To Predict the Business Profit using the Regression Algorithms

To Find the Best Algorithm based on the R2 Score Value

1.) MULTIPLE LINEAR REGRESSION

Using multiple linear regression algorithm, we achieved the R2 score value as **R2 Score : 0.93**

2.) SUPPORT VECTOR MACHINE

Using support vector machine algorithm, we achieved the R2 score value as **R2 Score : 0.9**

SNO	HYPER PARAMETER	LINEAR (R VALUE)	RBF (R VALUE)	POLY (R VALUE)	SIGMOID (R VALUE)
1	C10	-0.04	-0.06	-0.05	-0.05
2	C100	0.11	-0.05	-0.02	-0.03
3	C500	0.59	-0.02	0.11	0.07
4	C1000	0.78	0.01	0.27	0.19
5	C2000	0.88	0.07	0.48	0.4
6	C3000	0.9	0.12	0.64	0.59

3.)DECISION TREE:

Using Decision Tree algorithm, we achieved the R2 score value as **R2 Score : 0.94**

SL_NO	CRITERION	MAX FEATURES	SPLITTER	R VALUE
1	SQUARED_ERROR	NONE	BEST	0.92
2	SQUARED_ERROR	NONE	RANDOM	0.75
3	SQUARED_ERROR	SQRT	BEST	0.74
4	SQUARED_ERROR	SQRT	RANDOM	0.76
5	SQUARED_ERROR	LOG2	BEST	0.73
6	SQUARED_ERROR	LOG2	RANDOM	-0.86
7	ABSOLUTE_ERROR	NONE	BEST	0.94
8	ABSOLUTE_ERROR	NONE	RANDOM	0.91
9	ABSOLUTE_ERROR	SQRT	BEST	0.78
10	ABSOLUTE_ERROR	SQRT	RANDOM	0.61
11	ABSOLUTE_ERROR	LOG2	BEST	0.37
12	ABSOLUTE_ERROR	LOG2	RANDOM	0.64
13	FRIEDMAN_MSE	NONE	BEST	0.93
14	FRIEDMAN_MSE	NONE	RANDOM	0.9
15	FRIEDMAN_MSE	SQRT	BEST	0.36
16	FRIEDMAN_MSE	SQRT	RANDOM	0.55
17	FRIEDMAN_MSE	LOG2	BEST	0.75
18	FRIEDMAN_MSE	LOG2	RANDOM	0.92

19	POISSON	NONE	BEST	0.92
20	POISSON	NONE	RANDOM	0.88
21	POISSON	SQRT	BEST	0.72
22	POISSON	SQRT	RANDOM	0.69
23	POISSON	LOG2	BEST	0.46
24	POISSON	LGO2	RANDOM	0.19