

Cosmetics

*Exploratory analysis of
popular cosmetic chains*

Motivation

```
from datetime import date  
  
date(2020,2,14) - date(2019,8,5)  
  
datetime.timedelta(days=193)
```



Estée Lauder Re-Nutriv Ultra Radiance Lift Cream Makeup, 1 oz.

\$110.00

Free ship at \$49

Free gift with purchase

★★★★★ (69)

[More Like This](#)



★★★★★ (436)

PERRICONE MD

No Makeup Foundation
Broad Spectrum SPF 20

\$60.00

8 Colors



Vichy
Dermafinish
High Coverage
Foundation with
Sunscreen SPF
30 Opal 15 1 fl oz

★★★★★ (17)

\$30.00



Maybelline New York Fit Me
Matte + Poreless Foundati ...

★★★★★ 2391

\$5.94 - \$7.68

[NextDay eligible](#)

Free pickup today



BEST SELLER

Decisions

- Apples to oranges
 - Company profiles (*Pharmacy, beauty... online, physical...*)
 - Categories decided by companies (*Is product x supposed to be here?*)
 - Price differences (*discounts, per ounce...*)
 - Price or reviews or brand or?
- Questions:
 - What determines price/review score?
 - Limits on price?

Process

Home > Shop > Beauty > Cosmetics > Face

Face

All Products

Online (746) In Stores (690)

Product Type

Foundation (1267)

Concealers (367)

Face Powder (317)

Face Primer (95)

Blush (68)

Tinted Moisturizer (65)

Highlighters (63)

[View More](#)

Brand

788 items

Sort by:
Top Sellers

Foundation (1267)

Concealers (367)

Face Powder (317)

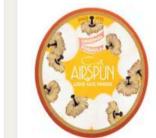
Price and inventory may vary from online to in store.



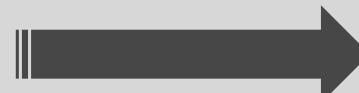
CYO Long Lasting Foundation



CYO Fixing Powder All Set .52 oz.



Coty Airspun Loose Face Powder



CYO Matte & Blur Primer Matte-Attack 1.0 oz

★★★★★ 4.6 (16)

\$5.00

Online and store prices may vary

Ship to home FREE at \$35 | Ship to Store FREE! Details

Arrives in 1-2 business days* Restrictions apply. See shipping FAQ

Out of Stock at | 1366 BROADWAY

[Find at a store](#)



Search



Find a Store | Em

Shop by Brand

New Arrivals

Lakeup

Ails

Skin Care

Air

ools & Brushes

Ragrance

ath & Body

len

Tarte Beauty Collection

ifts

ales & Coupons

urrent Ad

eauty Tips

eauty Services



TARTE
Double Duty Beauty Shape
Tape Contour Concealer
\$27.00

30 Colors

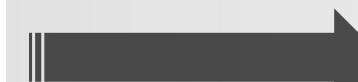
[Special Free Gift with Purchase!](#)



IT COSMETICS
CC+ Cream with SPF 50+
\$39.00

12 Colors

[Special Free Gift with Purchase!](#)



Home / Makeup / Face / Foundation / Amazonian Clay Full Coverage Foundation SPF 15



+ free gift
fan fave

Tarte

Amazonian Clay Full Coverage Foundation SPF 15

Size 1.7 oz | Item 2538327

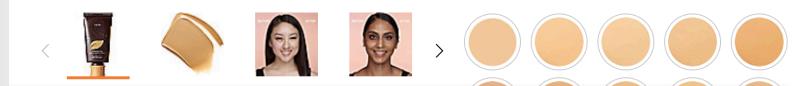
★★★★★ REVIEWS | Q&A

\$39.00

[Special Free Gift with Purchase](#)

Color: 22G Light Golden (light skin w/ golden or olive undertones)

