BTM539 Ai for BM 1st project ideation

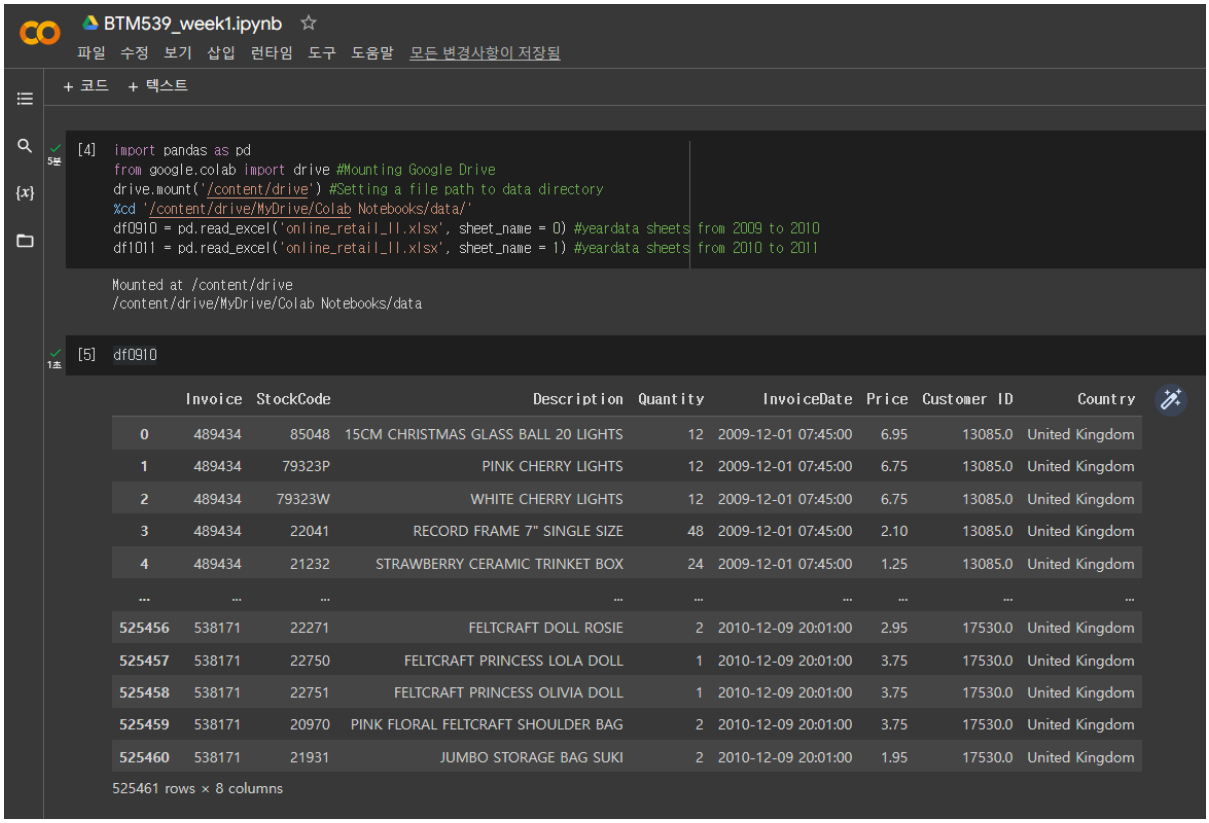
During winter break, I had participated in startup society and joined in networking.

I had heard that many stories of speakers and participants from impressively growing retailer startups, they got crawling item data with Python from Coupang, 11st or other online marketplace as well; the rule is very simple! Finding most cheapest goods, and sell them via NAVER smartstore, take some profits between purchasing price and selling price.

It was actually able to make some cashflow. Starting from that point, they kickstarts their shopping business, such as Queenit (Rapportlabs), Alwayz(Levit) who survived against retail moguls.

I got inspired from those case. So I want to try same time series analysis model with given dataset on BTM539 1st project — if it can't be able to do, please let me know to switch the agenda:

- Use collaborative filtering or association rule mining in Python over StockCode and Price
  (if we couldn't solve in the class, get some codes from GitHub or Reddit, Stack Overflow)
- (1) **Get cheaper from cheapest domestic seller via Google Colab,**
- (2) **Exporting those item slightly less expensive than median price to foreign country,**
- (3) **Use asymmetric information & set the estimation how much we can get sales income.**
  (If cancellation happened holding its inventory inside our cargo.)



