

## To find following the Machine Learning Regression method using $R^2$ value

1. Multiple Liner Regression  $R^2$  Value = 0.93586
2. SUPPORT VECTOR MACHINE: -

S.NO	HYPER PARAMETER	LINEAR $R^2$ value	POLY $R^2$ value	RBF $R^2$ value	SIGMOID $R^2$ value
1	C10	-0.03964	-0.05366	-0.0568	-0.05471
2	C100	0.10646	-0.0198	-0.05072	-0.03045
3	C500	0.59289	0.11468	-0.02432	0.07057
4	C1000	0.78028	0.26616	0.00676	0.18506
5	C2000	0.87677	0.481	0.06751	0.39706
6	C3000	0.89567	0.637	0.12322	0.59136

The SVM Regression use  $R^2$  Value (Linear and hyper parameter(C3000)) = 0.89567

### 3. Decision Tree Regressor

S.No	<i>criterion</i>	<i>splitter</i>	<i>max_features</i>	R2 Value
1	<i>squared_error</i>	best	sqrt	0.947384
2	<i>squared_error</i>	random	sqrt	0.6957094
3	<i>squared_error</i>	best	Log2	-0.273004
4	<i>squared_error</i>	random	Log2	0.113433
5	<i>friedman_mse</i>	best	sqrt	0.3817558
6	<i>friedman_mse</i>	random	sqrt	-0.062193
7	<i>friedman_mse</i>	best	Log2	-0.579297
8	<i>friedman_mse</i>	random	Log2	-1.389746
9	<i>absolute_error</i>	best	sqrt	0.6228174
10	<i>absolute_error</i>	random	sqrt	0.716373
11	<i>absolute_error</i>	best	Log2	0.6065498
12	<i>absolute_error</i>	random	Log2	0.681547
13	<i>poisson</i>	best	sqrt	-0.456443
14	<i>poisson</i>	random	sqrt	-0.414985
15	<i>poisson</i>	best	Log2	0.2261589
16	<i>poisson</i>	random	Log2	0.5276283

Decision tree  $R^2$  Value (*squared\_error*, best, sqrt) = 0.947384