
선형회귀 (Linear Regression) 모델 실습

선형회귀모델 실습 개요

Jupyter Notebook

/notebooks/2월작%20실습/Linear_Regression_1.ipynb

Jupyter Linear_Regression_1 (autosaved) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

선형회귀모델 실습 1: 모델링 및 해석

1. 모듈 불러오기

```
In [1]: from IPython.display import display, HTML
import numpy as np
import pandas as pd
import scipy as sp
import scipy.stats as stats

import statsmodels.api as sm
from statsmodels.formula.api import ols

import pylab

from sklearn.datasets import load_boston
from sklearn.metrics import mean_squared_error, r2_score, mean_absolute_error

import seaborn as sns
import matplotlib.pyplot as plt
import matplotlib.font_manager as fm

plt.rc('font', family='Malgun Gothic')
```

2. 데이터 불러오기: Boston Housing Data

```
In [2]: boston = load_boston()
print(boston.DESCR)
```

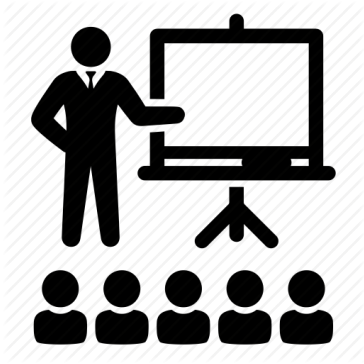
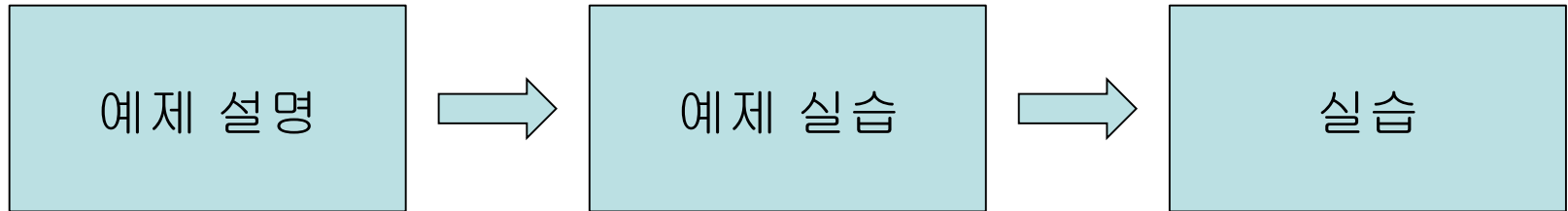
```
- INDUS      proportion of non-retail business acres per town
- CHAS      Charles River dummy variable (= 1 if tract bounds river; 0 otherwise)
- NOX      nitric oxides concentration (parts per 10 million)
- RM      average number of rooms per dwelling
- AGE      proportion of owner-occupied units built prior to 1940
- DIS      weighted distances to five Boston employment centres
- RAD      index of accessibility to radial highways
- TAX      full-value property-tax rate per $10,000
- PTRATIO  pupil-teacher ratio by town
- B      1000(Bk - 0.63)^2 where Bk is the proportion of blacks by town
- LSTAT    % lower status of the population
- MEDV     Median value of owner-occupied homes in $1000's

:Missing Attribute Values: None

:Creator: Harrison, D. and Rubinfeld, D.L.

This is a copy of UCI ML housing dataset.
https://archive.ics.uci.edu/ml/machine-learning-databases/housing/
```

선형회귀모델 실습 개요



선형회귀모델 실습

1. <https://github.com/dmqa/2019-Machine-Learning-Course> 접속

The screenshot shows the GitHub repository page for 'dmqa / 2019-Machine-Learning-Course'. At the top, there are navigation links for 'Code', 'Issues', 'Pull requests', 'Projects', 'Wiki', 'Insights', and 'Settings'. Below these, a message states 'No description, website, or topics provided.' with an 'Edit' button. A summary bar indicates '14 commits', '1 branch', '0 releases', and '2 contributors'. Below this, there are buttons for 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find File', and 'Clone or download'. The commit history table shows three commits: 'dmqa initial commit' (latest), '1주차_인공지능및머신러닝' (new directory hierarchy), and '2주차_선형회귀및로지스틱회귀' (initial commit). The 'README.md' file is selected, showing the title 'Machine Learning Course with DMQA, 2019' and a description: 'Repository for course materials, including slides & hands-on practices.' Below the title, there is a 'Maintainers' section listing seven individuals with their email addresses.

dmqa / 2019-Machine-Learning-Course

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No description, website, or topics provided. Edit

Manage topics

14 commits 1 branch 0 releases 2 contributors

Branch: master New pull request Create new file Upload files Find File Clone or download

dmqa initial commit	Latest commit 69e68d7 9 minutes ago
1주차_인공지능및머신러닝	new directory hierarchy an hour ago
2주차_선형회귀및로지스틱회귀	initial commit 9 minutes ago
README.md	fix README an hour ago

README.md

Machine Learning Course with DMQA, 2019

Repository for course materials, including slides & hands-on practices.

