Machine Learning Regression Method

1. MULTIPLE LINEAR REGRESSION: **(R^2 Value) = 0.9358**

2. SUPPORT VECTOR MACHINE:

S.NO	HYPER PARAMETER	LINEAR (R^2 Value)	RBF (R^2 Value)	POLY (R^2 Value)	SIGMOID (R^2 Value)
1	C=10	-0.0396	-0.0574	-0.0536	-0.0547
2	C=100	0.1064	-0.0507	-0.0198	-0.0304
3	C=500	0.5928	-0.0243	0.1146	0.0705
4	C=1000	0.7802	0.0067	0.2661	0.1850
5	C=2000	0.8767	0.0675	0.4810	0.3970
6	C=3000	0.8956	0.1232	0.6370	0.5913
7	C=5000	0.9003	0.2124	0.7936	0.7306
8	C=10000	0.9239	0.3718	0.8129	0.8535

In SVM (R^2 Value) = 0.9239 [When HYPER PARAMETER C=10000 and Kernel='LINEAR']

3. DECISION TREE:

S.NO	CRITERION	MAX FEATURES	SPLITTER	R^2 Value
1	friedman_mse	auto	best	0.9188
2	friedman_mse	auto	random	0.7317
3	friedman_mse	sqrt	best	0.0202
4	friedman_mse	sqrt	random	0.9302
5	friedman_mse	log2	best	0.7915
6	friedman_mse	log2	random	0.3929
7	squared_error	auto	best	0.9145
8	squared_error	auto	random	0.7270
9	squared_error	sqrt	best	0.4701
10	squared_error	sqrt	random	-0.1047
11	squared_error	log2	best	0.4726
12	squared_error	log2	random	-0.5683
13	absolute_error	auto	best	0.9218
14	absolute_error	auto	random	0.8647

15	absolute_error	sqrt	best	0.8732
16	absolute_error	sqrt	random	0.6474
17	absolute_error	log2	best	0.8170
18	absolute_error	log2	random	0.4578
19	poisson	auto	best	0.7632
20	poisson	auto	random	0.7690
21	poisson	sqrt	best	-0.0885
22	poisson	sqrt	random	-0.8671
23	poisson	log2	best	0.3301
24	poisson	log2	random	0.2129

In Decision Tree (R^2 Value) = 0.9302 [When CRITERION=' friedman_mse' , MAX FEATURES='sqrt' and SPLITTER='random']