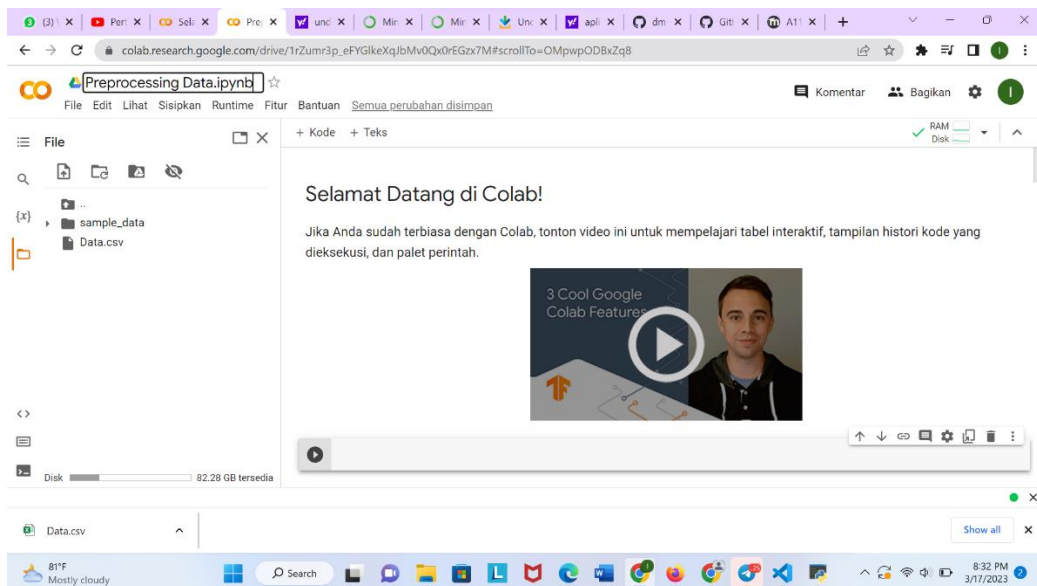
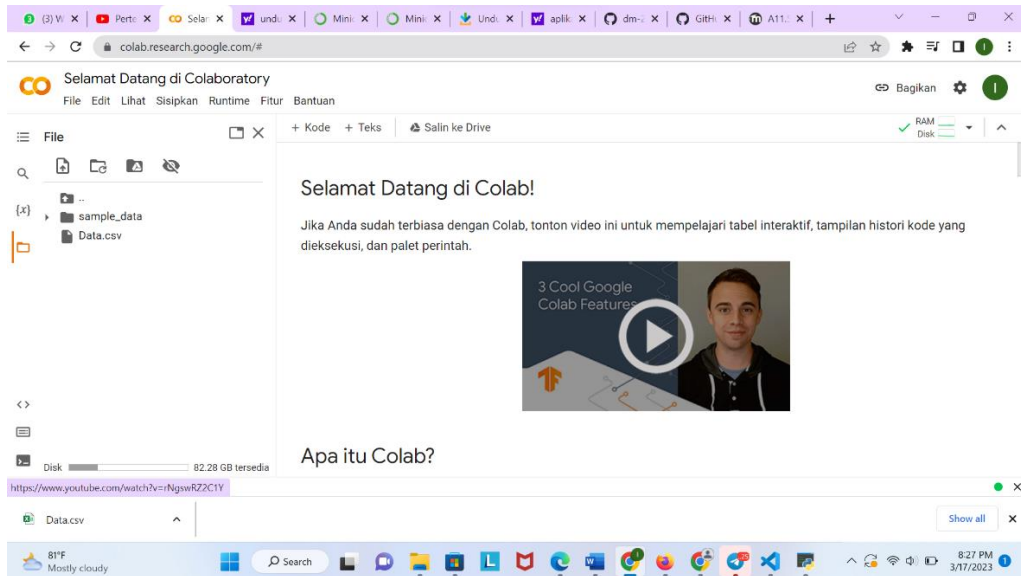


Nama : Iqlima Syahwa

Nim : A11.2020.12799

Kelompok : 4404



Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Selamat Datang di Colab!

Jika Anda sudah terbiasa dengan Colab, tonton video ini untuk mempelajari tabel interaktif, tampilan histori kode yang dieksekusi, dan palet perintah.

