

# metrics

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## Contents

回归中常用的评价指标有：

- `explained_variance_score`, `r2_score`: 可解释性方差分数, 决定系数, 两者的计算方法一模一样, 只是名称不同。
- `mean_absolute_error`: 平均绝对误差。
- `mean_squared_error`: 均方误差。
- `mean_squared_log_error`: 均方对数误差。

```
1 import sklearn.datasets as ds
2 from sklearn.linear_model import LinearRegression
3 from sklearn.metrics import explained_variance_score, mean_absolute_error, mean_squared_error, mean_squared_log_error
4
5 X, y = ds.fetch_california_housing(return_X_y=True)
6
7 reg = LinearRegression().fit(X, y)
8 y_pred = reg.predict(X)
9
10 explained_variance_score = explained_variance_score(y_pred=y_pred, y_true=y) # 和 r2_score 一样
11 mean_absolute_error = mean_absolute_error(y_pred=y_pred, y_true=y)
12 mean_squared_error = mean_squared_error(y_pred=y_pred, y_true=y)
13 # mean_squared_log_error = mean_squared_log_error(y_pred=y_pred, y_true=y) # y_pred 必须大于 0
14 r2_score = r2_score(y_pred=y_pred, y_true=y)
15
16 print('explained_variance_score: ', explained_variance_score)
```

```
17 print('mean absolute error: ', mean_absolute_error)
18 print('mean squared error: ', mean_squared_error)
19 # print('mean squared log error: ', mean_squared_log_error)
20 print('r2 score: ', r2_score)
```

```
explained_variance_score: 0.606232685199805
mean absolute error: 0.5311643817546469
mean squared error: 0.5243209861846072
r2 score: 0.606232685199805
```