Assignment-1

Machine Learning

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Bsc(honors) Computer Science

Exercise

Predict canada's per capita income in year 2020. There is an exercise folder here on github at same level as this notebook, download that and you will find canada_per_capita_income.csv file. Using this build a regression model and predict the per capita income fo canadian citizens in year 2020

Answer

41288.694094424

Code

```
import pandas as pd

import numpy as np

from sklearn import linear_model

import matplotlib.pyplot as plt


df=pd.read.csv('https://raw.githubusercontent.com/codebasics/py/master/ML/1_linear_reg/Exercise/canada_per_capita_income.csv')

df.head()
```

Output

	Year	Per capita income (US$)
0	1970	3399.299037
1	1971	3768.297935
2	1972	4251.175484
3	1973	4804.463248
4	1974	5576.514583

df.tail()

Output

	Year	Per capita income (US$)
42	2012	42665.25597
43	2013	42676.46837
44	2014	41039.89360
45	2015	35175.18898
46	2016	34229.19363

```
%matplotlib inline
plt.xlabel('year')
plt.ylabel('per_capita_income')
plt.scatter(df.year,df['per capita income (US$)'],color='red',marker='+')
```

Output


```
new_df = df.drop('per capita income (US$)',axis='columns')
new_df.head()
```

Output

	year
0	1970
1	1971
2	1972
3	1973
4	1974

```
new_pci = df['per capita income (US$)']
new_pci.head()
```

Output

0	3399.299037
1	3768.297935
2	4251.175484
3	4804.463248
4	5576.514583

```
reg = linear_model.LinearRegression()
reg.fit(new_df,new_pci)
```

Output

LinearRegression()

```
reg.predict([[2020]])
```

Output

array([41288.6909442])