3 Cool Google Colab Features

```
abc alpha
abc as
import numpy as abc seconds_in_a_day
import matplotlib abc seconds_in_a_week
import pandas as pd
```

82.28 GB tersedia

81°F Mostly cloudy 8:36 PM 3/17/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan

File

- sample_data
- Data.csv

dieksekusi, dan palet perintah.

3 Cool Google Colab Features

```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Klik dua kali (atau tekan Enter) untuk mengedit

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82.28 GB tersedia

81°F Mostly cloudy 8:37 PM 3/17/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

RAM 100% Disk 100%

File

- sample_data
- Data.csv

3 Cool Google Colab Features

```
[1] import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Numpy merupakan library digunakan untuk komputasi matriks. Matplotlib merupakan library python untuk presentasi data berupa grafik atau plot.

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Data.csv

81°F Mostly cloudy

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan

RAM 100% Disk 100%

File

- sample_data
- Data.csv

3 Cool Google Colab Features

```
[1] import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Numpy merupakan library digunakan untuk komputasi matriks. Matplotlib merupakan library python untuk presentasi data berupa grafik atau plot.....

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Data.csv

81°F Mostly cloudy

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Menyimpan...

File

- sample_data
- Data.csv

Colab Features

```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Numpy merupakan library digunakan untuk komputasi matriks. Matplotlib merupakan library python untuk presentasi data berupa grafik atau plot.....

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81°F Mostly cloudy 8:41 PM 3/17/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Menyimpan...

File

- sample_data
- Data.csv

Colab Features

```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Numpy merupakan library digunakan untuk komputasi matriks. Matplotlib merupakan library python untuk presentasi data berupa grafik atau plot.....

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81°F Mostly cloudy 8:41 PM 3/17/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Colab Features

```
[ ] import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Numpy merupakan library digunakan untuk komputasi matriks. Matplotlib merupakan library python untuk presentasi data berupa grafik atau plot.....

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85°F Sunny 9:42 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Colab Features

```
[5] import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Numpy merupakan library digunakan untuk komputasi matriks. Matplotlib merupakan library python untuk presentasi data berupa grafik atau plot.....

Klik dua kali (atau tekan Enter) untuk mengedit

```
dataset = pd.read_csv('Data.csv')
x = dataset.iloc[:, :-1].values
y = dataset.iloc[:, -1].values
```

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85°F Mostly sunny 9:55 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

Klik dua kali (atau tekan Enter) untuk mengedit

```
[6] dataset = pd.read_csv('Data.csv')
x = dataset.iloc[:, :-1].values
y = dataset.iloc[:, -1].values

print(x)
```

```
[['France' 44.0 72000.0]
 ['Spain' 27.0 48000.0]
 ['Germany' 30.0 54000.0]
 ['Spain' 38.0 61000.0]
 ['Germany' 40.0 nan]
 ['France' 35.0 58000.0]
 ['Spain' nan 52000.0]
 ['France' 48.0 79000.0]
 ['Germany' 50.0 83000.0]
 ['France' 37.0 67000.0]]
```

85°F Mostly sunny 9:57 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

```
print(x)
```

```
[['France' 44.0 72000.0]
 ['Spain' 27.0 48000.0]
 ['Germany' 30.0 54000.0]
 ['Spain' 38.0 61000.0]
 ['Germany' 40.0 nan]
 ['France' 35.0 58000.0]
 ['Spain' nan 52000.0]
 ['France' 48.0 79000.0]
 ['Germany' 50.0 83000.0]
 ['France' 37.0 67000.0]]
```

```
print(y)
```

```
['No' 'Yes' 'No' 'No' 'Yes' 'Yes' 'No' 'Yes' 'No' 'Yes']
```

Klik dua kali (atau tekan Enter) untuk mengedit

85°F Mostly sunny 9:58 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan

File

sample_data
Data.csv

```
print(x)

[['France' 44.0 72000.0]
 ['Spain' 27.0 48000.0]
 ['Germany' 30.0 54000.0]
 ['Spain' 38.0 61000.0]
 ['Germany' 40.0 nan]
 ['France' 35.0 58000.0]
 ['Spain' nan 52000.0]
 ['France' 48.0 79000.0]
 ['Germany' 50.0 83000.0]
 ['France' 37.0 67000.0]]

[8] print(y)

