

faostat_casestudy

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Task: Take your Own Dataset and do as directed in Video

1. Libraries

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

2 Excel file import

```
[ ]: chilla = pd.read_csv("faostat_casestudy.csv")
chilla
```

```
[ ]:
Domain Code      Domain Area Code      Area \
0      QCL  Crops and livestock products      79  Germany
1      QCL  Crops and livestock products      79  Germany
2      QCL  Crops and livestock products      79  Germany
3      QCL  Crops and livestock products      79  Germany
4      QCL  Crops and livestock products      79  Germany
..      ...
175     QCL  Crops and livestock products      79  Germany
176     QCL  Crops and livestock products      79  Germany
177     QCL  Crops and livestock products      79  Germany
178     QCL  Crops and livestock products      79  Germany
179     QCL  Crops and livestock products      79  Germany

Element Code      Element Item Code      Item Year Code      Year \
0      5312  Area harvested      1717  Cereals, Total      1961  1961
1      5419      Yield      1717  Cereals, Total      1961  1961
2      5510  Production      1717  Cereals, Total      1961  1961
```

3	5312	Area harvested	1717	Cereals, Total	1962	1962
4	5419	Yield	1717	Cereals, Total	1962	1962
..
175	5419	Yield	1717	Cereals, Total	2019	2019
176	5510	Production	1717	Cereals, Total	2019	2019
177	5312	Area harvested	1717	Cereals, Total	2020	2020
178	5419	Yield	1717	Cereals, Total	2020	2020
179	5510	Production	1717	Cereals, Total	2020	2020

	Unit	Value	Flag	Flag Description
0	ha	7138919	A	Aggregate, may include official, semi-official...
1	hg/ha	24174	Fc	Calculated data
2	tonnes	17257340	A	Aggregate, may include official, semi-official...
3	ha	7145685	A	Aggregate, may include official, semi-official...
4	hg/ha	29622	Fc	Calculated data
..
175	hg/ha	69520	Fc	Calculated data
176	tonnes	44302400	A	Aggregate, may include official, semi-official...
177	ha	6065200	A	Aggregate, may include official, semi-official...
178	hg/ha	71333	Fc	Calculated data
179	tonnes	43265100	A	Aggregate, may include official, semi-official...

[180 rows x 14 columns]

3 Deleting Rows and Column

3.0.1 Delete multiple consecutive Rows

```
[ ]: # delete multiple rows consecutive
chilla= chilla.drop(chilla.index[1:3])
# delete consecutive rows
chilla=chilla.drop(5)
chilla
```

```
[ ]: Domain Code      Domain Area Code  Area \
0      QCL  Crops and livestock products      79  Germany
3      QCL  Crops and livestock products      79  Germany
4      QCL  Crops and livestock products      79  Germany
6      QCL  Crops and livestock products      79  Germany
7      QCL  Crops and livestock products      79  Germany
..      ...      ...      ...      ...
175    QCL  Crops and livestock products      79  Germany
176    QCL  Crops and livestock products      79  Germany
177    QCL  Crops and livestock products      79  Germany
178    QCL  Crops and livestock products      79  Germany
179    QCL  Crops and livestock products      79  Germany
```

	Element Code	Element	Item Code	Item	Year Code	Year	\
0	5312	Area harvested	1717	Cereals, Total	1961	1961	
3	5312	Area harvested	1717	Cereals, Total	1962	1962	
4	5419	Yield	1717	Cereals, Total	1962	1962	
6	5312	Area harvested	1717	Cereals, Total	1963	1963	
7	5419	Yield	1717	Cereals, Total	1963	1963	
..	
175	5419	Yield	1717	Cereals, Total	2019	2019	
176	5510	Production	1717	Cereals, Total	2019	2019	
177	5312	Area harvested	1717	Cereals, Total	2020	2020	
178	5419	Yield	1717	Cereals, Total	2020	2020	
179	5510	Production	1717	Cereals, Total	2020	2020	

	Unit	Value	Flag	Flag Description
0	ha	7138919	A	Aggregate, may include official, semi-official...
3	ha	7145685	A	Aggregate, may include official, semi-official...
4	hg/ha	29622	Fc	Calculated data
6	ha	7168885	A	Aggregate, may include official, semi-official...
7	hg/ha	29252	Fc	Calculated data
..
175	hg/ha	69520	Fc	Calculated data
176	tonnes	44302400	A	Aggregate, may include official, semi-official...
177	ha	6065200	A	Aggregate, may include official, semi-official...
178	hg/ha	71333	Fc	Calculated data
179	tonnes	43265100	A	Aggregate, may include official, semi-official...

[177 rows x 14 columns]

3.0.2 Delete Alternate Rows

```
[ ]: chilla= chilla.drop([3,4,6,7])
chilla
```

```
[ ]: Domain Code          Domain Area Code    Area \
0          QCL  Crops and livestock products      79  Germany
8          QCL  Crops and livestock products      79  Germany
9          QCL  Crops and livestock products      79  Germany
10         QCL  Crops and livestock products      79  Germany
11         QCL  Crops and livestock products      79  Germany
..         ...
175        QCL  Crops and livestock products      79  Germany
176        QCL  Crops and livestock products      79  Germany
177        QCL  Crops and livestock products      79  Germany
178        QCL  Crops and livestock products      79  Germany
179        QCL  Crops and livestock products      79  Germany
```

Element Code	Element	Item Code	Item	Year Code	Year	\
--------------	---------	-----------	------	-----------	------	---

