```
In [2]: import pandas as pd
        import numpy as np
        import seaborn as sns
        import matplotlib.pyplot as plt
```

```
In [3]: df= pd.read_csv(r"C:\Users\Owner\Documents\techtern datas\International_Breweries (1).csv")
```

```
In [4]: df
```

Out[4]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	RE
0	10101	Jardine	jard@gmail.com	trophy	150	200	725	145000	36250	Ghana	Sout
1	10102	Gill	gillhell@uk.com	budweiser	250	500	815	407500	203750	Nigeria	
2	10103	Sorvino	sorvi2000@gmail.com	castle lite	180	450	937	421650	252990	Togo	south
3	10104	Jones	jone.ai@yahoo.com	eagle lager	170	250	765	191250	61200	Benin	nort
4	10105	Andrews	andy@gmail.com	hero	150	200	836	167200	41800	Senegal	nort
...	...	...	...	...	...	...	...	...	...	...	
1042	11143	Jardine	jard@gmail.com	grand malt	90	150	962	144300	57720	Togo	nort
1043	11144	Jardine	jard@gmail.com	trophy	150	200	892	178400	44600	Benin	northc
1044	11145	Andrews	andy@gmail.com	budweiser	250	500	816	408000	204000	Senegal	Sout
1045	11146	Jones	jone.ai@yahoo.com	castle lite	180	450	939	422550	253530	Ghana	
1046	11147	Morgan	morganny@gmail.com	eagle lager	170	250	935	233750	74800	Nigeria	south

1047 rows × 13 columns

```
In [5]: df.info()
```
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1047 entries, 0 to 1046
Data columns (total 13 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
 0   SALES_ID     1047 non-null   int64
 1   SALES_REP    1047 non-null   object
 2   EMAILS       1047 non-null   object
 3   BRANDS       1047 non-null   object
 4   PLANT_COST   1047 non-null   int64
 5   UNIT_PRICE   1047 non-null   int64
 6   QUANTITY     1047 non-null   int64
 7   COST         1047 non-null   int64
 8   PROFIT       1047 non-null   int64
 9   COUNTRIES    1047 non-null   object
 10  REGION       1047 non-null   object
 11  MONTHS       1047 non-null   object
 12  YEARS        1047 non-null   int64
dtypes: int64(7), object(6)
memory usage: 106.5+ KB
```

```
In [ ]:
```

```
In [6]: list(df.SALES_REP.unique())
```

```
Out[6]: ['Jardine',
         'Gill',
         'Sorvino',
         'Jones',
         'Andrews',
         'Thompson',
         'Morgan',
         'Howard',
         'Parent',
         'Smith',
         'Kivell']
```

```
In [7]: df.SALES_REP.values
```

```
Out[7]: array(['Jardine', 'Gill', 'Sorvino', ..., 'Andrews', 'Jones', 'Morgan'],
              dtype=object)
```

```
In [8]: df.BRANDS.unique()
```

```
Out[8]: array(['trophy', 'budweiser', 'castle lite', 'eagle lager', 'hero',
               'beta malt', 'grand malt'], dtype=object)
```

```
In [9]: df.COUNTRIES.unique()
```

```
Out[9]: array(['Ghana', 'Nigeria', 'Togo', 'Benin', 'Senegal'], dtype=object)
```

```
In [10]: max(df.QUANTITY)
```

```
Out[10]: 1000
```

```
In [11]: df.loc[df.QUANTITY == max(df.QUANTITY)]
```

Out[11]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGIC
32	10133	Kivell	kivel_go@yahoo.com	hero	150	200	1000	200000	50000	Togo	southsou
186	10287	Jardine	jard@gmail.com	hero	150	200	1000	200000	50000	Nigeria	Southea
798	10899	Morgan	morganny@gmail.com	trophy	150	200	1000	200000	50000	Benin	Southea

```
In [12]: min(df.QUANTITY)
```

```
Out[12]: 700
```

```
In [13]: df.loc[df.QUANTITY == min(df.QUANTITY)]
```

Out[13]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES
8	10109	Morgan	morganny@gmail.com	budweiser	250	500	700	350000	175000	Benin
371	10472	Howard	howard_freeman@yahoo.com	trophy	150	200	700	140000	35000	Nigeria
661	10762	Parent	parentty@uk.com	eagle lager	170	250	700	175000	56000	Nigeria
1030	11131	Howard	howard_freeman@yahoo.com	budweiser	250	500	700	350000	175000	Ghana