['No' 'Yes' 'No' 'No' 'Yes' 'Yes' 'No' 'Yes' 'No' 'Yes']

from sklearn.impute import SimpleImputer
imputer = SimpleImputer(missing_values=np.nan, strategy='mean')
imputer.fit(x[:, 1:3])
x[:, 1:3] = imputer.transform(x[:, 1:3])
```

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Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

85°F Mostly sunny 10:03 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan [Semua perubahan disimpan](#)

File

sample_data
Data.csv

```
[9] from sklearn.impute import SimpleImputer
imputer = SimpleImputer(missing_values=np.nan, strategy='mean')
imputer.fit(x[:, 1:3])
x[:, 1:3] = imputer.transform(x[:, 1:3])

print(x)

[['France' 44.0 72000.0]
 ['Spain' 27.0 48000.0]
 ['Germany' 30.0 54000.0]
 ['Spain' 38.0 61000.0]
 ['Germany' 40.0 63777.77777777778]
 ['France' 35.0 58000.0]
 ['Spain' 38.77777777777778 52000.0]
 ['France' 48.0 79000.0]
 ['Germany' 50.0 83000.0]
 ['France' 37.0 67000.0]]
```

Klik dua kali (atau tekan Enter) untuk mengedit

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Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

85°F Mostly sunny 10:04 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan

File

sample_data
Data.csv

```
imputer = SimpleImputer(missing_values=np.nan, strategy='mean')
imputer.fit(x[:, 1:3])
x[:, 1:3] = imputer.transform(x[:, 1:3])

print(x)

[['France' 44.0 72000.0]
 ['Spain' 27.0 48000.0]
 ['Germany' 30.0 54000.0]
 ['Spain' 38.0 61000.0]
 ['Germany' 40.0 63777.77777777778]
 ['France' 35.0 58000.0]
 ['Spain' 38.77777777777778 52000.0]
 ['France' 48.0 79000.0]
 ['Germany' 50.0 83000.0]
 ['France' 37.0 67000.0]]
```

```
from sklearn.compose import ColumnTransformer
from sklearn.preprocessing import OneHotEncoder
ct = ColumnTransformer(transformers=[('encoder', OneHotEncoder(), [0])], remainder='passthrough')
x = np.array(ct.fit_transform(x))
```

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Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

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Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan [Semua perubahan disimpan](#)

File

sample_data
Data.csv

```
from sklearn.compose import ColumnTransformer
from sklearn.preprocessing import OneHotEncoder
ct = ColumnTransformer(transformers=[('encoder', OneHotEncoder(), [0])], remainder='passthrough')
x = np.array(ct.fit_transform(x))

print(x)

[[1.0 0.0 0.0 44.0 72000.0]
 [0.0 0.0 1.0 27.0 48000.0]
 [0.0 1.0 0.0 30.0 54000.0]
 [0.0 0.0 1.0 38.0 61000.0]
 [0.0 1.0 0.0 40.0 63777.77777777778]
 [1.0 0.0 0.0 35.0 58000.0]
 [0.0 0.0 1.0 38.77777777777778 52000.0]
 [1.0 0.0 0.0 48.0 79000.0]
 [0.0 1.0 0.0 50.0 83000.0]
 [1.0 0.0 0.0 37.0 67000.0]]
```

Klik dua kali (atau tekan Enter) untuk mengedit

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Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

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Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Kode

```
[11]: from sklearn.compose import ColumnTransformer
      from sklearn.preprocessing import OneHotEncoder
      ct = ColumnTransformer(transformers=[('encoder', OneHotEncoder(), [0])], remainder='passthrough')
      x = np.array(ct.fit_transform(x))

      print(x)
```

```
[[1.0 0.0 0.0 44.0 72000.0]
 [0.0 0.0 1.0 27.0 48000.0]
 [0.0 1.0 0.0 30.0 54000.0]
 [0.0 0.0 1.0 38.0 61000.0]
 [0.0 1.0 0.0 40.0 63777.77777777778]
 [1.0 0.0 0.0 35.0 58000.0]
 [0.0 0.0 1.0 38.77777777777778 52000.0]
 [1.0 0.0 0.0 48.0 79000.0]
 [0.0 1.0 0.0 50.0 83000.0]
 [1.0 0.0 0.0 37.0 67000.0]]
```

RAM Disk

0 d selesai pada 10.14

Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

85°F Mostly sunny

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Kode

