(Dataset FileName : 50_Startups)

Hyper Tuning Parameters for the Respective Algorithms & their R_Score Value

1. Simple Linear Regression (R_Score Value = 0.9358)
2. Multiple Linear Regression (R_Score Value = 0.9358)
3. Support Vector Machine

Default Parameters: (*kernel*='rbf', *C*=1.0)

S.No	Rbf (r_score)	Linear (r_score)	Poly (r_score)	Sigmoid (r_score)	C
1.	0.0067	0.7802	0.2661	0.1850	1000
2.	0.0675	0.8767	0.4810	0.3970	2000
3.	0.1232	0.8956	0.6370	0.5913	3000
4.	0.1723	**0.8972**	0.7326	0.6282	4000

R_score Value = 0.8972

(Kernel =”linear” , c=4000)

(Dataset FileName : 50_Startups)

4. Decision Tree

Default Parameters: (criterion=”squared error”, splitter=”best”)

S.NO	CRITERION	SPLITTER	R_SCORE VALUE
1.	Squared error	Best	0.927
2.	Squared error	random	0.904
3.	friedman_mse	Best	0.909
4.	**friedman_mse**	**random**	**0.952**
5.	absolute_error	Best	0.935
6.	absolute_error	random	0.763
7.	Poisson	Best	0.917
8.	Poisson	random	0.938

R_score Value = 0.952

(CRITERION =”friedman_mse” , SPLITTER = “random”)

(Dataset FileName : 50_Startups)

5. Random Forest

Default Parameters: (criterion="squared_error", n_estimators=100)

S.NO	CRITERION	n_estimators	R_SCORE VALUE
1.	squared_error	100	0.9306
2.	squared_error	200	0.9461
3.	**absolute_error**	**100**	**0.9481**
4.	absolute_error	200	0.9452
5.	friedman_mse	100	0.9438
6.	friedman_mse	200	0.9429
7.	poisson	100	0.9365
8.	poisson	200	0.9380

R_score Value = 0.9481
(CRITERION= "absolute_error", n_estimators=100)