Options



34

Se

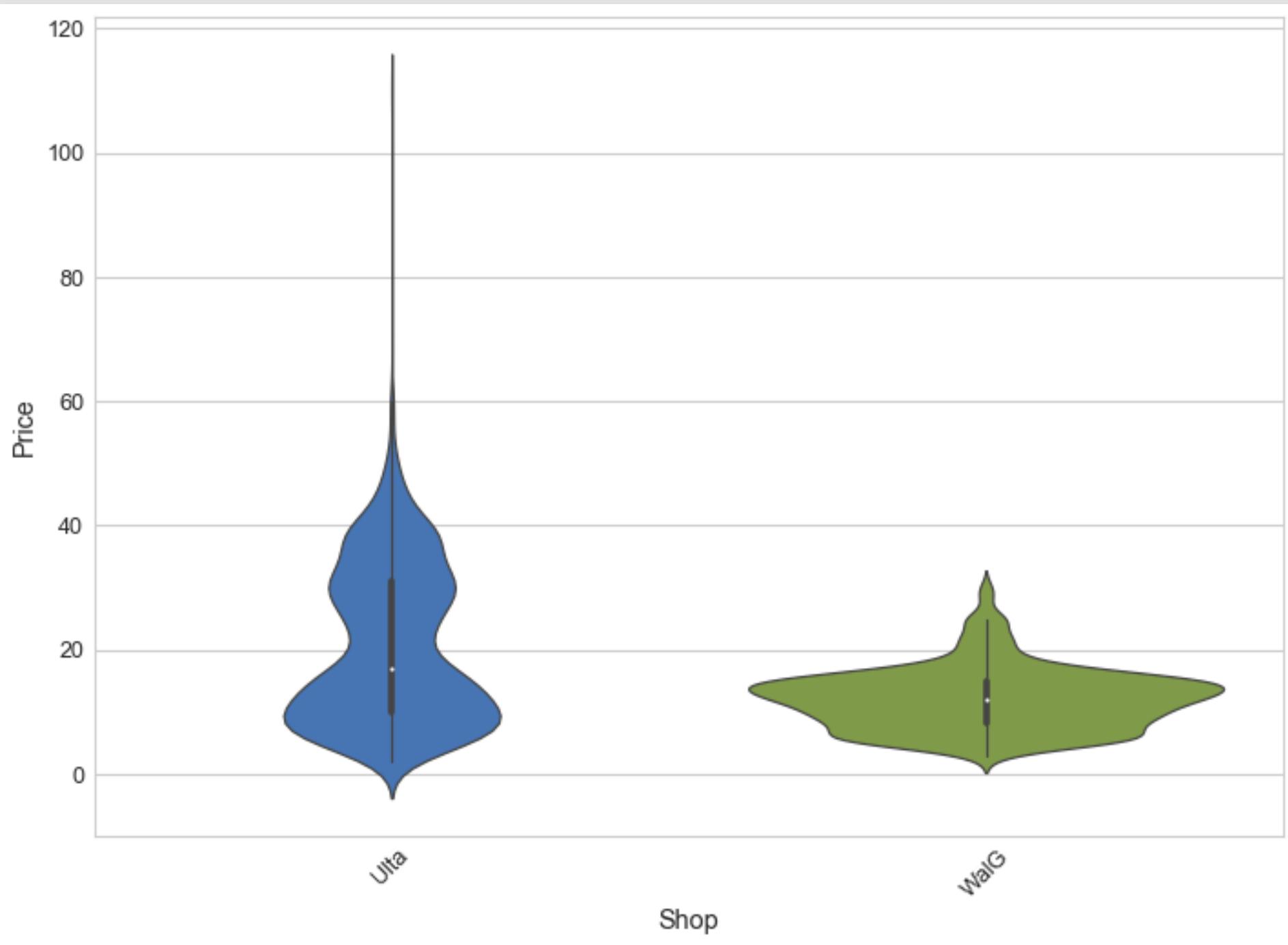
