To find the evaluation matrix value using R^2 Method for various Regression algorithms.

Pre requisite: Value between 0-1.

1. MLR: <mark>0.9358</mark>
2. SVM:

Sr.No	Hyper Parameter	Linear	Poly	RBF	Sigmoid
1	C=1.0	-0.0556	-0.0574	-0.05741	-0.0572
2	C=10	-0.0396	-0.0536	-0.0568	-0.0547
3	C=100	0.1064	-0.0198	-0.0507	-0.030
4	C=1000	<mark>0.7802</mark>	0.2661	0.0067	0.1850

Result: The Support Vector Machine algorithm, provides R^2 Value = 0.7802.

SVR(kernel="linear",C=1000)

3. Decision Tree:

Sr.No	Criterion	Max_Features	Splitter	R^2 Value
1	mae(squared_error)	auto	best	<mark>0.9497</mark>
2	mae(squared_error)	sqrt	best	0.5280
3	mae(squared_error)	log2	best	0.6635
4	mae(squared_error)	auto	random	0.7842
5	mae(squared_error)	sqrt	random	0.5546
6	mae(squared_error)	log2	random	0.6512
7	friedman_mse	auto	best	0.9162
8	friedman_mse	sqrt	best	0.170
9	friedman_mse	log2	best	0.7315
10	friedman_mse	auto	random	0.9189
11	friedman_mse	sqrt	random	-0.4831
12	friedman_mse	log2	random	0.1795
13	mse	auto	best	0.9102
14	mse	sqrt	best	0.5129
15	mse	log2	best	0.6281
16	mse	auto	random	0.9100
17	mse	sqrt	random	0.6542
18	mse	log2	random	-0.0184

Result: The decision tree algorithm, provides R2 Value = 0.9497
DecisionTreeRegressor(criterion='mae',max_features='auto',splitter='best')

Dataset:

50_Startups.csv