BVRIT HYDERABAD

College of Engineering for Women

CONTINUOUS PREDICTION

TEAM NO : 01

Y.Sai Jyothika : 20WH1A1261
A.Shivani : 20WH1A1262
U.Gayatri Lakshmi Srinija : 20WH1A1263
V.Sravya: 20WH1A1264
K.Thanmai : 20WH1A1265

PROBLEM STATEMENT

You will be predicting a continuous target based on a number of feature columns given in the data. All of the feature columns, cont1 - cont14 are continuous.

Python Packages Used

- warnings
- numpy
- pandas
- seaborn
- matplotlib
- sklearn

ALGORITHM

LINEAR REGRESSION : Linear Regression is a supervised machine learning algorithm used for predicting continuous output variables. It is a statistical approach for modeling the relationship between a dependent variable and one or more independent variables.

ALGORITHM

DECISION TREE : Decision Tree algorithm is a supervised learning algorithm that is used for both classification and regression tasks in machine learning.The decision tree algorithm starts with a single node that contains all the data samples, and then recursively splits the data into smaller subsets based on the most informative features.

RANDOM FOREST : Random Forest is a popular machine learning algorithm used for both classification and regression tasks. It is an ensemble learning method that combines multiple decision trees to make a more accurate and stable prediction. Random Forest works by creating multiple decision trees and combining their results to make a final prediction.

OUTPUT

id	cont1	cont2	cont3	cont4	cont5	cont6	cont7	cont8	cont9	cont10	cont11	cont12	cont13	cont14	target
0	0.3536	0.73878	0.600939	0.293377	0.285691	0.458006	0.620704	0.422249	0.369203	0.435727	0.55054	0.699134	0.286864	0.364515	8.052066
2	0.907222	0.189756	0.215531	0.869915	0.301333	0.528958	0.390351	0.521112	0.794779	0.79858	0.446475	0.449037	0.916964	0.513002	7.595704
6	0.179287	0.355353	0.623972	0.437812	0.282476	0.320826	0.386789	0.776422	0.222268	0.229102	0.211913	0.222651	0.327164	0.827941	7.949603
7	0.359385	0.181049	0.551368	0.206386	0.280763	0.482076	0.506677	0.362793	0.379737	0.345686	0.445276	0.518485	0.299028	0.598166	7.940531
10	0.335791	0.682607	0.676481	0.219465	0.282861	0.581721	0.748639	0.350158	0.448915	0.506878	0.817721	0.805895	0.790591	0.249275	8.059352
14	0.256414	0.621835	0.959441	0.913052	0.387511	0.31462	0.322014	0.614673	0.292548	0.899578	0.278104	0.274086	0.418178	0.715106	7.768205
16	0.485888	0.359113	0.613006	0.257908	0.283429	0.646103	0.963301	0.311508	0.58126	0.638479	0.840254	0.854393	0.893814	0.269365	7.978356
17	0.673931	0.734818	0.361756	0.567235	0.284732	0.453174	0.515395	0.789382	0.714804	0.265037	0.323776	0.507847	0.539327	0.849788	7.965581
18	0.926054	0.619843	0.356893	0.868551	0.284436	0.865728	0.456673	0.729383	0.73935	0.867766	0.906833	0.963105	0.901933	0.826835	7.897109
19	0.497196	0.619562	0.623283	0.323464	0.5031	0.457458	0.447466	0.612733	0.40986	0.438677	0.330754	0.348405	0.355242	0.259408	7.902217
21	0.814875	0.42126	0.256161	0.625069	0.633992	0.820768	0.686658	0.853071	0.614481	0.817946	0.50782	0.684565	0.818532	0.616296	7.837153
28	0.658646	0.795152	0.879624	0.746709	0.282686	0.633931	0.264931	0.585158	0.60667	0.697107	0.701785	0.73958	0.761483	0.621028	7.924811
29	0.149903	0.490805	0.342893	0.549738	0.803968	0.441908	0.213499	0.797132	0.226312	0.242893	0.236092	0.294425	0.60337	0.801907	7.96292
30	0.691649	0.619432	0.219659	0.649485	0.280768	0.821134	0.787589	0.901802	0.582148	0.777106	0.811168	0.762594	0.857436	0.386311	7.967918
31	0.364777	0.618427	0.621965	0.776249	0.28221	0.469273	0.457035	0.953318	0.506466	0.446687	0.416232	0.348964	0.644949	0.822723	7.969934
34	0.36129	0.677865	0.757014	0.854216	0.468418	0.347917	0.337995	0.305916	0.282862	0.332645	0.283256	0.284651	0.291684	0.293737	7.970717
35	0.449277	0.816402	0.70082	0.286701	0.546195	0.446085	0.86599	0.293513	0.56362	0.520462	0.662163	0.601739	0.413613	0.717273	8.0298

COMPARISON TABLE

ALGORITHM/ ACCURACY	LINEAR REGRESSION	RANDOM FOREST	DECISION TREE	RIDGE REGRESSION
Mean squared error	0.52	0.53	1.02	0.52
Root mean squared error	0.72	0.73	1.01	0.72