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Matplotlib



Visualization



installation

environment

Pip install Matplotlib

→ From matplotlib import Pyplot as plt

plotting لـ جـ اعـيـزـة لـ كـ دـوـقـتـ C . . .
data لـ

y-axis

x-axis



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$$X = [25, 26, \dots]$$

↓
ages

Subset of data پہلے
یکون کو رکھو
وں

$$y = [-, -, -]$$

↓
Salaries

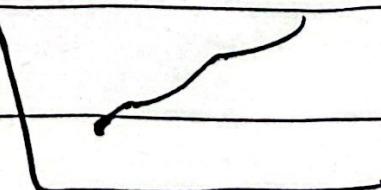
plt. plot (x, y)

plt. title ('')

plt. show()

data

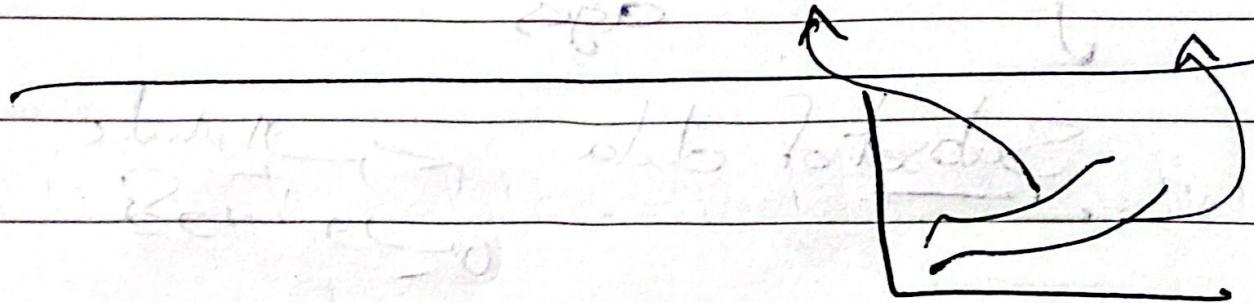
plt. xlabel ('')
plt. ylabel ('')



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plt.legend(['All Devs', 'Python'])



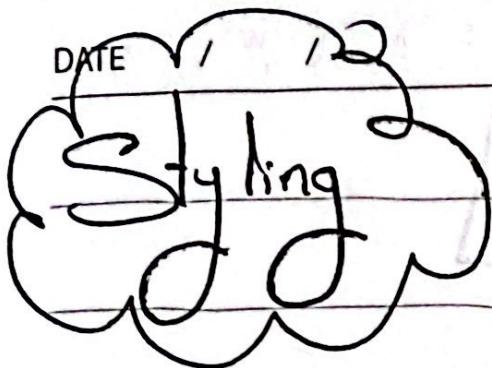
another way
=

plt.plot(x1, y1, label = 'All Devs')

plt.plot(x2, y2, label = 'Python')

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→ Hex

Color = '#444444'

plt.plot(x, y, Color='k', LineStyle=
Marker='o', '---', label="All Days")

Linewidth = 3

plt.grid(true)

Built-in Style Function

① plt. style - available as attribute
not method

```
print(plt.style.available)
```

11

plt. FreeStyle . usc (' five

plt. 11 u. (egg)

`plt.show()`

سکل ۱۷

```
plt.savefig('plot.png')
```

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Baredit

plt. Bar(x,y, color = "blue", label =
(call Dev)

Bars بَار ازای بَار

Side by side

numpy

thirty eight)
lot : \rightarrow x-indexes = np.arange(len(ages))

plt.bar(x-indexes , y ,
width)

width = 0.25

plt.bar(x-indexes

plt.bar(x-indexes + width

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ticks

\ import CSV

```
with open('data.csv') as CSV-file:  
    CSV-file.reader = CSV.DictReader(  
        CSV-file)
```

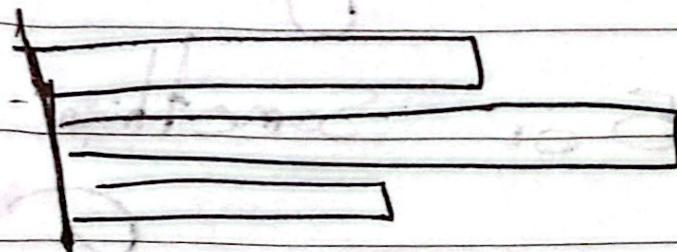
```
row = next(csv_reader)
```

Print (Row)