BTM539_week1.ipynb

파일 수정 보기 삽입 런타임 도구 도움말 모든 변경사항이 저장됨

+ 코드 + 텍스트

```
[4] import pandas as pd
    from google.colab import drive #Mounting Google Drive
    drive.mount('/content/drive') #Setting a file path to data directory
    %cd '/content/drive/MyDrive/Colab Notebooks/data/'
    df0910 = pd.read_excel('online_retail_II.xlsx', sheet_name = 0) #yeardata sheets from 2009 to 2010
    df1011 = pd.read_excel('online_retail_II.xlsx', sheet_name = 1) #yeardata sheets from 2010 to 2011
```

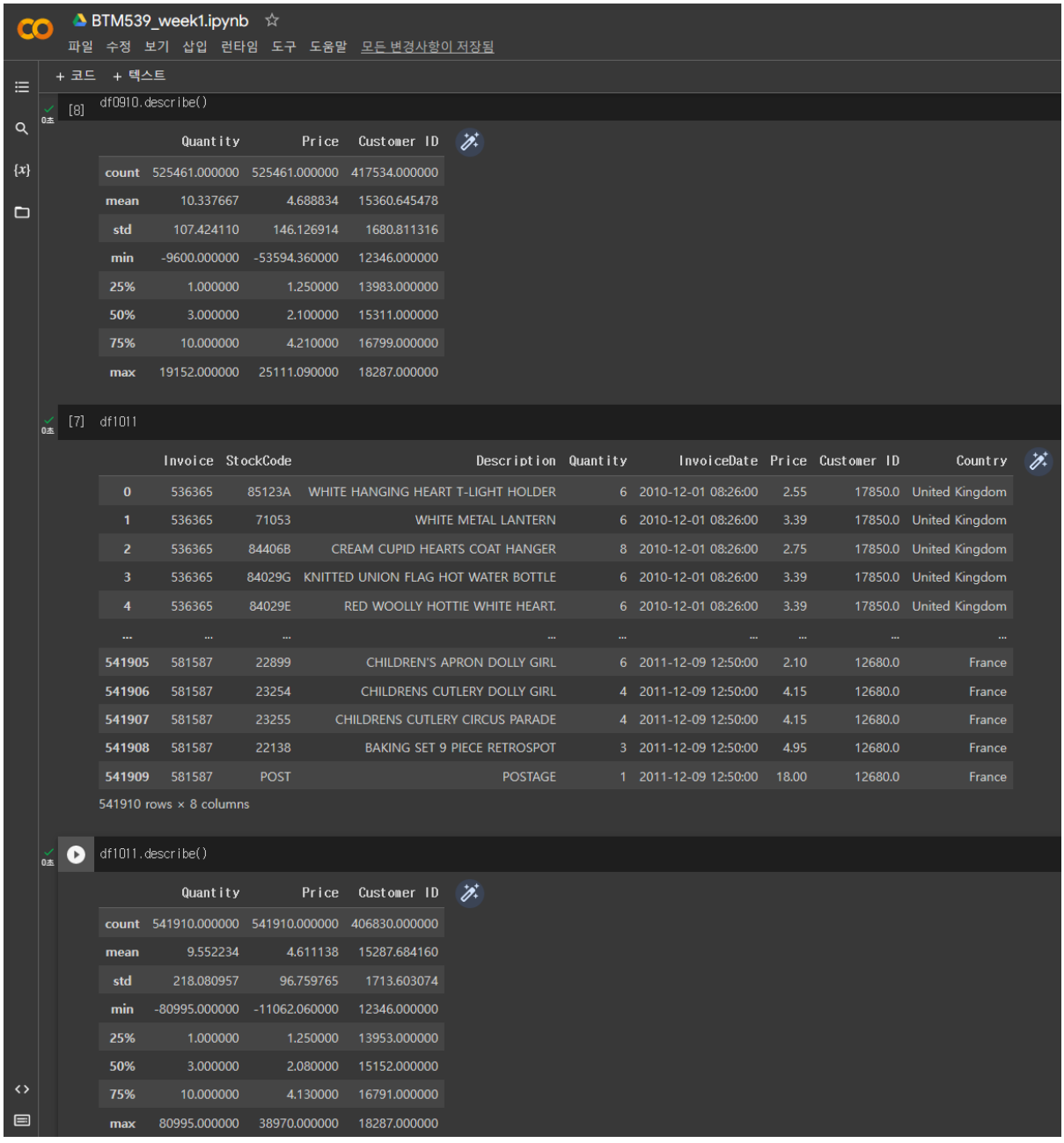
```
Mounted at /content/drive
/content/drive/MyDrive/Colab Notebooks/data
```

```
[5] df0910
```