```
[[1.0 0.0 0.0 44.0 72000.0]
 [0.0 0.0 1.0 27.0 48000.0]
 [0.0 1.0 0.0 30.0 54000.0]
 [0.0 0.0 1.0 38.0 61000.0]
 [0.0 1.0 0.0 40.0 63777.77777777778]
 [1.0 0.0 0.0 35.0 58000.0]
 [0.0 0.0 1.0 38.77777777777778 52000.0]
 [1.0 0.0 0.0 48.0 79000.0]
 [0.0 1.0 0.0 50.0 83000.0]
 [1.0 0.0 0.0 37.0 67000.0]]

[13]: from sklearn.preprocessing import LabelEncoder
      le = LabelEncoder()
      y = le.fit_transform(y)

      print(y)
```

```
[0 1 0 0 1 1 0 1 0 1]
```

RAM Disk

0 d selesai pada 10.15

Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

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Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan

File

- sample_data
- Data.csv

Kode

```
[12] [[0.0 0.0 1.0 27.0 48000.0]
      [0.0 1.0 0.0 30.0 54000.0]
      [0.0 0.0 1.0 38.0 61000.0]
      [0.0 1.0 0.0 40.0 63777.777777777778]
      [1.0 0.0 0.0 35.0 58000.0]
      [0.0 0.0 1.0 38.77777777777778 52000.0]
      [1.0 0.0 0.0 48.0 79000.0]
      [0.0 1.0 0.0 50.0 83000.0]
      [1.0 0.0 0.0 37.0 67000.0]]

[13] from sklearn.preprocessing import LabelEncoder
le = LabelEncoder()
y = le.fit_transform(y)

print(y)
[0 1 0 0 1 1 0 1 0 1]

from sklearn.model_selection import train_test_split
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.2, random_state=1)
```

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Latihan3DataMin....docx Trematoda Hati d....pptx Trematoda Hati d....pptx Data.csv

87°F Mostly sunny 10:24 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan [Semua perubahan disimpan](#)

File

- sample_data
- Data.csv

Kode

```
[13] y = le.fit_transform(y)

[14] print(y)
[0 1 0 0 1 1 0 1 0 1]

[21] from sklearn.model_selection import train_test_split
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.2, random_state=1)

print(x_train)
[[0.0 0.0 1.0 38.77777777777778 52000.0]
 [0.0 1.0 0.0 40.0 63777.77777777778]
 [1.0 0.0 0.0 44.0 72000.0]
 [0.0 0.0 1.0 38.0 61000.0]
 [0.0 0.0 1.0 27.0 48000.0]
 [1.0 0.0 0.0 48.0 79000.0]
 [0.0 1.0 0.0 50.0 83000.0]
 [1.0 0.0 0.0 35.0 58000.0]]
```

Klik dua kali (atau tekan Enter) untuk mengedit

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Latihan3DataMin....docx Trematoda Hati d....pptx Trematoda Hati d....pptx Data.csv

87°F Air: Poor 10:26 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Kode

```
[21] from sklearn.model_selection import train_test_split
      x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.2, random_state=1)

[22] print(x_train)

[[0.0 0.0 1.0 38.77777777777778 52000.0]
 [0.0 1.0 0.0 40.0 63777.77777777778]
 [1.0 0.0 0.0 44.0 72000.0]
 [0.0 0.0 1.0 38.0 61000.0]
 [0.0 0.0 1.0 27.0 48000.0]
 [1.0 0.0 0.0 48.0 79000.0]
 [0.0 1.0 0.0 50.0 83000.0]
 [1.0 0.0 0.0 35.0 58000.0]]

print(x_test)

[[0.0 1.0 0.0 30.0 54000.0]
 [1.0 0.0 0.0 37.0 67000.0]]
```

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Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

87°F Afternoon rain 10:27 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Kode

```
[22] print(x_train)

[[0.0 0.0 1.0 38.77777777777778 52000.0]
 [0.0 1.0 0.0 40.0 63777.77777777778]
 [1.0 0.0 0.0 44.0 72000.0]
 [0.0 0.0 1.0 38.0 61000.0]
 [0.0 0.0 1.0 27.0 48000.0]
 [1.0 0.0 0.0 48.0 79000.0]
 [0.0 1.0 0.0 50.0 83000.0]
 [1.0 0.0 0.0 35.0 58000.0]]