Row []

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plt. barh ()bar

Pie Chart

Colors = ['blue', 'green', 'Black']

Slices = [60, 40]

Labels = ['Sixty', 'Forty']

plt. pie (slices, labels = labels),

wedgeprops = { 'edgeColor':

Colors = Colors) black]

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~~Pie Chart is not for Comparing~~

~~big data may be~~

~~5 or Something~~

E. Explode : [0, 0, 0.1, 0]

~~Centered pie chart~~

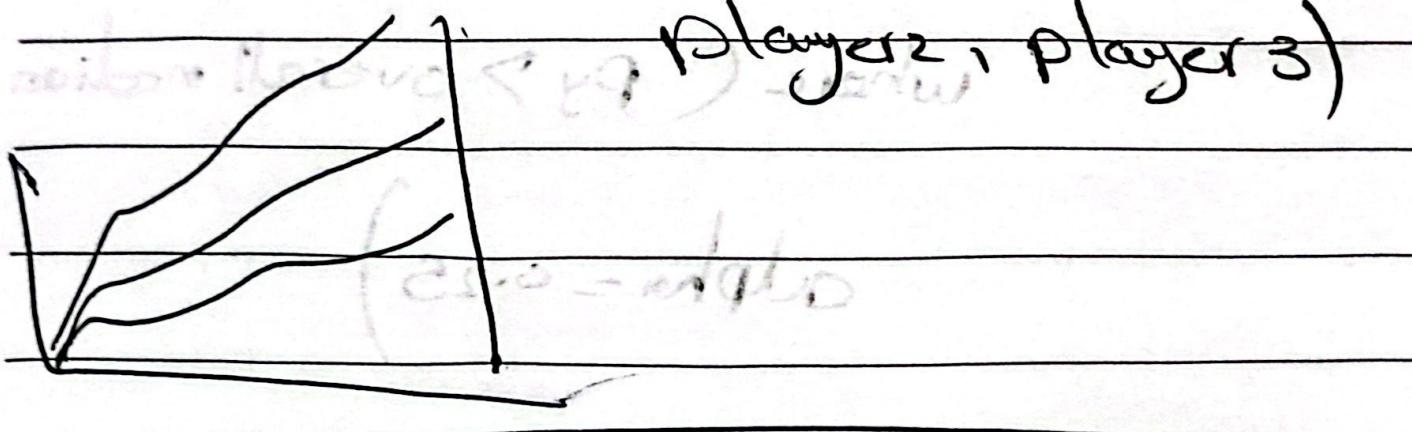
~~'explode' for each slice~~

~~bold (bold) = bold~~

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• pH. Stack plot (minutes, Player 1, Player 2, player 3)



For Filling area on line plots

plt.fill_between(ages, salaries),
↓ ↓

x-axis ↓

$$\underline{y_2 = 0}$$

alpha = 0.25

وهي الـ ٥% ←

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plt. fill_between(ages, y, overall median)

where ($py > \text{overall median}$,

$$\alpha = 0.25$$

start and no end profit

(min, max) resulted - 117.49

Cash back

0.5

25.0 = cashback

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Scatter plots

```
import pandas as pd  
from matplotlib import pyplot as plt
```

```
plt.style.use('seaborn')
```

```
x = [5, 7, 5, 8, 10]
```

```
y = [10, 9, 8, 6]           repeated  
                                value
```

```
plt.scatter(x, y)
```

```
plt.scatter(x, y, s=100), c='green',  
           marker='x')  
           size=
```

```
edge_color='black',
```

```
linewidth=1, alpha=0.75
```

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C-bar = plt. Colorbar ()

C-bar.set_label ('satisfaction')

الشكل المنشئ

{ plt.xscale('log')}

{ plt.yscale('log')}

(log scale)

(ax) \rightarrow plt. log

(plt. log)

(x = whom)

SSR

'total' \rightarrow who - 3863

also + 1 thousand

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Histogram

`plt.hist(ages), bins = 5`

`bins = [10, 5, 20, 2]`

`plt.hist(ages, bins = bins)`

