```python
import pandas as pd
import matplotlib.pyplot as plt
import matplotlib.ticker as mtick
import numpy as np


from google.colab import drive
drive.mount('/content/drive')
```

Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).

```python
df_data_2018=pd.read_csv("/content/drive/MyDrive/IT Salary Survey EU 2018.csv", index_col=0)
df_data_2018.sample(5)
```

	Age	Gender	City	Position	Years of experience	Your level	Current Salary	Salary one year ago	Salary two years ago	Are you getting any Stock Options?	lang at
Timestamp											
14/12/2018 14:36:57	32.0	F	Berlin	Data Engineer	10.0	Senior	75000.0	68000.0	NaN	No	Er
14/12/2018 15:14:28	35.0	M	Berlin	.NET developer	15.0	Senior	62000.0	54000.0	54000.0	No	Er
15/12/2018 11:02:41	30.0	M	Berlin	Python Developer	2.5	Middle	52000.0	48000.0	42500.0	No	Er
18/12/2018 13:50:03	30.0	F	München	QA	5.0	Middle	58000.0	56000.0	54000.0	Yes	Er
18/12/2018 10:15:08	32.0	M	München	DevOps	10.0	NaN	75000.0	NaN	NaN	No	Er

```python
df_data_2019=pd.read_csv("/content/drive/MyDrive/T Salary Survey EU 2019.csv")
df_data_2019.sample(5)
```

Age	Gender	City	Seniority level	Position (without seniority)	Years of experience	Your main technology / programming language	Yearly brutto salary (without bonus and stocks)	Yearly bonus	...	Yearly stocks one year ago. Only answer if staying in same country
43.0	Male	Berlin	Senior	QA	8	Not Relevant	80000.0	NaN	...	NaN
27.0	Male	Munich	Senior	Backend Developer	5	Java	70000.0	2000.0	...	NaN
37.0	Male	Berlin	Senior	Localization	15	Not Relevant	60000.0	NaN	...	NaN
32.0	Male	Amsterdam	Middle	DevOps	2	AWS	70000.0	NaN	...	NaN
31.0	Male	Düsseldorf	Senior	Backend Developer	11	Python	82500.0	11400.0	...	NaN

```python
df_data_2020=pd.read_csv("/content/drive/MyDrive/IT Salary Survey EU  2020.csv")
df_data_2020.sample(5)
```

	Timestamp	Age	Gender	City	Position	Total years of experience	Years of experience in Germany	Seniority level	Your main technology / programming language	techno langu
1141	09/12/2020 21:12:22	35.0	Male	Munich	Software Engineer	15	5	Head	SQL	Pytl
407	24/11/2020 20:02:15	29.0	Male	Berlin	Backend Developer	10	1	Senior	Ruby	
322	24/11/2020 17:12:18	38.0	Male	Stuttgart	Software Engineer	15	8	Senior	C#	
955	30/11/2020 12:56:08	54.0	Male	Milano	Sales	31	6	Head	Network Automation	

```
df_combinado=pd.concat([df_data_2018,df_data_2019,df_data_2020], ignore_index=True)
df_combinado
```

	Age	Gender	City	Position	Years of experience	Your level	Current Salary	Salary one year ago	Salary two years ago	Are you getting any Stock Options?	...	e i
0	43.0	M	München	QA Ingenieur	11.0	Senior	77000.0	76200.0	68000.0	No	...	
1	33.0	F	München	Senior PHP Magento developer	8.0	Senior	65000.0	55000.0	55000.0	No	...	
2	32.0	M	München	Software Engineer	10.0	Senior	88000.0	73000.0	54000.0	No	...	
3	25.0	M	München	Senior Frontend Developer	6.0	Senior	78000.0	55000.0	45000.0	Yes	...	
4	39.0	M	München	UX Designer	10.0	Senior	69000.0	60000.0	52000.0	No	...	
...	...	...	...	...	...	...	...	...	...	...		
3004	31.0	Male	Berlin	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	
3005	33.0	Male	Berlin	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	
3006	39.0	Male	Munich	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	
3007	26.0	Male	Saarbrücken	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	
3008	26.0	Male	Berlin	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	

3009 rows × 42 columns

```
df_combinado.fillna(0.,inplace=True)
```

```
df_combinado["Gender"]= df_combinado["Gender"].astype("category")
df_combinado.sample(5)
```