```
In [14]: max(df.UNIT_PRICE)
```

```
Out[14]: 500
```

```
In [15]: df.loc[df.UNIT_PRICE == max(df.UNIT_PRICE)]
```

Out[15]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES
1	10102	Gill	gillhell@uk.com	budweiser	250	500	815	407500	203750	Nigeria
8	10109	Morgan	morganny@gmail.com	budweiser	250	500	700	350000	175000	Benin
15	10116	Jones	jone.ai@yahoo.com	budweiser	250	500	709	354500	177250	Ghana
22	10123	Jones	jone.ai@yahoo.com	budweiser	250	500	859	429500	214750	Togo
29	10130	Kivell	kivel_go@yahoo.com	budweiser	250	500	945	472500	236250	Senegal
...	...	...	...	...	...	...	...	...	...	...
1016	11117	Smith	smithMan@yahoo.com	budweiser	250	500	847	423500	211750	Nigeria
1023	11124	Parent	parentty@uk.com	budweiser	250	500	876	438000	219000	Benin
1030	11131	Howard	howard_freeman@yahoo.com	budweiser	250	500	700	350000	175000	Ghana
1037	11138	Sorvino	sorvi2000@gmail.com	budweiser	250	500	839	419500	209750	Togo
1044	11145	Andrews	andy@gmail.com	budweiser	250	500	816	408000	204000	Senegal

150 rows × 13 columns

```
In [16]: min(df.UNIT_PRICE)
```

```
Out[16]: 150
```

```
In [17]: df.loc[df.UNIT_PRICE == min(df.UNIT_PRICE)]
```

Out[17]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REG
5	10106	Jardine	jard@gmail.com	beta malt	80	150	798	119700	55860	Ghana	northce
6	10107	Thompson	thomp@uk.com	grand malt	90	150	954	143100	57240	Nigeria	Sout
12	10113	Smith	smithMan@yahoo.com	beta malt	80	150	731	109650	51170	Togo	Sout
13	10114	Jones	jone.ai@yahoo.com	grand malt	90	150	843	126450	50580	Benin	
19	10120	Parent	parentty@uk.com	beta malt	80	150	731	109650	51170	Senegal	
...	...	...	...	...	...	...	...	...	...	...	
1028	11129	Jardine	jard@gmail.com	grand malt	90	150	900	135000	54000	Benin	souths
1034	11135	Jones	jone.ai@yahoo.com	beta malt	80	150	811	121650	56770	Senegal	souths
1035	11136	Morgan	morganny@gmail.com	grand malt	90	150	963	144450	57780	Ghana	north
1041	11142	Andrews	andy@gmail.com	beta malt	80	150	740	111000	51800	Nigeria	north
1042	11143	Jardine	jard@gmail.com	grand malt	90	150	962	144300	57720	Togo	nort

298 rows × 13 columns

In [18]: `max(df.PROFIT)`

Out[18]: 269190

In [19]: `df.loc[df.PROFIT == max(df.PROFIT)]`

Out[19]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	
310	10411	Jones	jone.ai@yahoo.com	castle lite	180	450	997	448650	269190	Ghana	n
709	10810	Howard	howard_freeman@yahoo.com	castle lite	180	450	997	448650	269190	Senegal	

In [20]: `min(df.PROFIT)`

Out[20]: 35000

In [21]: `df.loc[df.PROFIT == min(df.PROFIT)]`

Out[21]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	
371	10472	Howard	howard_freeman@yahoo.com	trophy	150	200	700	140000	35000	Nigeria	n

In [22]: `df.values`

Out[22]:
```
array([[10101, 'Jardine', 'jard@gmail.com', ..., 'Southeast', 'January',
        2019],
       [10102, 'Gill', 'gillhell@uk.com', ..., 'west', 'February', 2018],
       [10103, 'Sorvino', 'sorvi2000@gmail.com', ..., 'southsouth',
        'March', 2018],
       ...,
       [11145, 'Andrews', 'andy@gmail.com', ..., 'Southeast', 'January',
        2019],
       [11146, 'Jones', 'jone.ai@yahoo.com', ..., 'west', 'February',
        2017],
       [11147, 'Morgan', 'morganny@gmail.com', ..., 'southsouth',
        'March', 2019]], dtype=object)
```

In [ ]:

In [24]: `df2017 = df.loc[df.YEARS == 2017]`

In [25]: `df2017`

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES
4	10105	Andrews	andy@gmail.com	hero	150	200	836	167200	41800	Senegal
6	10107	Thompson	thomp@uk.com	grand malt	90	150	954	143100	57240	Nigeria
9	10110	Howard	howard_freeman@yahoo.com	castle lite	180	450	745	335250	201150	Senegal
10	10111	Parent	parentty@uk.com	eagle lager	170	250	861	215250	68880	Ghana
13	10114	Jones	jone.ai@yahoo.com	grand malt	90	150	843	126450	50580	Benin
...	...	...	...	...	...	...	...	...	...	...
1038	11139	Gill	gillhell@uk.com	castle lite	180	450	907	408150	244890	Benin
1039	11140	Sorvino	sorvi2000@gmail.com	eagle lager	170	250	949	237250	75920	Senegal
1042	11143	Jardine	jard@gmail.com	grand malt	90	150	962	144300	57720	Togo
1043	11144	Jardine	jard@gmail.com	trophy	150	200	892	178400	44600	Benin
1045	11146	Jones	jone.ai@yahoo.com	castle lite	180	450	939	422550	253530	Ghana

374 rows × 13 columns

In [26]: `max(df2017.QUANTITY)`

Out[26]: 1000

In [27]: `df2017.loc[df.QUANTITY == max(df.QUANTITY)]`

Out[27]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION	MO
186	10287	Jardine	jard@gmail.com	hero	150	200	1000	200000	50000	Nigeria	Southeast	

In [28]: `min(df2017.QUANTITY)`

Out[28]: 700

In [29]: `df2017.loc[df.QUANTITY == min(df.QUANTITY)]`

Out[29]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	
371	10472	Howard	howard_freeman@yahoo.com	trophy	150	200	700	140000	35000	Nigeria	n

In [30]: `df2017.loc[df2017.PROFIT == max(df2017.PROFIT)]`

Out[30]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION
618	10719	Morgan	morganny@gmail.com	castle lite	180	450	995	447750	268650	Benin	Southeas

In [31]: `df2017.loc[df2017.PROFIT == min(df2017.PROFIT)]`

Out[31]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	
371	10472	Howard	howard_freeman@yahoo.com	trophy	150	200	700	140000	35000	Nigeria	n

In [32]: `df2017.loc[df2017.COST == max(df2017.COST)]`