Maintainers

- Seoung Bum Kim sbkim1@korea.ac.kr
- Young Joon Park dmqa.jypark@gmail.com
- Hankyu Lee koogi303@gmail.com
- Hyungrok Do hyungrok@korea.ac.kr
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- Mingu Kwak min9kwak@korea.ac.kr
- Yooyeon Sung yooyeon6@gmail.com

선형회귀모델 실습

2. 다운로드 및 압축풀기

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14 commits1 branch0 releases2 contributors

Branch: masterNew pull requestCreate new fileUpload filesFind FileClone or download

dmqa initial commitLatest commit 69e68d7 9 minutes ago

1주차_인공지능및머신러닝	new directory hierarchy	an hour ago
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README.md

Machine Learning Course with DMQA, 2019

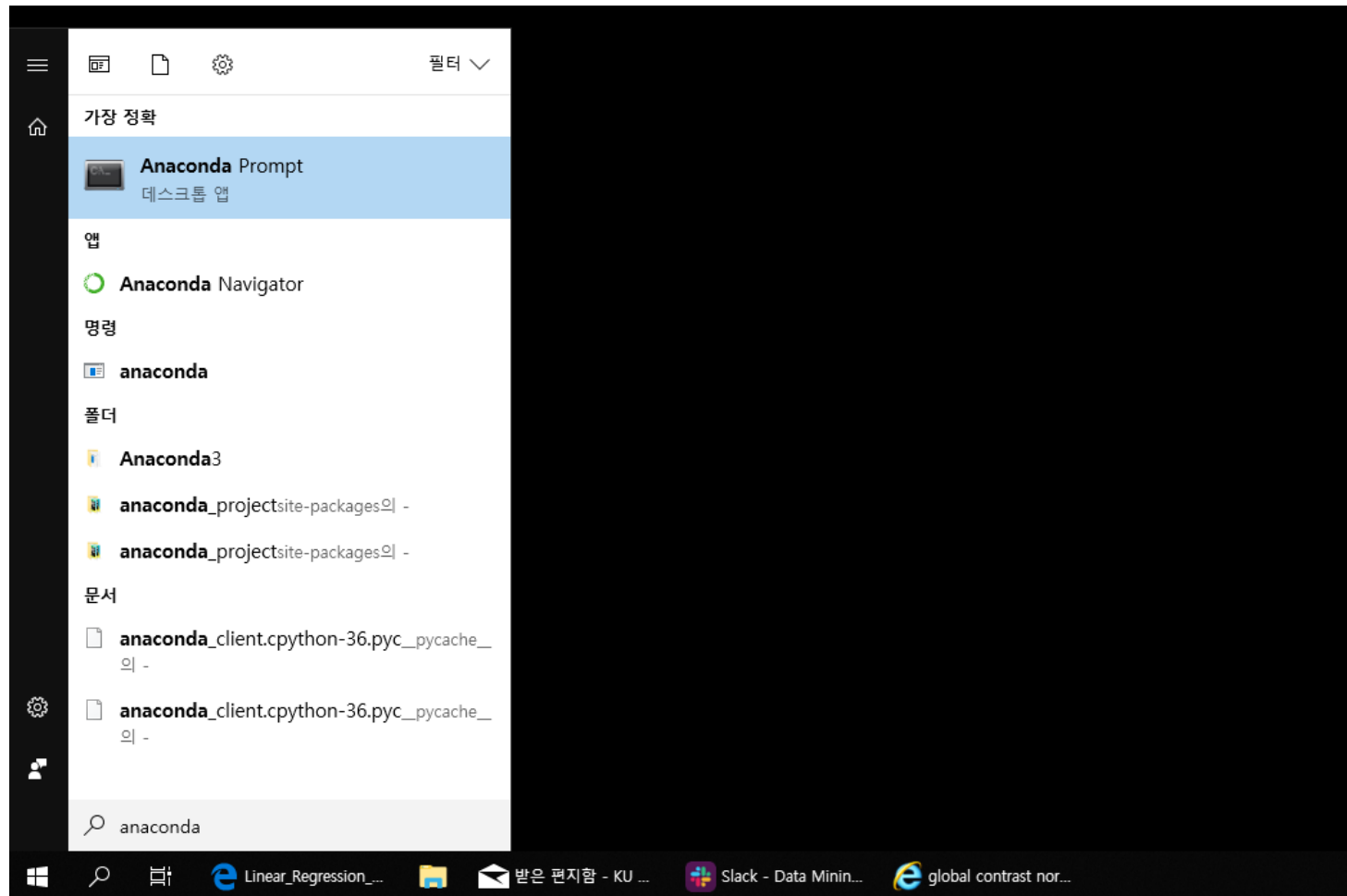
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Maintainers