Selenium
78.09

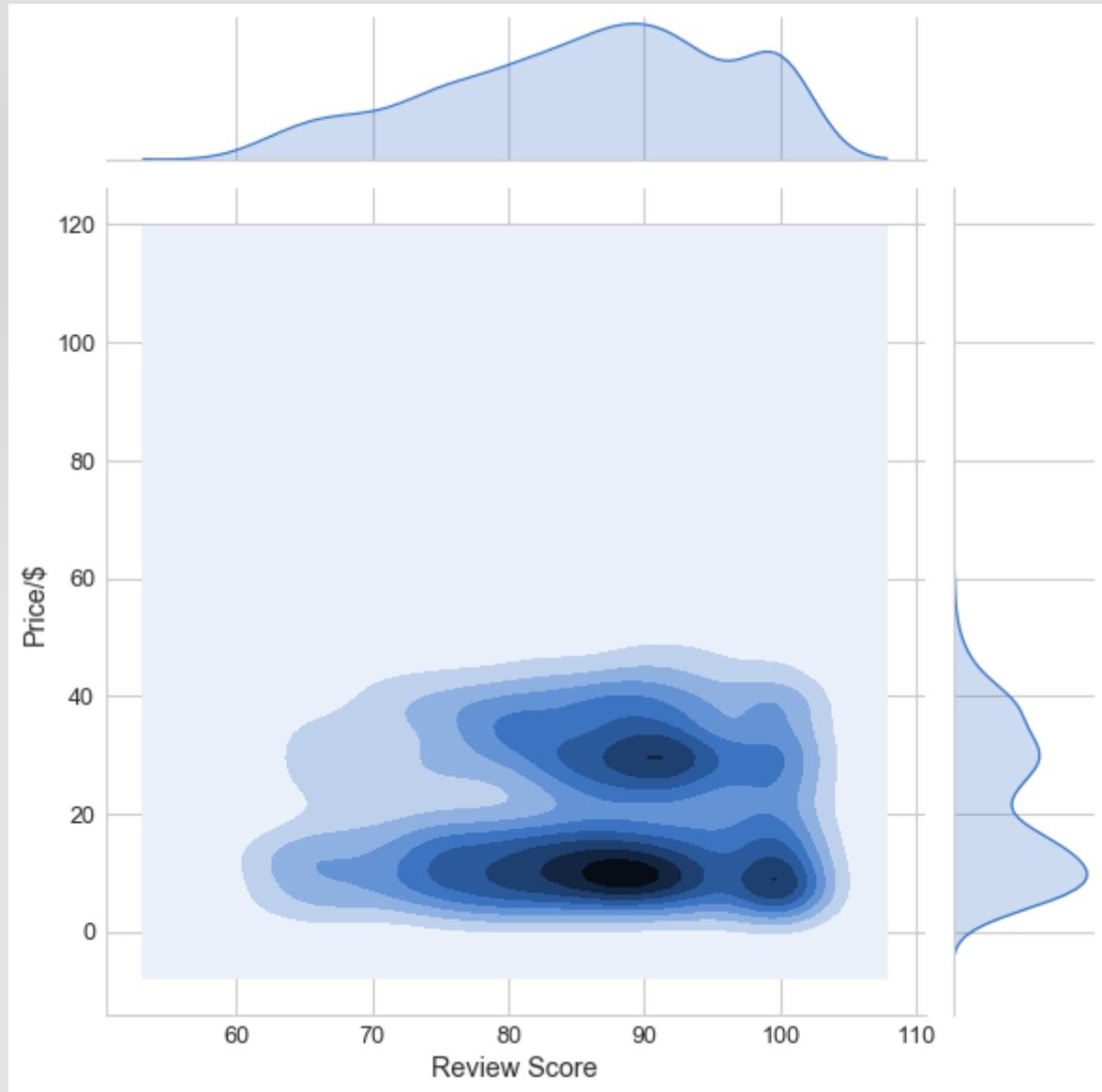