[23] print(x_test)

[[0.0 1.0 0.0 30.0 54000.0]
 [1.0 0.0 0.0 37.0 67000.0]]

print(y_train)

[0 1 0 0 1 1 0 1]
```

0 d selesai pada 10.28

Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

87°F Mostly sunny 10:28 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- sample_data
- Data.csv

Kode

```
[22] [[0.0 0.0 1.0 38.0 61000.0]
      [0.0 0.0 1.0 27.0 48000.0]
      [1.0 0.0 0.0 48.0 79000.0]
      [0.0 1.0 0.0 50.0 83000.0]
      [1.0 0.0 0.0 35.0 58000.0]]

[23] print(x_test)

[[0.0 1.0 0.0 30.0 54000.0]
 [1.0 0.0 0.0 37.0 67000.0]]

print(y_train)

[0 1 0 0 1 1 0 1]

print(y_test)

[0 1]
```

Klik dua kali (atau tekan Enter) untuk mengedit

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Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

87°F Mostly sunny 10:29 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan

File

- sample_data
- Data.csv

Kode

```
[1.0 0.0 0.0 35.0 58000.0]]

[23] print(x_test)

[[0.0 1.0 0.0 30.0 54000.0]
 [1.0 0.0 0.0 37.0 67000.0]]

print(y_train)

[0 1 0 0 1 1 0 1]

[25] print(y_test)

[0 1]

from sklearn.preprocessing import StandardScaler
sc = StandardScaler()
x_train[:, 3:] = sc.fit_transform(x_train[:, 3:])
x_test[:, 3:] = sc.transform(x_test[:, 3:])
```

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Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

87°F Mostly sunny 10:33 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- ..
- sample_data
- Data.csv

Kode

```
[25] print(y_test)

[0 1]

[26] from sklearn.preprocessing import StandardScaler
sc = StandardScaler()
x_train[:, 3:] = sc.fit_transform(x_train[:, 3:])
x_test[:, 3:] = sc.transform(x_test[:, 3:])

print(x_train)

[[0.0 0.0 1.0 -0.19159184384578545 -1.0781259408412425]
 [0.0 1.0 0.0 -0.014117293757057777 -0.07013167641635372]
 [1.0 0.0 0.0 0.566708506533324 0.633562432710455]
 [0.0 0.0 1.0 -0.30453019390224867 -0.30786617274297867]
 [0.0 0.0 1.0 -1.9018011447007988 -1.420463615551582]
 [1.0 0.0 0.0 1.1475343068237058 1.232653363453549]
 [0.0 1.0 0.0 1.4379472069688968 1.5749910381638885]
 [1.0 0.0 0.0 -0.7401495441200351 -0.5646194287757332]]
```

0 d selesai pada 10.33

Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

87°F Mostly sunny 10:34 AM 3/18/2023

Preprocessing Data.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

File

- ..
- sample_data
- Data.csv

Kode

```
[26] x_test[:, 3:] = sc.transform(x_test[:, 3:])

[27] print(x_train)

[[0.0 0.0 1.0 -0.19159184384578545 -1.0781259408412425]
 [0.0 1.0 0.0 -0.014117293757057777 -0.07013167641635372]
 [1.0 0.0 0.0 0.566708506533324 0.633562432710455]
 [0.0 0.0 1.0 -0.30453019390224867 -0.30786617274297867]
 [0.0 0.0 1.0 -1.9018011447007988 -1.420463615551582]
 [1.0 0.0 0.0 1.1475343068237058 1.232653363453549]
 [0.0 1.0 0.0 1.4379472069688968 1.5749910381638885]
 [1.0 0.0 0.0 -0.7401495441200351 -0.5646194287757332]]

print(x_test)

[[0.0 1.0 0.0 -1.4661817944830124 -0.9069571034860727]
 [1.0 0.0 0.0 -0.44973664397484414 0.2056403393225306]]
```

Klik dua kali (atau tekan Enter) untuk mengedit

0 d selesai pada 10.35

Latihan3DataMin...docx Trematoda Hati d...pptx Trematoda Hati d...pptx Data.csv

87°F Mostly sunny 10:35 AM 3/18/2023