predict_maxfrommin_temperature_LinearRegression

April 24, 2018

```python
In [60]: # predict max temp. from min temp. from wheater data
         %matplotlib inline
         import pandas as pd
         import numpy as np
         from sklearn import linear_model
         from sklearn.model_selection import train_test_split
         import matplotlib.pyplot as plt
```

```python
In [63]: df = pd.read_csv('summaryWeather.csv')
         df = pd.DataFrame(df,columns=['MaxTemp','MinTemp'])
         df.head()
```

```
Out[63]:      MaxTemp    MinTemp
         0  25.555556  22.222222
         1  28.888889  21.666667
         2  26.111111  22.222222
         3  26.666667  22.222222
         4  26.666667  21.666667
```

```python
In [62]: x = df['MinTemp'].values.reshape(-1,1)
         y = df['MaxTemp'].values.reshape(-1,1)
```

```python
In [50]: x_train,x_test,y_train,y_test = train_test_split(x,y)
```

```python
In [51]: lr = linear_model.LinearRegression()
         lr.fit(x_train,y_train)
```

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Out[51]: LinearRegression(copy_X=True, fit_intercept=True, n_jobs=1, normalize=False)
```

```python
In [52]: lr.coef_, lr.intercept_
```

```
Out[52]: (array([[0.91865661]]), array([10.71244585]))
```

```python
In [54]: print('new data score: ',lr.score(x_test,y_test), 'same data score: ',lr.score(x_train,
```

```
('new data score: ', 0.7739143221699949, 'same data score: ', 0.7707605620254816)
```

```python
In [59]: predicted = lr.predict(x_test)
```

```python
In [57]: mse = np.mean((predicted-y_test)**2)
         mse
```

```
Out[57]: 17.33712847991101
```