ASSIGNMENT USING REGRESSOR

1. Problem Statement: ML , Regressor, supervised Learning

2. Total no of columns:6

   Total no of rows:1338

3. Preprocessing using one-code encoding to convert nominal data

Machine Learning:

r value: 0.78

SVM:

Hyperparameter	Kernel	r value
C=10	rbf	0.03
C=10	linear	0.46
C=10	poly	0.03
C=10	sigmoid	0.03
C=100	rbf	0.32
C=100	linear	0.62
C=100	poly	0.61
C=100	sigmoid	0.52
C=1000	rbf	0.81
C=1000	linear	0.76
C=1000	poly	0.85
C=1000	sigmoid	0.28
C=1500	rbf	0.84
C=1500	linear	0.74
C=1500	poly	0.85
C=1500	sigmoid	-0.06
C=2000	rbf	0.85
C=2000	linear	0.74
C=2000	poly	0.86
C=2000	sigmoid	-0.59
C=3000	rbf	0.86
C=3000	linear	0.74
C=3000	poly	0.85
C=3000	sigmoid	-2.1

Decision Tree:

SL.No	CRITERION	SPLITTER	Random state	R VALUE
1	friedman_mse	best	None	0.7o
2	absolute_error	best	None	0.67
3	squared_error	best	None	0.68
4	poisson	best	None	0.72
5	friedman_mse	random	None	0.72
6	absolute_error	random	None	0.74
7	poisson	random	None	0.72
8	squared_error	random	None	0.67

Random Forest:

SL.No	Parameter	CRITERION	Random_state	Max features	R value
2	n_estimators=50	squared_error	random_state=None	auto	0.84
3	n_estimators=100	absolute_error	random_state=None	auto	0.85
4	n_estimators=50	friedman_mse	random_state=None	auto	0.85
5	n_estimators=100	poisson	random_state=None	auto	0.85
6	n_estimators=50	squared_error	random_state=None	sqrt	0.86
7	n_estimators=100	absolute_error	random_state=None	sqrt	0.87
8	n_estimators=50	friedman_mse	random_state=None	sqrt	0.86
9	n_estimators=100	poisson	random_state=None	sqrt	0.87
10	n_estimators=50	squared_error	random_state=None	log2	0.86
11	n_estimators=100	absolute_error	random_state=None	log2	0.86
12	n_estimators=50	friedman_mse	random_state=None	log2	0.87
13	n_estimators=100	poisson	random_state=None	log2	0.87

I am choosing Random forest since i get 0.87 using the above parameters