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J057

Sklearn API

1.Linear Regression:

Linear Regression fits a linear model with coefficients w = (w1, …, wp) to minimize the residual sum of squares between the observed targets in the dataset, and the targets predicted by the linear approximation.
Fit(X, y)- fit the linear model.
Predict(X)-predict using linear model.
Score(X,y)-returns the coefficient of determination R^2 of the prediction.

Code:

```
sklearn.linear_model.LinearRegression(*, fit_intercept=True, normalize=False, copy_X=True, n_jobs=None, positive=False)
```

2.Logistic Regression:

It is used for predicting the categorical dependent variable using a given set of independent variables. Logistic regression predicts the output of a categorical dependent variable.
Fit(X,y)-fit the model according to the given training data
Predict(x)-predict class labels
Score(X,y)-returns mean accuracy on the given test data and label

Code:

```
sklearn.linear_model.LogisticRegression(penalty='l2', *, dual=False, tol=0.0001, C=1.0, fit_intercept=True, intercept_scaling=1, class_weight=None, random_state=None, solver='lbfgs', max_iter=100, multi_class='auto', verbose=0, warm_start=False, n_jobs=None, l1_ratio=None)
```

3.Ridge :

Ridge regression penalizes the model based on the sum of squares of magnitude of the coefficients.
Alpha-Regularization strength; must be a positive float. Regularization improves the conditioning of the problem and reduces the variance of the estimates. Larger values specify stronger regularization.
Fit(X,y)-fits the regression model
Predict(x)-predicting using the linear model.
Score(X,y)-returns the coefficient of determination

Code:

```
sklearn.linear_model.Ridge(alpha=1.0, *, fit_intercept=True, normalize=False, copy_X=True, max_iter=None, tol=0.001, solver='auto', random_state=None)
```

4.Lasso:

LASSO regression penalizes the model based on the sum of magnitude of the coefficients.
Fit(X,y)-fit model with coordinate descent
Predict(X)-predict using linear model
Score(X,y)-returns the coefficient of determination of the prediction

Code:

```
sklearn.linear_model.Lasso(alpha=1.0, *, fit_intercept=True, normalize=False, precompute=False, copy_X=True, max_iter=1000, tol=0.0001, warm_start=False, positive=False, random_state=None, selection='cyclic')
```