BY USING MACHINE LEARNING REGRESSION METHOD TO FIND THE r2_value

1.Multiple Linear regression – r2_value = 0.93

2.Support Vector Machine

S.no	Hyper parameter	Linear (r2_value)	RBF(Non-linear)	Poly (r2_value)	Sigmoid (r2_value)
1	C10	-0.03	-0.056	-0.053	-0.54
2	C100	0.10	-0.05	-0.019	-0.03
3	C500	0.59	-0.024	0.11	0.07
4	C1000	0.78	0.006	0.26	0.18
5	C2000	0.87	0.06	0.48	0.39

By using SVM (linear and hyper parameter(C2000)

r2_ value =0.87

3.Decision Tree

S.no	Criterion	Max_ features	splitter	R2_value
1	Mse	auto	best	0.91

2	Mse	auto	random	0.85
3	Mse	sqrt	best	0.68
4	Mse	sqrt	random	o.49
5	Mse	Log2	Best	0.51
6	Mse	Log2	random	0.84
7	Mae	auto	Best	0.93
8	Mae	Auto	Random	0.90
9	Mae	Sqrt	Best	0.73
10	Mae	Sqrt	Random	0.91
11	Mae	Log2	Best	0.04
12	Mae	Log2	Random	-0.16
13	Friedman_mse	Auto	Best	0.90
14	Friedman_mse	Auto	Random	0.88
15	Friedman_mse	Sqrt	Best	-0.40
16	Friedman_mse	Sqrt	Random	0.35
17	Friedman_mse	Log2	Best	-1.16
18	Friedman_mse	Log2	random	-0.31

The Decision Tree Regression use R2_value

Criterion-friedman_mse,

max_features- auto,

splitter- best

R2_value =0.93

4. Random Forest