	Invoice	StockCode	Description	Quantity	InvoiceDate	Price	Customer ID	Country
0	489434	85048	15CM CHRISTMAS GLASS BALL 20 LIGHTS	12	2009-12-01 07:45:00	6.95	13085.0	United Kingdom
1	489434	79323P	PINK CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom
2	489434	79323W	WHITE CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom
3	489434	22041	RECORD FRAME 7" SINGLE SIZE	48	2009-12-01 07:45:00	2.10	13085.0	United Kingdom
4	489434	21232	STRAWBERRY CERAMIC TRINKET BOX	24	2009-12-01 07:45:00	1.25	13085.0	United Kingdom
...	...	...	...	...	...	...	...	...
525456	538171	22271	FELTCRAFT DOLL ROSIE	2	2010-12-09 20:01:00	2.95	17530.0	United Kingdom
525457	538171	22750	FELTCRAFT PRINCESS LOLA DOLL	1	2010-12-09 20:01:00	3.75	17530.0	United Kingdom
525458	538171	22751	FELTCRAFT PRINCESS OLIVIA DOLL	1	2010-12-09 20:01:00	3.75	17530.0	United Kingdom
525459	538171	20970	PINK FLORAL FELTCRAFT SHOULDER BAG	2	2010-12-09 20:01:00	3.75	17530.0	United Kingdom
525460	538171	21931	JUMBO STORAGE BAG SUKI	2	2010-12-09 20:01:00	1.95	17530.0	United Kingdom

525461 rows × 8 columns

The dataset contains information such as InvoiceNo, StockCode, Description, Quantity, InvoiceDate, UnitPrice, CustomerID, Country from 2009 to 2011 in the United Kingdom.



	Quantity	Price	Customer ID
count	525461.000000	525461.000000	417534.000000
mean	10.337667	4.688834	15360.645478
std	107.424110	146.126914	1680.811316
min	-9600.000000	-53594.360000	12346.000000
25%	1.000000	1.250000	13983.000000
50%	3.000000	2.100000	15311.000000
75%	10.000000	4.210000	16799.000000
max	19152.000000	25111.090000	18287.000000

	Invoice	StockCode	Description	Quantity	InvoiceDate	Price	Customer ID	Country
0	536365	85123A	WHITE HANGING HEART T-LIGHT HOLDER	6	2010-12-01 08:26:00	2.55	17850.0	United Kingdom
1	536365	71053	WHITE METAL LANTERN	6	2010-12-01 08:26:00	3.39	17850.0	United Kingdom
2	536365	84406B	CREAM CUPID HEARTS COAT HANGER	8	2010-12-01 08:26:00	2.75	17850.0	United Kingdom
3	536365	84029G	KNITTED UNION FLAG HOT WATER BOTTLE	6	2010-12-01 08:26:00	3.39	17850.0	United Kingdom
4	536365	84029E	RED WOOLLY HOTTIE WHITE HEART.	6	2010-12-01 08:26:00	3.39	17850.0	United Kingdom
...	...	...	...	...	...	...	...	...
541905	581587	22899	CHILDREN'S APRON DOLLY GIRL	6	2011-12-09 12:50:00	2.10	12680.0	France
541906	581587	23254	CHILDRENS CUTLERY DOLLY GIRL	4	2011-12-09 12:50:00	4.15	12680.0	France
541907	581587	23255	CHILDRENS CUTLERY CIRCUS PARADE	4	2011-12-09 12:50:00	4.15	12680.0	France
541908	581587	22138	BAKING SET 9 PIECE RETROSPOT	3	2011-12-09 12:50:00	4.95	12680.0	France
541909	581587	POST	POSTAGE	1	2011-12-09 12:50:00	18.00	12680.0	France

541910 rows × 8 columns

	Quantity	Price	Customer ID
count	541910.000000	541910.000000	406830.000000
mean	9.552234	4.611138	15287.684160
std	218.080957	96.759765	1713.603074
min	-80995.000000	-11062.060000	12346.000000
25%	1.000000	1.250000	13953.000000
50%	3.000000	2.080000	15152.000000
75%	10.000000	4.130000	16791.000000
max	80995.000000	38970.000000	18287.000000