```
Out[32]:
```

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION
302	10403	Thompson	thomp@uk.com	budweiser	250	500	998	499000	249500	Togo	southsouth
589	10690	Jones	jone.ai@yahoo.com	budweiser	250	500	998	499000	249500	Senegal	west
841	10942	Andrews	andy@gmail.com	budweiser	250	500	998	499000	249500	Nigeria	west

```
In [33]: df2017.loc[df2017.COST == min(df2017.COST)]
```

```
Out[33]:
```

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION
552	10653	Kivell	kivel_go@yahoo.com	grand malt	90	150	702	105300	42120	Togo	Southeast

```
In [34]: df2017.loc[df2017.UNIT_PRICE == min(df2017.UNIT_PRICE)]
```

```
Out[34]:
```

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES
6	10107	Thompson	thomp@uk.com	grand malt	90	150	954	143100	57240	Nigeria
13	10114	Jones	jone.ai@yahoo.com	grand malt	90	150	843	126450	50580	Benin
19	10120	Parent	parentty@uk.com	beta malt	80	150	731	109650	51170	Senegal
20	10121	Gill	gillhell@uk.com	grand malt	90	150	898	134700	53880	Ghana
26	10127	Howard	howard_freeman@yahoo.com	beta malt	80	150	982	147300	68740	Nigeria
...	...	...	...	...	...	...	...	...	...	...
1006	11107	Sorvino	sorvi2000@gmail.com	beta malt	80	150	786	117900	55020	Nigeria
1013	11114	Howard	howard_freeman@yahoo.com	beta malt	80	150	732	109800	51240	Benin
1020	11121	Parent	parentty@uk.com	beta malt	80	150	842	126300	58940	Ghana
1027	11128	Sorvino	sorvi2000@gmail.com	beta malt	80	150	779	116850	54530	Togo
1042	11143	Jardine	jard@gmail.com	grand malt	90	150	962	144300	57720	Togo

111 rows × 13 columns

