1. Linear Regression: Linear regression is a statistical modeling technique that assumes a linear relationship between the input variables and the target variable. It fits a line to the data points, minimizing the sum of squared differences between the predicted and actual values.
2. SVR (Support Vector Regressor): SVR is a regression algorithm that uses support vector machines to find a hyperplane that maximally fits the data within a specified margin. It is effective for handling non-linear data and can capture complex patterns.
3. KNeighborsRegressor: K-nearest neighbors regression predicts the target variable by averaging the values of its k nearest neighbors. It is a non-parametric algorithm that doesn't make strong assumptions about the underlying data distribution.
4. Gradient Boosting Regressor: Gradient boosting regressor is an ensemble learning method that combines multiple weak predictive models (typically decision trees) to create a strong predictive model. It iteratively trains new models to correct the errors made by the previous models, improving overall accuracy.
5. Decision Tree Regressor: Decision tree regressor uses a tree-like model of decisions and their possible consequences. It splits the data based on feature values and predicts the target variable by following the decision path in the tree. It is interpretable and can handle both numerical and categorical data.
6. Random Forest Regressor: Random forest regressor is an ensemble learning method that constructs multiple decision trees and combines their predictions to make the final prediction. It reduces overfitting and provides more robust predictions by averaging the results from different trees.
7. XG Boost: XGBoost is an optimized implementation of gradient boosting that leverages parallel computing techniques to achieve high performance. It incorporates regularization to control overfitting and has become popular in various machine learning competitions.
8. Lasso Regression: Lasso regression is a linear regression technique that applies L1 regularization to the model. It adds a penalty term to the loss function, promoting sparsity in the model coefficients and effectively selecting the most important features.