0	5312	Area harvested	1717	Cereals, Total	1961	1961
8	5510	Production	1717	Cereals, Total	1963	1963
9	5312	Area harvested	1717	Cereals, Total	1964	1964
10	5419	Yield	1717	Cereals, Total	1964	1964
11	5510	Production	1717	Cereals, Total	1964	1964
..
175	5419	Yield	1717	Cereals, Total	2019	2019
176	5510	Production	1717	Cereals, Total	2019	2019
177	5312	Area harvested	1717	Cereals, Total	2020	2020
178	5419	Yield	1717	Cereals, Total	2020	2020
179	5510	Production	1717	Cereals, Total	2020	2020

	Unit	Value	Flag	Flag Description
0	ha	7138919	A	Aggregate, may include official, semi-official...
8	tonnes	20970320	A	Aggregate, may include official, semi-official...
9	ha	7285822	A	Aggregate, may include official, semi-official...
10	hg/ha	31208	Fc	Calculated data
11	tonnes	22737326	A	Aggregate, may include official, semi-official...
..
175	hg/ha	69520	Fc	Calculated data
176	tonnes	44302400	A	Aggregate, may include official, semi-official...
177	ha	6065200	A	Aggregate, may include official, semi-official...
178	hg/ha	71333	Fc	Calculated data
179	tonnes	43265100	A	Aggregate, may include official, semi-official...

[173 rows x 14 columns]

3.0.3 Deleting Columns

```
[ ]: del chilla["Domain"]
chilla
```

[]:	Domain	Code	Area	Code	Area	Element	Code	Element	Item	Code \
0		QCL	79	Germany		5312	Area harvested		1717	
8		QCL	79	Germany		5510	Production		1717	
9		QCL	79	Germany		5312	Area harvested		1717	
10		QCL	79	Germany		5419	Yield		1717	
11		QCL	79	Germany		5510	Production		1717	
..
175		QCL	79	Germany		5419	Yield		1717	
176		QCL	79	Germany		5510	Production		1717	
177		QCL	79	Germany		5312	Area harvested		1717	
178		QCL	79	Germany		5419	Yield		1717	
179		QCL	79	Germany		5510	Production		1717	

	Item	Year	Code	Year	Unit	Value	Flag \
0	Cereals, Total		1961	1961	ha	7138919	A

8	Cereals, Total	1963	1963	tonnes	20970320	A
9	Cereals, Total	1964	1964	ha	7285822	A
10	Cereals, Total	1964	1964	hg/ha	31208	Fc
11	Cereals, Total	1964	1964	tonnes	22737326	A
..
175	Cereals, Total	2019	2019	hg/ha	69520	Fc
176	Cereals, Total	2019	2019	tonnes	44302400	A
177	Cereals, Total	2020	2020	ha	6065200	A
178	Cereals, Total	2020	2020	hg/ha	71333	Fc
179	Cereals, Total	2020	2020	tonnes	43265100	A

	Flag Description
0	Aggregate, may include official, semi-official...
8	Aggregate, may include official, semi-official...
9	Aggregate, may include official, semi-official...
10	Calculated data
11	Aggregate, may include official, semi-official...
..	...
175	Calculated data
176	Aggregate, may include official, semi-official...
177	Aggregate, may include official, semi-official...
178	Calculated data
179	Aggregate, may include official, semi-official...

[173 rows x 13 columns]

```
[ ]: chilla.drop(["Flag", "Domain Code"],axis=1)
```

[]:	Area Code	Area	Element Code	Element	Item Code	\
0	79	Germany	5312	Area harvested	1717	
8	79	Germany	5510	Production	1717	
9	79	Germany	5312	Area harvested	1717	
10	79	Germany	5419	Yield	1717	
11	79	Germany	5510	Production	1717	
..
175	79	Germany	5419	Yield	1717	
176	79	Germany	5510	Production	1717	
177	79	Germany	5312	Area harvested	1717	
178	79	Germany	5419	Yield	1717	
179	79	Germany	5510	Production	1717	

	Item	Year	Code	Year	Unit	Value	\
0	Cereals, Total		1961	1961	ha	7138919	
8	Cereals, Total		1963	1963	tonnes	20970320	
9	Cereals, Total		1964	1964	ha	7285822	
10	Cereals, Total		1964	1964	hg/ha	31208	
11	Cereals, Total		1964	1964	tonnes	22737326	

```

..      ...      ...      ...      ...
175 Cereals, Total      2019 2019 hg/ha      69520
176 Cereals, Total      2019 2019 tonnes 44302400
177 Cereals, Total      2020 2020 ha      6065200
178 Cereals, Total      2020 2020 hg/ha      71333
179 Cereals, Total      2020 2020 tonnes 43265100

```

```

                                Flag Description
0  Aggregate, may include official, semi-official...
8  Aggregate, may include official, semi-official...
9  Aggregate, may include official, semi-official...
10 Calculated data
11 Aggregate, may include official, semi-official...
..      ...
175 Calculated data
176 Aggregate, may include official, semi-official...
177 Aggregate, may include official, semi-official...
178 Calculated data
179 Aggregate, may include official, semi-official...

```

[173 rows x 11 columns]

```
[ ]: chilla[chilla["Year Code"]<2005].groupby(["Unit", "Element"]).mean("Value")
```

```
[ ]:
      Area Code  Element Code  Item Code  Year Code  \
Unit  Element
ha    Area harvested      79.0      5312.0      1717.0  1983.452381
hg/ha  Yield              79.0      5419.0      1717.0  1984.000000
tonnes Production         79.0      5510.0      1717.0  1983.500000

      Year      Value
Unit  Element
ha    Area harvested  1983.452381  7.226688e+06
hg/ha  Yield          1984.000000  4.845746e+04
tonnes Production     1983.500000  3.434010e+07

```

1. My question here is what if I want to restrict the mean of the number.
2. For suppose there is no logic in calculating the mean of the year column (series)

3.1 Convert to CSV final Data

```
[ ]: chilla.to_csv("faodata_updated")
```