```
In [35]: df2017.loc[df2017.UNIT_PRICE == min(df2017.UNIT_PRICE)]
```

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES
6	10107	Thompson	thomp@uk.com	grand malt	90	150	954	143100	57240	Nigeria
13	10114	Jones	jone.ai@yahoo.com	grand malt	90	150	843	126450	50580	Benin
19	10120	Parent	parentty@uk.com	beta malt	80	150	731	109650	51170	Senegal
20	10121	Gill	gillhell@uk.com	grand malt	90	150	898	134700	53880	Ghana
26	10127	Howard	howard_freeman@yahoo.com	beta malt	80	150	982	147300	68740	Nigeria
...	...	...	...	...	...	...	...	...	...	...
1006	11107	Sorvino	sorvi2000@gmail.com	beta malt	80	150	786	117900	55020	Nigeria
1013	11114	Howard	howard_freeman@yahoo.com	beta malt	80	150	732	109800	51240	Benin
1020	11121	Parent	parentty@uk.com	beta malt	80	150	842	126300	58940	Ghana
1027	11128	Sorvino	sorvi2000@gmail.com	beta malt	80	150	779	116850	54530	Togo
1042	11143	Jardine	jard@gmail.com	grand malt	90	150	962	144300	57720	Togo

111 rows × 13 columns

In [ ]:

In [ ]:

In [36]:
```python
df2018 = df.loc[df.YEARS == 2018]
```

In [37]:
```python
df2018
```

Out[37]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	RE
1	10102	Gill	gillhell@uk.com	budweiser	250	500	815	407500	203750	Nigeria	
2	10103	Sorvino	sorvi2000@gmail.com	castle lite	180	450	937	421650	252990	Togo	south
3	10104	Jones	jone.ai@yahoo.com	eagle lager	170	250	765	191250	61200	Benin	nort
7	10108	Jones	jone.ai@yahoo.com	trophy	150	200	812	162400	40600	Togo	
12	10113	Smith	smithMan@yahoo.com	beta malt	80	150	731	109650	51170	Togo	Sou
...	...	...	...	...	...	...	...	...	...	...	
1023	11124	Parent	parentty@uk.com	budweiser	250	500	876	438000	219000	Benin	nort
1026	11127	Jones	jone.ai@yahoo.com	hero	150	200	731	146200	36550	Nigeria	Sou
1031	11132	Gill	gillhell@uk.com	castle lite	180	450	721	324450	194670	Nigeria	northo
1033	11134	Kivell	kivel_go@yahoo.com	hero	150	200	860	172000	43000	Benin	
1041	11142	Andrews	andy@gmail.com	beta malt	80	150	740	111000	51800	Nigeria	nort

360 rows × 13 columns

In [38]:
```python
max(df2018.QUANTITY)
```

Out[38]: 1000

In [39]:
```python
df2018.loc[df.QUANTITY == max(df2018.QUANTITY)]
```

Out[39]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION
798	10899	Morgan	morganny@gmail.com	trophy	150	200	1000	200000	50000	Benin	Southeas

In [40]:
```python
df2018.loc[df.QUANTITY == min(df2018.QUANTITY)]
```

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION	
80	10181	Jardine	jard@gmail.com	eagle lager	170	250	701	175250	56080	Ghana	southsouth	S
897	10998	Jardine	jard@gmail.com	budweiser	250	500	701	350500	175250	Togo	northwest	

In [41]: `df2018.loc[df2018.PROFIT == max(df2018.PROFIT)]`

Out[41]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION	MO
814	10915	Jardine	jard@gmail.com	castle lite	180	450	992	446400	267840	Senegal	northeast	No

In [42]: `df2018.loc[df2018.PROFIT == min(df2018.PROFIT)]`

Out[42]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION	MO
903	11004	Thompson	thomp@uk.com	trophy	150	200	702	140400	35100	Benin	northwest	

In [ ]:

In [43]: `df2019 = df.loc[df.YEARS == 2019]`

In [44]: `df2019`

Out[44]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	RE
0	10101	Jardine	jard@gmail.com	trophy	150	200	725	145000	36250	Ghana	Sout
5	10106	Jardine	jard@gmail.com	beta malt	80	150	798	119700	55860	Ghana	northc
8	10109	Morgan	morganny@gmail.com	budweiser	250	500	700	350000	175000	Benin	south
11	10112	Jones	jone.ai@yahoo.com	hero	150	200	902	180400	45100	Nigeria	northc
15	10116	Jones	jone.ai@yahoo.com	budweiser	250	500	709	354500	177250	Ghana	nort
...	...	...	...	...	...	...	...	...	...	...	...
1035	11136	Morgan	morganny@gmail.com	grand malt	90	150	963	144450	57780	Ghana	nort
1037	11138	Sorvino	sorvi2000@gmail.com	budweiser	250	500	839	419500	209750	Togo	northc
1040	11141	Thompson	thomp@uk.com	hero	150	200	903	180600	45150	Ghana	south
1044	11145	Andrews	andy@gmail.com	budweiser	250	500	816	408000	204000	Senegal	Sout
1046	11147	Morgan	morganny@gmail.com	eagle lager	170	250	935	233750	74800	Nigeria	south

313 rows × 13 columns

In [ ]:

In [45]: `df2019.loc[df2019.QUANTITY == max(df2019.QUANTITY)]`

Out[45]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION
32	10133	Kivell	kivel_go@yahoo.com	hero	150	200	1000	200000	50000	Togo	southsouth

In [46]: `df2019.loc[df2019.QUANTITY == min(df2019.QUANTITY)]`

Out[46]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES
8	10109	Morgan	morganny@gmail.com	budweiser	250	500	700	350000	175000	Benin
661	10762	Parent	parentty@uk.com	eagle lager	170	250	700	175000	56000	Nigeria
1030	11131	Howard	howard_freeman@yahoo.com	budweiser	250	500	700	350000	175000	Ghana

In [47]: `df2019.loc[df2019.PROFIT == max(df2019.PROFIT)]`

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	
310	10411	Jones	jone.ai@yahoo.com	castle lite	180	450	997	448650	269190	Ghana	n
709	10810	Howard	howard_freeman@yahoo.com	castle lite	180	450	997	448650	269190	Senegal	

In [48]: `df2019.loc[df2019.PROFIT == min(df2019.PROFIT)]`

Out[48]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION	MC
259	10360	Andrews	andy@gmail.com	trophy	150	200	704	140800	35200	Senegal	west	A

In [ ]:

In [54]:
```
malt = ['beta malt','grand malt' ]
maltDF = df[df['BRANDS'].isin(malt)]
```

In [56]: `maltDF`

Out[56]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REC
5	10106	Jardine	jard@gmail.com	beta malt	80	150	798	119700	55860	Ghana	northce
6	10107	Thompson	thomp@uk.com	grand malt	90	150	954	143100	57240	Nigeria	Sout
12	10113	Smith	smithMan@yahoo.com	beta malt	80	150	731	109650	51170	Togo	Sout
13	10114	Jones	jone.ai@yahoo.com	grand malt	90	150	843	126450	50580	Benin	
19	10120	Parent	parentty@uk.com	beta malt	80	150	731	109650	51170	Senegal	
...	...	...	...	...	...	...	...	...	...	...	
1028	11129	Jardine	jard@gmail.com	grand malt	90	150	900	135000	54000	Benin	souths
1034	11135	Jones	jone.ai@yahoo.com	beta malt	80	150	811	121650	56770	Senegal	souths
1035	11136	Morgan	morganny@gmail.com	grand malt	90	150	963	144450	57780	Ghana	north
1041	11142	Andrews	andy@gmail.com	beta malt	80	150	740	111000	51800	Nigeria	north
1042	11143	Jardine	jard@gmail.com	grand malt	90	150	962	144300	57720	Togo	nort

298 rows × 13 columns

In [ ]:

In [61]: `maltDF.loc[maltDF.QUANTITY == max(maltDF.QUANTITY)]`

Out[61]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION	MON
817	10918	Gill	gillhell@uk.com	beta malt	80	150	997	149550	69790	Togo	west	Feb

In [62]: `maltDF.loc[maltDF.PROFIT == max(maltDF.PROFIT)]`

Out[62]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGION	MON
817	10918	Gill	gillhell@uk.com	beta malt	80	150	997	149550	69790	Togo	west	Feb

In [ ]:

In [57]: `beer = ['trophy', 'budweiser', 'castle lite', 'eagle lager', 'hero', ]`

