To find following the machine learning regression method using in r2 value

1.MULTIPLE LINEAR REGRESSION: (R2 value**)=0.7894**

2.SUPPORT VECTOR MACHINE:

SVM accuracy value for Hyperparameter, linear, rbf, poly, Sigmoid

SL.NO	Hyper parameter	Linear	Non-linear(rbf)	poly	sigmoid
1	**C10**	-0.0016	-0.0819	-0.0931	-0.0907
2	**C100**	0.5432	-0.1248	-0.0997	-0.1181
3	**C500**	0.6270	0.1246	-0.0820	-0.4562
4	**C1000**	0.6340	0.1077	-0.0027	-5.6164
5	**C2000**	0.6893	0.0962	-0.0489	-12.0190
6	**C3000**	**0.7590**	0.1174	-0.0555	-1.6659

The **svm Regression** use **R2 value**(linear) and hyper parameter(C3000)) =**0.7590**

3.DECISION TREE:

SL.NO	CRITERION	SPLITTER	MAX FEATURES	R VALUE
1	Squared error	Best	sqrt	0.6471
2	Squared error	Best	Log2	0.6998
3	Squared error	Random	sqrt	0.6255
4	Squared error	Random	Log2	0.6694
5	Friedman mse	Best	sqrt	0.7334
6	Friedman mse	Best	Log2	0.6853
7	Friedman mse	Random	sqrt	0.6452
8	Friedman mse	Random	Log2	0.6515
9	Absolute error	Best	sqrt	0.6736
10	Absolute error	Best	Log2	0.6878
11	Absolute error	Random	sqrt	0.7278
12	Absolute error	Random	Log2	0.7107
13	Poisson	Best	sqrt	0.5969
14	Poisson	Best	Log2	0.5924
15	Poisson	Random	sqrt	0.6920
16	Poisson	Random	Log2	0.6393

The **DECISION tree** regression use **R2** value (Friedman_mse, best,sqrt) =**0.7334**

4. Random Forest:

S.no	CRITERION	N_ESTIMATORS	MAX FEATURES	R2 VALLUE
1	**Squared error**	**50**	**Sqrt**	**0.8661**
2			**Log2**	**0.8654**
3			**none**	**0.8496**
4		**100**	**Sqrt**	**0.8724**
5			**Log2**	**0.8704**

6			**None**	**0.8554**
7	**Friedman mse**	**50**	**Sqrt**	**0.8660**
8			**Log2**	**0.8715**
9			**None**	**0.8579**
10		**100**	**Sqrt**	**0.8675**
11			**Log2**	**0.8676**
12			**None**	**0.8494**
13	**Absolute error**	**50**	**Sqrt**	**0.8707**
14			**Log2**	**0.8703**
15			**None**	**0.8473**
16		**100**	**Sqrt**	**0.8700**
17			**Log2**	**0.8704**
18			**None**	**0.8540**
19	**Poisson**	**50**	**Sqrt**	**0.8220**
20			**Log2**	**0.8244**
21			**None**	**0.8352**
22		**100**	**Sqrt**	**0.8284**
23			**Log2**	**0.8331**
24			**None**	**0.8347**

Criterion(squared_error),max_features(srqt),n_estimators(100)=r2value=0.8724