MACHINE LEARNING REGRESSION : BUSINESS ANALYSIS

1) MULTIPLE LINEAR REGRESSION :

⇒   r_2 Accuracy : 0.93

2) SUPPORT VECTOR MACHINE

S.NO	HYPER PARAMETER	LINEAR	RBF	POLY	SIGMOID
1	C = 0.5	0.9230113113764172	-0.05740178748055347	-0.054182215904108544	-0.05749274369449475
2	C = 10	-2.437215037066502	-0.055800922934202024	0.02531238887543097	-0.05761538606317651
3	C = 25	-21.00068079933336	-0.05270999686112199	0.10996920103545382	-0.05780914528182457
4	C = 50	-87.97853250050537	-0.045154807174499156	0.2669118467667154	-0.05813238581184743
5	C = 100	-357.07951474595836	-0.03023555979437731	0.46566263381175776	-0.05878002374292657
				C =10000 ->0.8142405723390951	

=> The SVM Regression r2 value was giving better accuracy on "linear" when C = 0.5 -> 0.923

3) DECISION TREE :

S.NO	CRITERION	SPLITTER	MAX -FEATURES	R-VALUE
1	Mse	best	auto	**0.91**
2	Mse	random	auto	**0.87**
3	Mse	best	sqrt	**0.77**
4	Mse	random	sqrt	**0.46**
5	Mse	best	log2	**0.88**
6	Mse	random	log2	**0.61**
7	Mae	best	auto	**0.96**
8	Mae	random	auto	**0.83**
9	Mae	best	sqrt	**0.43**
10	Mae	random	sqrt	**0.36**
11	Mae	best	log2	**0.82**
12	Mae	random	log2	**0.33**
13	friedman_mse	best	auto	**0.94**
14	friedman_mse	random	auto	**0.70**
15	friedman_mse	best	sqrt	**0.76**
16	friedman_mse	random	sqrt	**0.62**
17	friedman_mse	best	log2	**0.43**
18	friedman_mse	random	log2	**0.55**

=> The DT r2 value was giving better accuracy on "absolute error" when Splitter at " best " and max features is at auto -> 0.96