£181 - £240 Per	Complete Educa	04/09/22	7aae3e806e89f	912b4e4c70521	e09e10e67812e	bbdefa2950f498	09076eb7665d1	810c069040f6a5	8d23a6e37e0a6	Entire Place
16		14	a9f80b4eaba3fd	LOST	Low budget	100	full-course-stay	7bctca0e9d7337	95d8d82913f79b6	8da82000e9fc44	bbdefa2950f498	09076eb7665d1	a8d85a214c143	8d23a6e37e0a6431a8f1b43a910	c3c45049e8889	
17		15	a9f80b4eaba3fd	LOST	Not responding	180	full-course-stay	7bctca0e9d7337	9c9f1252b350e4	38f8e804a1f9ec0	bbdefa2950f498	09076eb7665d1	ecc0e7dc084f14	8d23a6e37e0a6431a8f1b43a910	0618f4efaac0fd1	

Converted the above data to the following

	Agent_id	status	budget	lease	source	source_city	source_country	utm_source	utm_medium	des_city	des_country
2	76	0	150.5	42.0	44	1975		153	17	2	14
5	13	0	120.0	22.0	45	1583		92	17	2	162
7	25	0	210.5	51.0	44	1716		153	17	2	93
8	67	0	100.0	22.0	49	1011		92	17	2	59
9	5	0	270.0	51.0	57	738		151	17	2	128
...
46598	36	0	90.0	42.0	44	2993		153	17	2	28
46599	99	0	90.0	22.0	44	849		153	17	2	4
46605	4	0	270.5	42.0	44	1600		92	17	2	157
46606	53	0	1108.0	294.0	83	2954		122	13	17	157
46607	12	0	210.5	42.0	44	255		153	17	2	70
23212 rows × 11 columns											

Data Analysis



Training and Predicting the Model

```
model2 = svm.SVC(kernel = 'rbf', probability=True)
```

```
model2.fit(X_train, Y_train)
```

```
SVC
SVC(probability=True)
```

Training set evaluation:

Accuracy: 0.6362

Precision: 0.6083

Recall: 0.7659

F1-score: 0.6780

Test set evaluation:

Accuracy: 0.6049

Precision: 0.5839

Recall: 0.7263

F1-score: 0.6473

Providing Lead Score

Lead_score
73.873905
72.667372
72.227997
72.199916
71.565967
71.425582
71.285041
71.226217
71.020997
70.843048

