TO FIND R2VALUE BY USING THE FOLLOWING MACHINE LEARNING ALGORITHMS

1. MULTIPLE LINEAR REGRESSION (R2 value = 0.9358)

2. SUPPORT VECTOR MACHINE:

S.No	HYPER PARAMETER	LINEAR (r value)	RBF (NON LINEAR) (r value)	POLY (r value)	SIGMOID (r value)
1	WITHOUT STANDARDIZATION	0.8950	-0.05748	Executes for long time and couldn't find	-0.05748
WITH STANDARDIZATION					
1	C10	-0.0396	-0.0568	-0.0536	-0.0547
2	C100	0.1064	-0.0507	-0.0198	-0.0304
3	C500	0.5928	-0.0243	0.1146	0.0705
4	C1000	0.7802	0.0067	0.2661	0.1850
5	C2000	0.8767	0.0675	0.4810	0.3970
6	C3000	0.8956	0.1232	0.6370	0.5913

The SVM Regression use R2 value (linear and hyper parameter (C3000))R2 Value=0.8956

3. DECISION TREE:

S.No	CRITERION	MAX FEATURES	SPLITTER	R VALUE
1	mse	auto	best	0.9059
2	mse	auto	random	0.9166
3	mse	sqrt	best	0.6103
4	mse	sqrt	random	0.0314
5	mse	log2	best	0.3619
6	mse	log2	random	0.1617

7	Mae	auto	best	0.9435
8	Mae	auto	random	0.8152
9	mae	sqrt	best	0.7295
10	mae	sqrt	random	0.1026
11	mae	log2	best	0.8497
12	mae	log2	random	0.4073
13	friedman_mse	auto	best	0.9173
14	friedman_mse	auto	random	0.9040
15	friedman_mse	sqrt	best	0.6903
16	friedman_mse	sqrt	random	0.2372
17	friedman_mse	log2	best	0.7395
18	friedman_mse	log2	random	0.4311

The Decision Tree Regression (Mae, auto, best) R2 value = 0.9435

4. RANDOM FOREST

S.No	CRITERION	MAX FEATURES	N_ESTIMATORS	R VALUE
1	Mse	auto	10	0.9252
2	Mse	auto	100	0.9460
3	Mse	sqrt	10	0.5191
4	Mse	sqrt	100	0.7591
5	Mse	Log2	10	0.5191
6	Mse	Log2	100	0.7591
7	Mse	auto	10	0.9252
8	mae	auto	100	0.9459
9	mae	sqrt	10	0.7210

10	mae	sqrt	100	0.7857
11	mae	Log2	10	0.7210
12	mae	Log2	100	0.7857

The Random Forest Regression (Mse,auto,100) R2 value =0.9460