TO FIND THE MACHINE LEARNING REGRESSION METHOD USING IN R2 VALUE

1.Multiple linear regression (r2 value=0.935)

2. support vector machine:

S.No	Hyper parameter	Precomputed (r value)	Poly (r value)	Sigmoid (r value)	Rbf (non linear r value)
1	C10	Not response for this dataset	-0.053	-0.054	-0.056
2	C100		-0.019	-0.030	-0.050
3	C500		0.114	0.070	-0.024
4	C1000		0.266	0.185	0.006
5	C2000		0.481	0.397	0.067
6	C3000		0.637	0.591	0.123

Decision Tree:

S.No	Criterion	Spliter	R value
1	mse	best	0.895
2	*squared_error*	best	0.930
3	friedman_mse	best	0.907
4	friedman_mse	*random*	0.869
5	*absolute_error*	*random*	'absolute_error' is only supported in scikit-learn >= 1.0
6	poisson	This criterion is supported only in **HistGradientBoostingRegressor**, not DecisionTreeRegressor	'poisson' is **not a valid criterion** for DecisionTreeRegressor

Random Forest

S.No	Config	n_estimators	friedman_mse	default (mse)	max_depth=None	min_samples_split=2
1	C10	10	0.925	0.920	0.925	0.865
2	C50	50	0.944		0.925	0.925
3	C100	100	0.946		0.925	
4	C500	500	0.942		0.925	
5	C1000	1000	0.940		0.925	
6	C2000	2000	0.940		0.925	

1.n_estimators (Number of Trees)

- As n_estimators increases from **10 → 100**, performance (R^2 or accuracy score assumed) improves:
- **C10: 0.925 → C100: 0.946**