1. MULTIPLE LINEAR REGRESSION (r2 value) = 0.78947

2. SUPPORT VECTOR MACHINE

SNO	PARAMETER	R _VALUE
1	RBF&C=10	-0.081969
2	Degree&=3	-0.088427
3	verbose=False	-0.088427
4	Tol =1e-3,epsilon=0.1,C=1000000	0.808305

THE **SVM REGRESSION** USE **r2 VALUE** tol =1e-3,epsilon=0.1,(C=1000000) = 0.808305

3. DECISION TREE

S.NO	CRITERION	MAX FEATURIES	SPLITTER	R VALUE
1.	**squared_error**	**None**	**best**	0.69079
2.	**friedman_mse**	**sqrt**	**random**	0.63760
3.	**poisson**	**log2**	**random**	0.73907
4.	**absolute_error**	**Log2**	**random**	0.72579
5.	**absolute_error**	**None**	**best**	0.65506
6.	**absolute error**	**None**	**random**	0.77300
7.	**Absolute error**	**Log2**	**Best**	0.63556

THE **DECISION TREE REGRESSION** USE **r2 VALUE** absolute_error,None,random=0.77300

4. RANDOM FOREST

S.NO	n_estimators	max_features	criterion	R VALUE
1.	**100**	**1.0**	**squared_error**	0.85079
2.	**100**	**Log2**	**absolute_error**	0.87166
3.	**100**	**None**	**friedman_mse**	0.85463
4.	**100**	**Log2**	**friedman_mse**	0.87069
5.	**100**	**1.0**	**absolute_error**	0.850402

THE **RANDOM FOREST REGRESSION** USE **r2 VALUE**log2,absolute_error,100=0.87166

5. ADA BOOST

S.NO	estimator	n_estimators	Loss	learning_rate	R_VALUE
1	None	50	linear	-	0.86137
2	None	50	square	-	0.53791
3	None	50	exponential	-	0.63588
4	None	50	-	1.9	0.886881

THE **ADA BOOST** USE **r2 VALUE**None,50,1.9=0.886881

6. XG BOOST

S.NO	Eta	Max_depth	Max_bin	R_VALUE
1	0.1	2	62	0.895352
2	0.1	2	80	0.89389
3	0.1	2	200	0.89587
4	0.1	2	12	0.88799

THE **XG BOOST** USE **r2 VALUE**0.1,2,200=0.89587

7.LG BOOST

S.NO	Loss	Min_sample	Max-depth	R_VALUE
1	Huber	7	Log2	0.889853
2	huber	7	None	0.891580
3	huber	7	sqrt	0.88989
4	Quantile	7	sqrt	0.62968

THE **LG BOOST** USE **r2 VALUE**huber,7,None=0.891580