```python
beerDF = df[df['BRANDS'].isin(beer)]
```

In [58]: `beerDF`

Out[58]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	RE
0	10101	Jardine	jard@gmail.com	trophy	150	200	725	145000	36250	Ghana	Sout
1	10102	Gill	gillhell@uk.com	budweiser	250	500	815	407500	203750	Nigeria	
2	10103	Sorvino	sorvi2000@gmail.com	castle lite	180	450	937	421650	252990	Togo	south
3	10104	Jones	jone.ai@yahoo.com	eagle lager	170	250	765	191250	61200	Benin	nort
4	10105	Andrews	andy@gmail.com	hero	150	200	836	167200	41800	Senegal	nort
...	...	...	...	...	...	...	...	...	...	...	
1040	11141	Thompson	thomp@uk.com	hero	150	200	903	180600	45150	Ghana	south
1043	11144	Jardine	jard@gmail.com	trophy	150	200	892	178400	44600	Benin	northc
1044	11145	Andrews	andy@gmail.com	budweiser	250	500	816	408000	204000	Senegal	Sout
1045	11146	Jones	jone.ai@yahoo.com	castle lite	180	450	939	422550	253530	Ghana	
1046	11147	Morgan	morganny@gmail.com	eagle lager	170	250	935	233750	74800	Nigeria	south

749 rows × 13 columns

In [63]: `beerDF.loc[beerDF.QUANTITY == max(beerDF.QUANTITY)]`

Out[63]:

	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	REGIC
32	10133	Kivell	kivel_go@yahoo.com	hero	150	200	1000	200000	50000	Togo	southsou
