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Kelas : Praktikum Pemrograman Komputer – F

UAS

1.

```
[21] import pandas as pd
     import numpy as np
```

```
[22] df = pd.read_excel('/content/ItalyAirCondition.xlsx')
     print(df)
```

```
                 Date Time   CO  NMHC       C6H6    NO2
0     10/03/2004 18:00:00  2.6   150  11.881723  113.0
1     10/03/2004 19:00:00  2.0   112   9.397165   92.0
2     10/03/2004 20:00:00  2.2    88   8.997817  114.0
3     10/03/2004 21:00:00  2.2    80   9.228796  122.0
4     10/03/2004 22:00:00  1.6    51   6.518224  116.0
...                   ...  ...   ...        ...    ...
9352  04/04/2005 10:00:00  3.1  -200  13.529605  189.8
9353  04/04/2005 11:00:00  2.4  -200  11.355157  179.2
9354  04/04/2005 12:00:00  2.4  -200  12.374538  174.7
9355  04/04/2005 13:00:00  2.1  -200   9.547187  155.7
9356  04/04/2005 14:00:00  2.2  -200  11.932060  167.7

[9357 rows x 5 columns]
```

```
[23] df1 = df[['CO','NMHC']]
     print(df1)
```

```
        CO  NMHC
0      2.6   150
1      2.0   112
2      2.2    88
3      2.2    80
4      1.6    51
...    ...   ...
9352   3.1  -200
9353   2.4  -200
9354   2.4  -200
9355   2.1  -200
9356   2.2  -200

[9357 rows x 2 columns]
```

```
[19] from sklearn import preprocessing
```

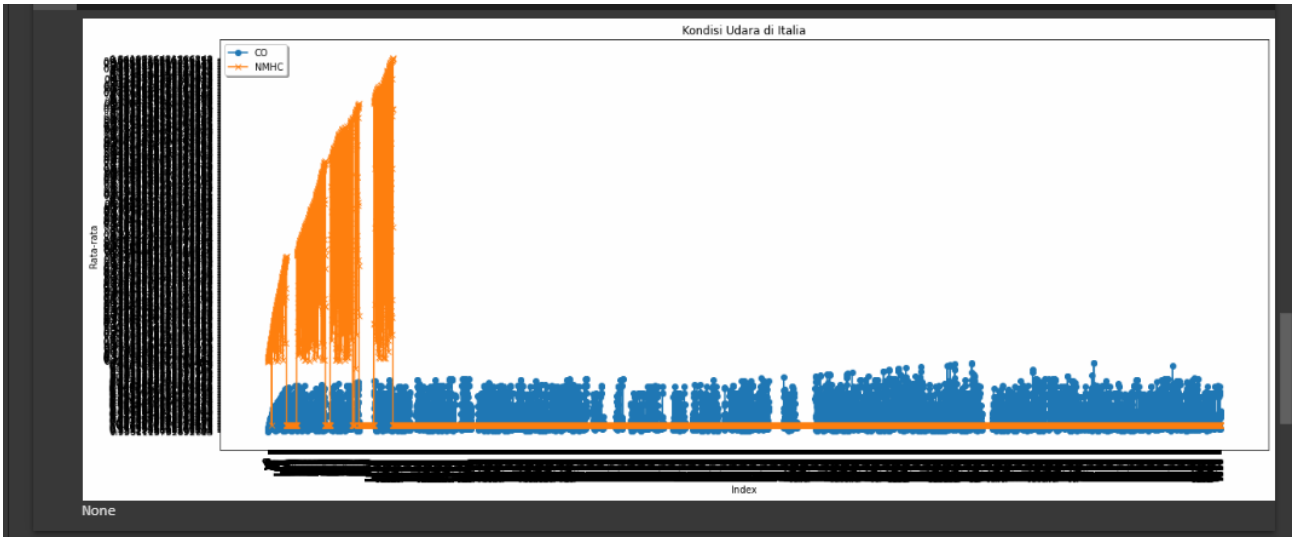
```
[26] df['CO'] = (df['CO']-df['CO'].min())/(df['CO'].max()-df['CO'].min())
     df['NMHC'] = (df['NMHC']-df['NMHC'].min())/(df['NMHC'].max()-df['NMHC'].min())
```

