

**TO find the machine learning regression method using r2 value**

### **1. Multiple Linear Regression (R2 value)=1.0**

**.support Vector Machine:**

<b>S.No</b>	<b>HYPER PARAMETER</b>	<b>LINEAR(r value)</b>	<b>POLY(r value)</b>	<b>SIGMOD(r value)</b>	<b>rbf</b>
1	C10	0.999999	0.11977	0.999	0.11977
2	C100	0.9999	0.11977		0.11977
3	C500	0.99999	0.11977		0.11977
4	C1000	0.99999	0.11977		0.11977
5	C2000	0.9999	0.11977		0.11977
6	C3000	0.9999	0.11977		0.11977
7	C7000	0.9999	0.11977		0.11977

**The SVM Regression use R2 value(poly (Rbf) and hyper parameter(c7000)=0.11977**

### **3. Decision Tree**

<b>SL.NO</b>	<b>CRITERION</b>	<b>MAX FEATURES</b>	<b>SPLITTER</b>	<b>R VALUE</b>
<b>1</b>	<b>Friedman_Mse</b>	<b>Auto</b>	<b>random</b>	<b>0.6850377</b>
<b>2</b>	<b>Squared_error</b>	<b>Sqrt</b>	<b>best</b>	<b>0.6850377</b>
<b>3</b>	<b>Poisson</b>	<b>Log2</b>	<b>Random</b>	<b>0.6850377</b>
<b>4</b>	<b>Mae</b>	<b>Auto</b>	<b>random</b>	<b>0.6850377</b>
<b>5</b>	<b>Friedman_mse__</b>	<b>Best</b>	<b>Random</b>	<b>0.6850377</b>

The Decision tree Regression use R2 value (mae, mse,auto,best,random)=0.68503

## Random Forest

SL.N O	CRITERION	MAX FEATURE S	N_ESTIMATOR S	R VALUE
1	Friedman_Mse	Auto	1000	0.8552594
2	Squared_error	Sqrt	10	0.83294371 0
3	Poisson	Log2	100	0.83924371 0
4	Mae	Auto	50	0.83924371
5	Friedman_mse__ —	Best	500	0.83924371
6	Absolute_error	Random	2000	0.83924371

## Random forest Regression use R2

value(mae,mse,auto,best,log2)=0.832924371