186	10287	Jardine	jard@gmail.com	hero	150	200	1000	200000	50000	Nigeria	Southea
798	10899	Morgan	morganny@gmail.com	trophy	150	200	1000	200000	50000	Benin	Southea

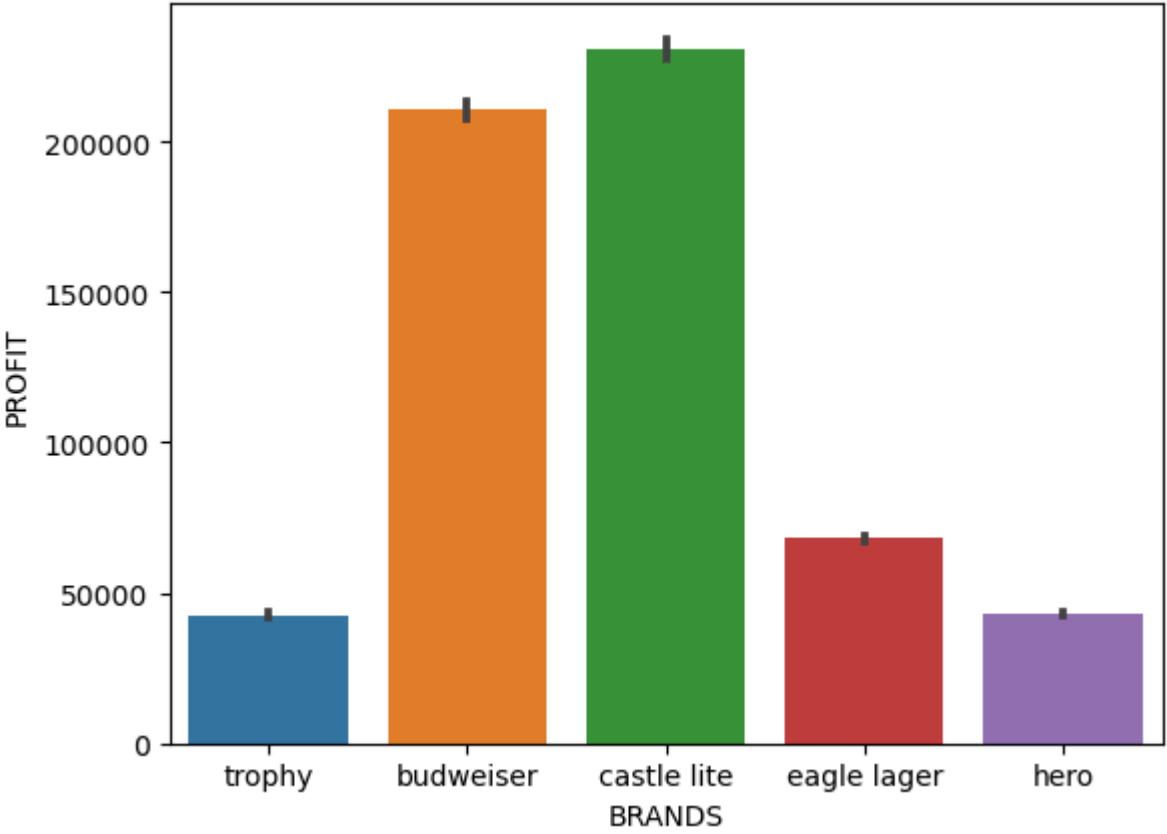In [64]: `beerDF.loc[beerDF.PROFIT == max(beerDF.PROFIT)]`

Out[64]:

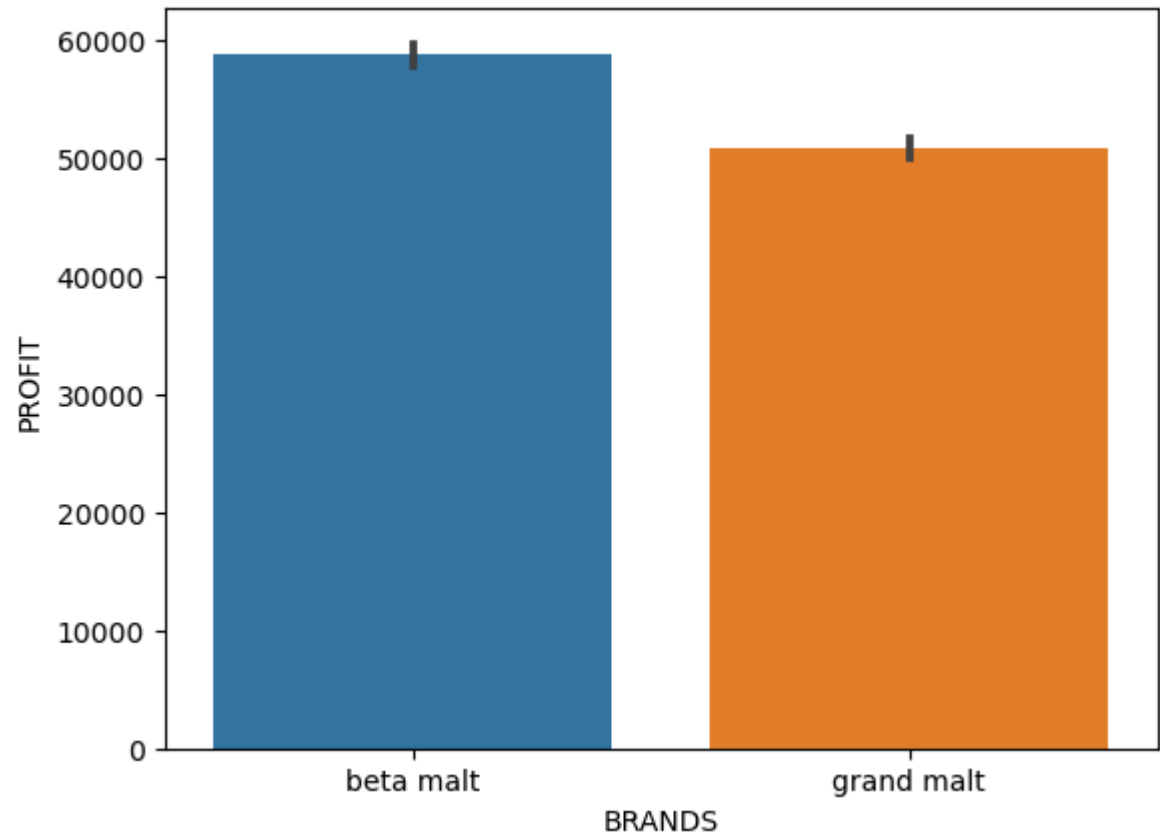|	SALES_ID	SALES_REP	EMAILS	BRANDS	PLANT_COST	UNIT_PRICE	QUANTITY	COST	PROFIT	COUNTRIES	I
310	10411	Jones	jone.ai@yahoo.com	castle lite	180	450	997	448650	269190	Ghana	nc
709	10810	Howard	howard_freeman@yahoo.com	castle lite	180	450	997	448650	269190	Senegal	

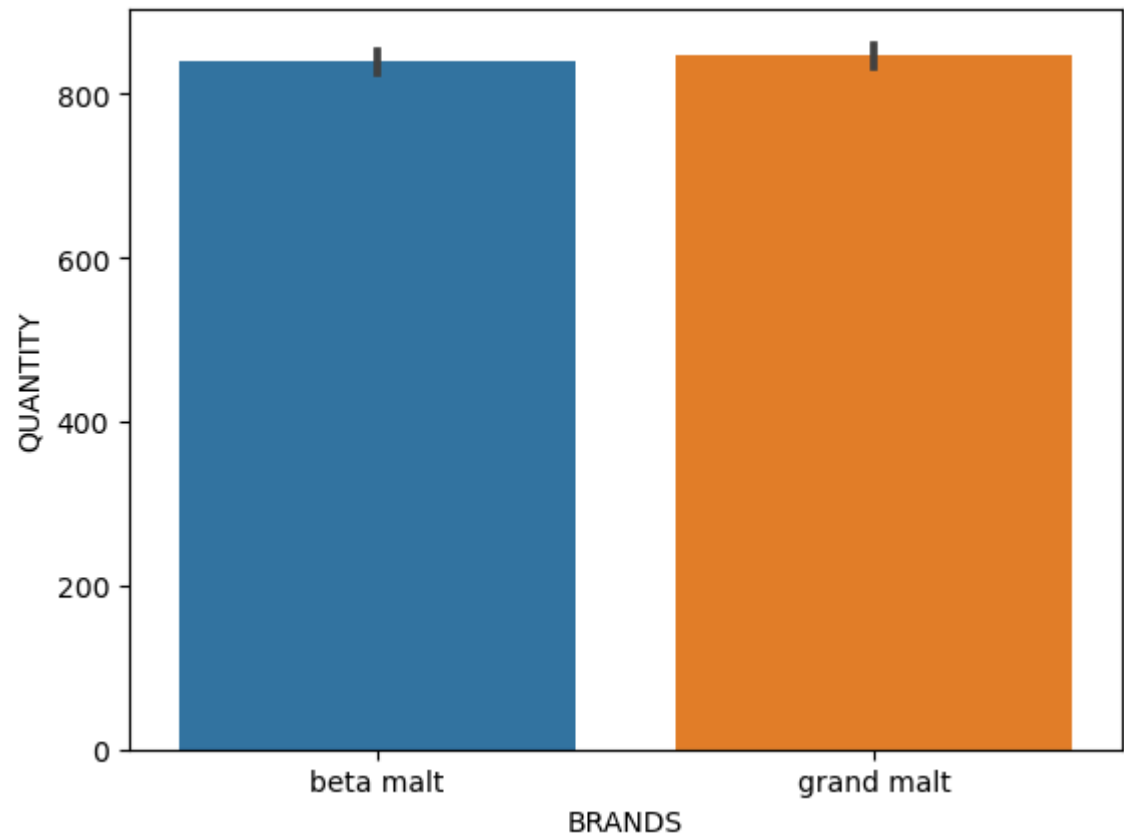In [65]: `sns.barplot(x='BRANDS', y='PROFIT', data=beerDF)`