Years of experience	Your level	Current Salary	Salary one year ago	Salary two years ago	Are you getting any Stock Options?	...	Years of experience in Germany	Other technologies/programming languages you use often	Yearly brutto salary (without bonus and stocks) in EUR
0.0	0.0	0.0	0.0	0.0	0.0	...	1	Javascript / Typescript	66500.0
0.0	0.0	0.0	0.0	0.0	0.0	...	6	.NET	76000.0
0.0	0.0	0.0	0.0	0.0	0.0	...	4	Python, R, Google Cloud, Docker	150000.0
0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	...	1	Python, SQL, AWS, Kubernetes, Docker	83000.0

```
df_combinado.fillna(0.,inplace=True)
```

```
df_combinado=pd.concat([df_data_2018,df_data_2019,df_data_2020], ignore_index=True)
df_combinado.sample(5)
```
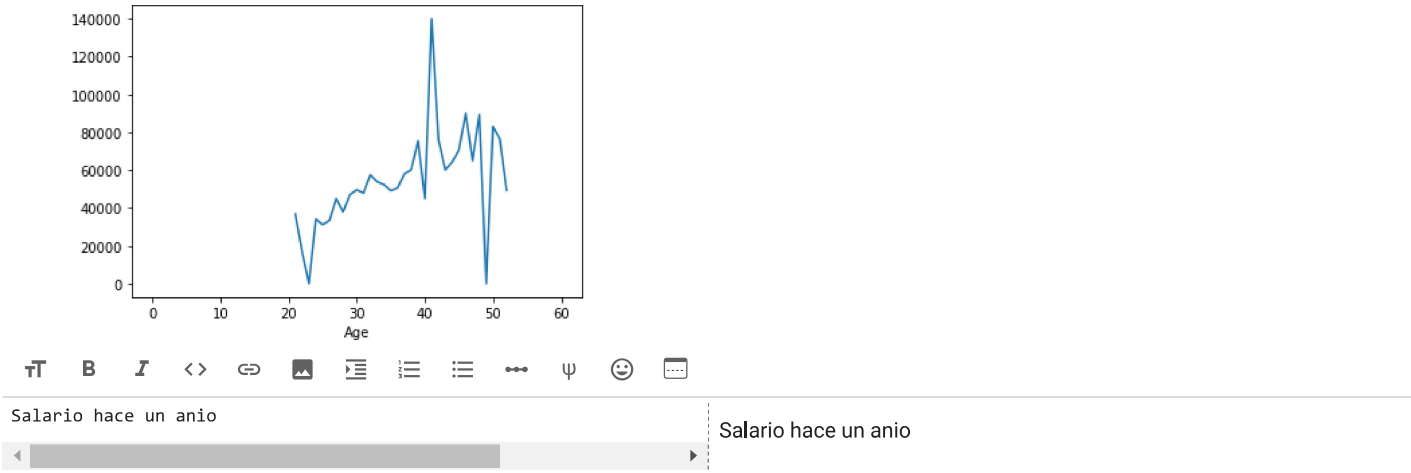
	Age	Gender	City	Position	Years of experience	Your level	Current Salary	Salary one year ago	Salary two years ago	Are you getting any Stock Options?	...	Years experi in Ger
783	33.0	Male	Berlin	NaN	12.0	NaN	NaN	NaN	NaN	NaN	...	
1413	41.0	Male	Berlin	NaN	20.0	NaN	NaN	NaN	NaN	NaN	...	
1436	33.0	Male	Munich	NaN	12.0	NaN	NaN	NaN	NaN	NaN	...	
1224	NaN	Male	Berlin	NaN	8.0	NaN	NaN	NaN	NaN	NaN	...	
539	40.0	F	Frankfurt	DB	4.0	Middle	65000.0	0.0	0.0	0.0	...	

5 rows × 42 columns

```
df_combinado["Gender"]=df_combinado["Gender"].astype("category")
df_combinado.sample(5)
df_combinado["Gender"] = df_combinado["Gender"].replace(["Male", "Female"], ["M", "F"])
```

```
sa=df_combinado.groupby(['Age'])['Salary one year ago'].mean()
sa.plot(kind='line', x='Age',y='Salary·one·year·ago')
plt.show()
```

Salario hace un anio

Salario hace un anio

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