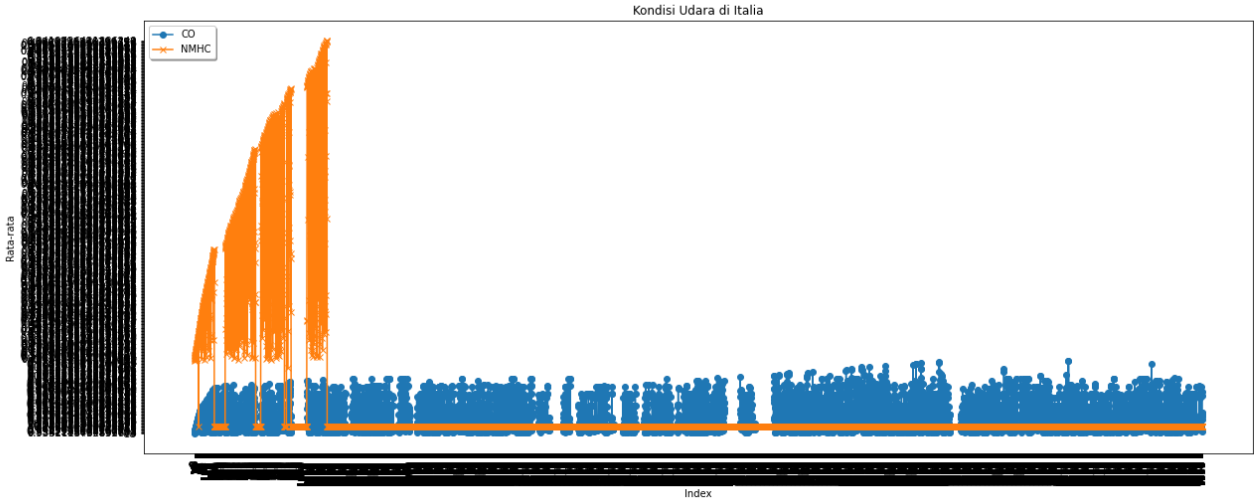
```
[27] df2 = df[['CO','NMHC']]
     print(df2)
```

```
             CO      NMHC
0      0.956111  0.251980
1      0.953280  0.224622
2      0.954224  0.207343
3      0.954224  0.201584
4      0.951392  0.180706
...         ...       ...
9352   0.958471  0.000000
9353   0.955168  0.000000
9354   0.955168  0.000000
9355   0.953752  0.000000
9356   0.954224  0.000000

[9357 rows x 2 columns]
```

```
[28] df2.to_csv('data.csv')
```

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

x=[]
y=[]
z=[]

with open("/content/data.csv","r") as csvfile:
    plots=csv.reader(csvfile,delimiter=",")
    for row in plots:
        x.append(row[0])
        y.append(row[1])
        z.append(row[2])


fig,ax=plt.subplots()
fig.set_size_inches(20, 8)

ax.plot(x,y,marker="o",label="CO")
ax.plot(x,z,marker="x",label="NMHC")
plt.title("Kondisi Udara di Italia")
plt.xlabel("Index")
plt.ylabel("Rata-rata")
plt.xticks(rotation=90)
legend=ax.legend(loc="upper left", shadow=True)


print(plt.show())
fig.savefig('output.png')
```


Kondisi Udara di Italia
CO
NMHC
Rata-rata
Index
None


Kondisi Udara di Italia
CO
NMHC
Rata-rata
Index

2.

```
[35] def pegunungan (g) :
         if g == 1 :
             print ("*")
         else :
             pegunungan (g-1)
             for i in range (g) :
                 print ("*", end="")
             print ()
             pegunungan (g-1)

     N = int(input())
     pegunungan(N)
```

```
4
*
**
*
***
*
**
*
****
*
**
*
***
*
**
*
```