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선형회귀모델 실습

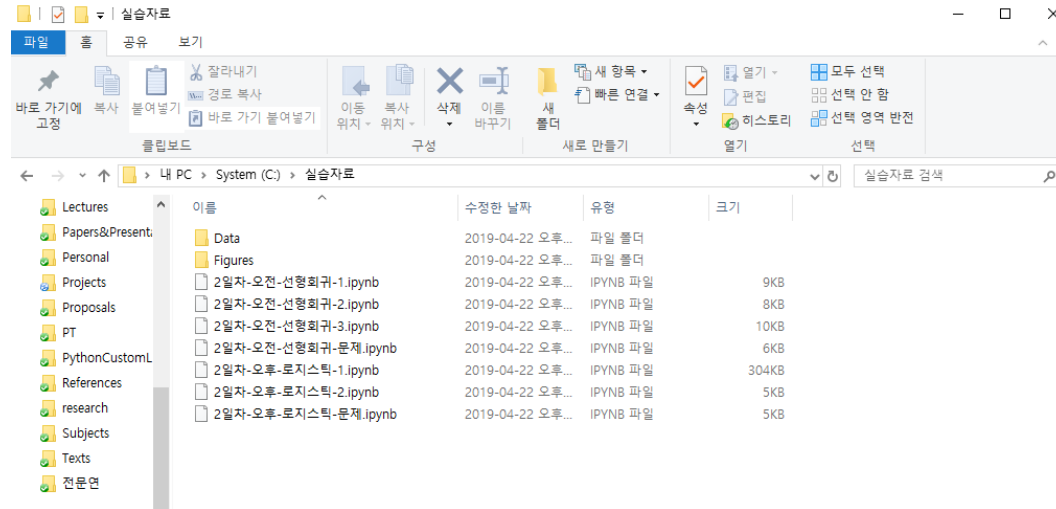
3. Anaconda Prompt 실행



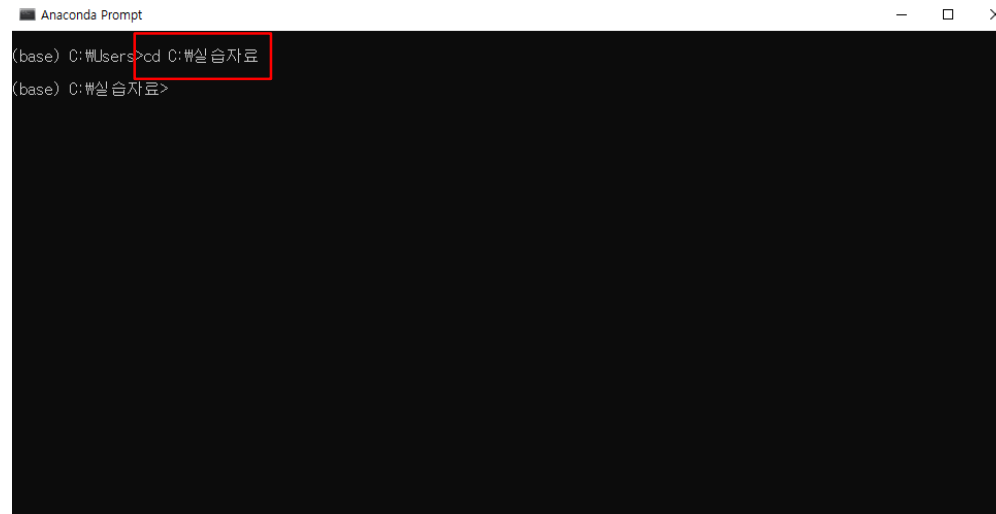
선형회귀모델 실습

4. 경로 설정

실습자료 경로
C:\W실습자료



cd 명령어 사용하여
경로 변경



선형회귀모델 실습

5. jupyter notebook 실행

Anaconda Prompt - jupyter notebook

```
(base) C:\Users>cd C:\실습자료
```

```
(base) C:\실습자료>jupyter notebook
```


선형회귀모델 실습

5. jupyter notebook 실행

 Quit Logout

Files Running Clusters

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<input type="checkbox"/>	 Figures		4분 전	
<input type="checkbox"/>	 2일자-오전-선형회귀-1.ipynb		24분 전	9.09 kB
<input type="checkbox"/>	 2일자-오전-선형회귀-2.ipynb		24분 전	7.78 kB
<input type="checkbox"/>	 2일자-오전-선형회귀-3.ipynb		23분 전	9.31 kB
<input type="checkbox"/>	 2일자-오전-선형회귀-문제.ipynb		23분 전	6.11 kB
<input type="checkbox"/>	 2일자-오후-로지스틱-1.ipynb		26분 전	311 kB
<input type="checkbox"/>	 2일자-오후-로지스틱-2.ipynb		21분 전	4.7 kB
<input type="checkbox"/>	 2일자-오후-로지스틱-문제.ipynb		20분 전	4.65 kB