Out[65]: `<AxesSubplot:xlabel='BRANDS', ylabel='PROFIT'>`

In [66]: `sns.barplot(x='BRANDS', y='PROFIT', data=maltDF)`

`<AxesSubplot:xlabel='BRANDS', ylabel='PROFIT'>`

`sns.barplot(x='BRANDS', y='QUANTITY', data=maltDF)`
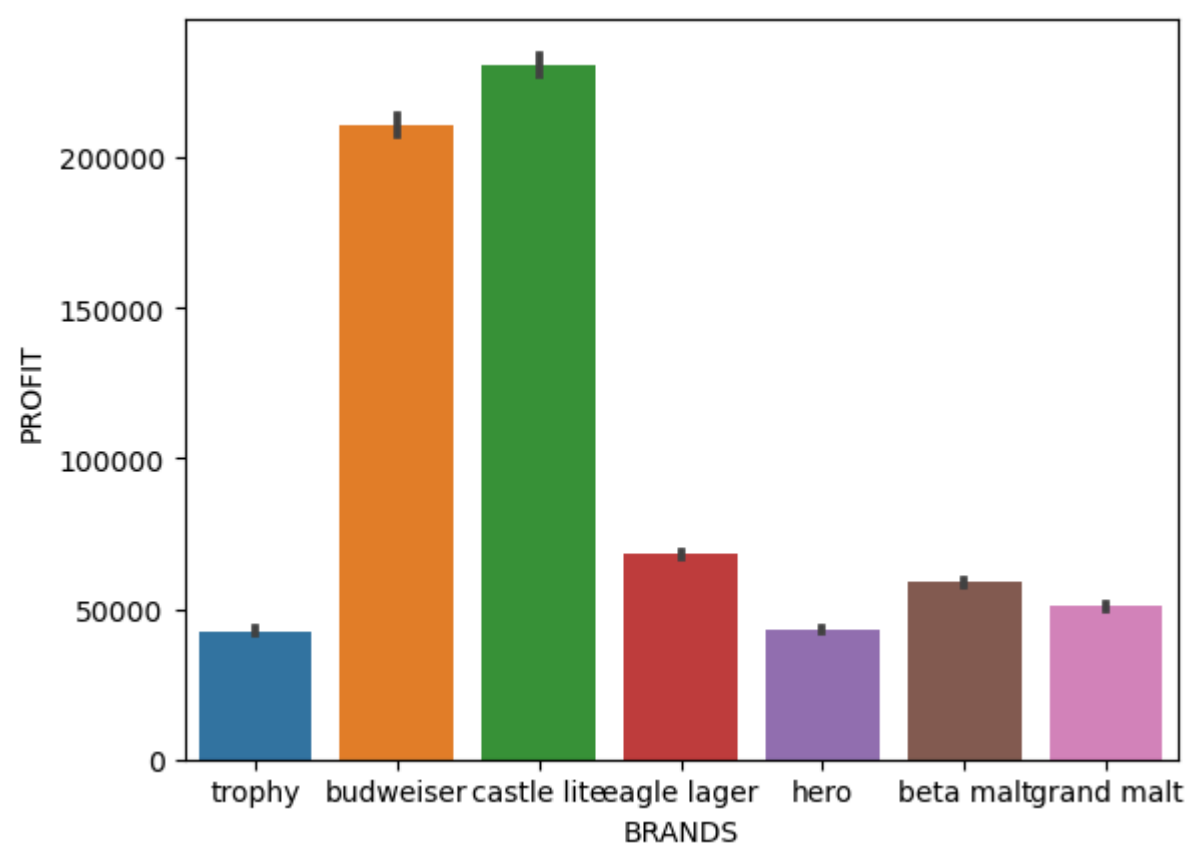
`<AxesSubplot:xlabel='BRANDS', ylabel='QUANTITY'>`

`sns.barplot(x='BRANDS', y='PROFIT', data=df)`

`<AxesSubplot:xlabel='BRANDS', ylabel='PROFIT'>`
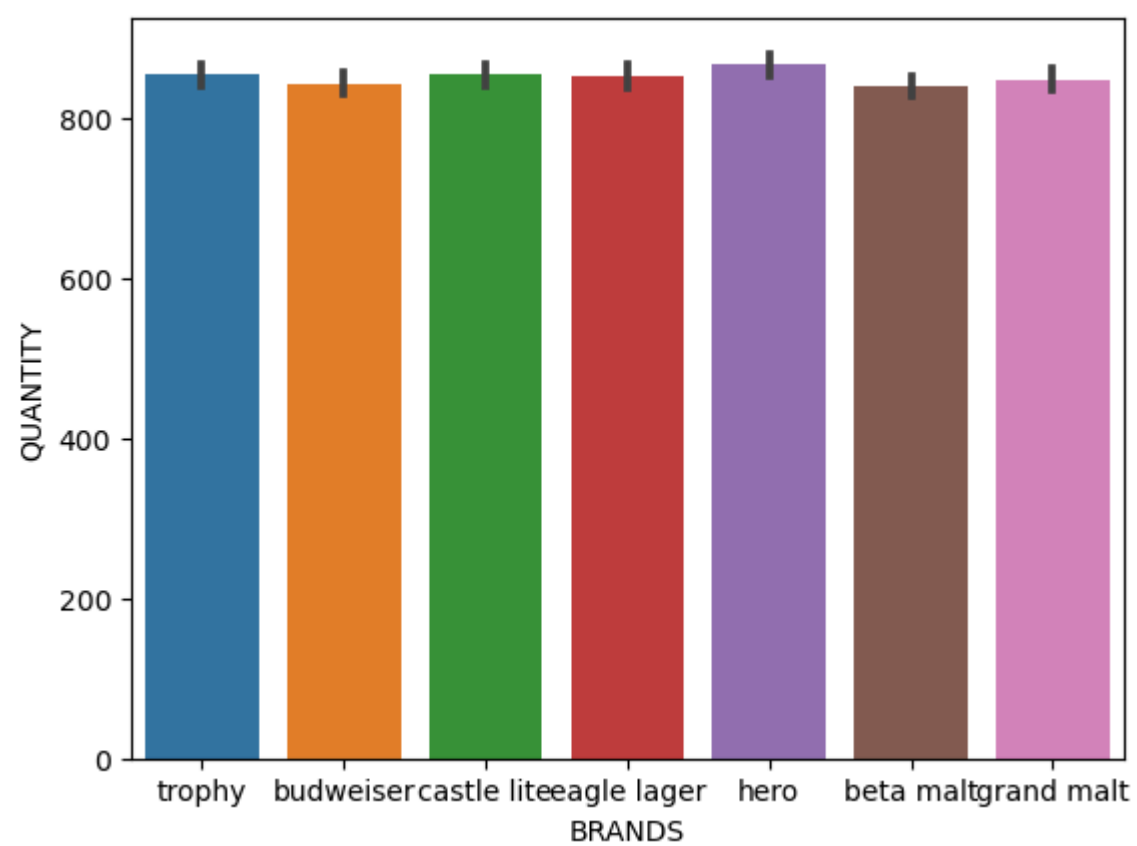
```
In [51]: sns.barplot(x='BRANDS', y='QUANTITY', data=df)
```

Out[51]: <AxesSubplot:xlabel='BRANDS', ylabel='QUANTITY'>


```
In [ ]:
```