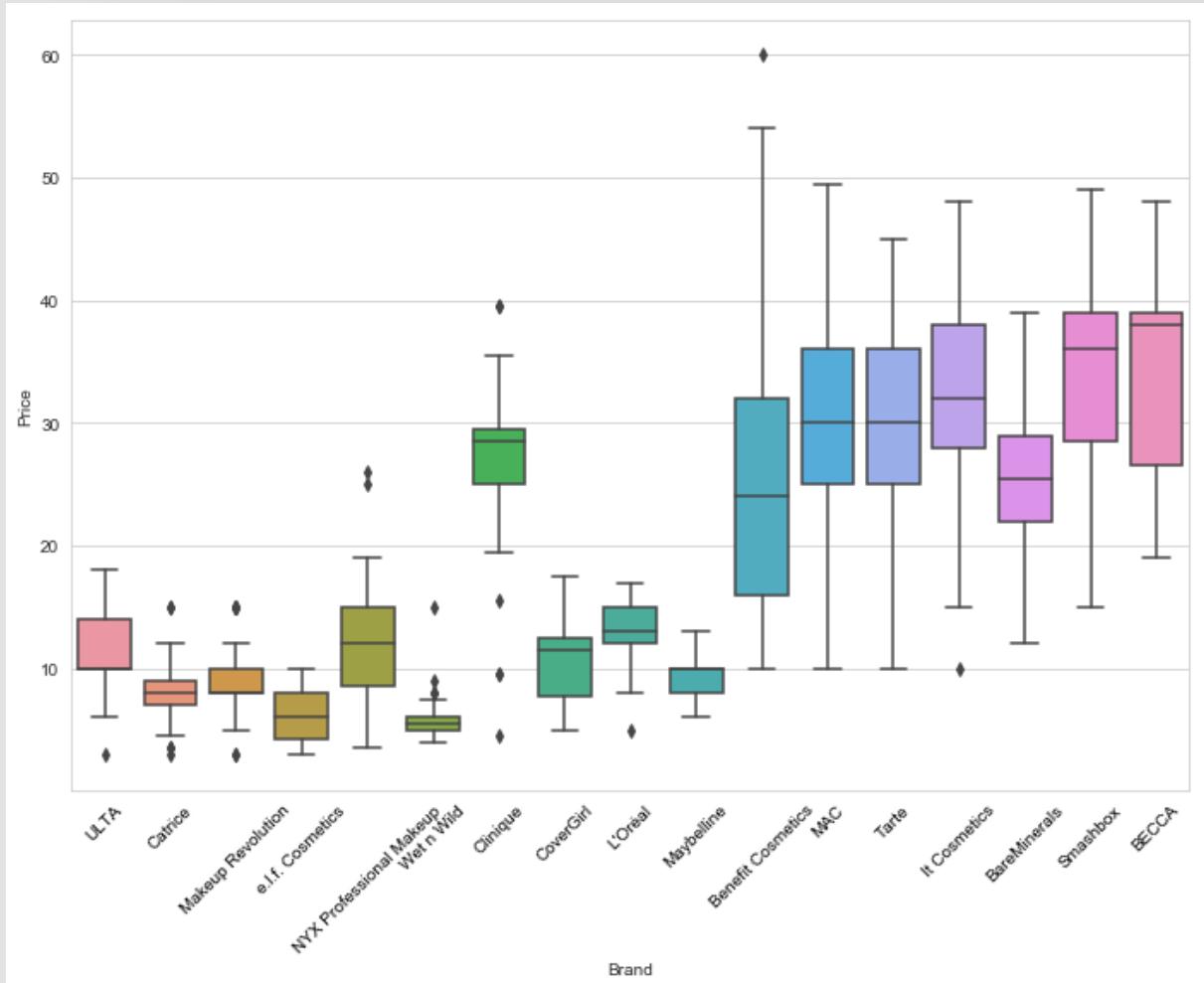
```

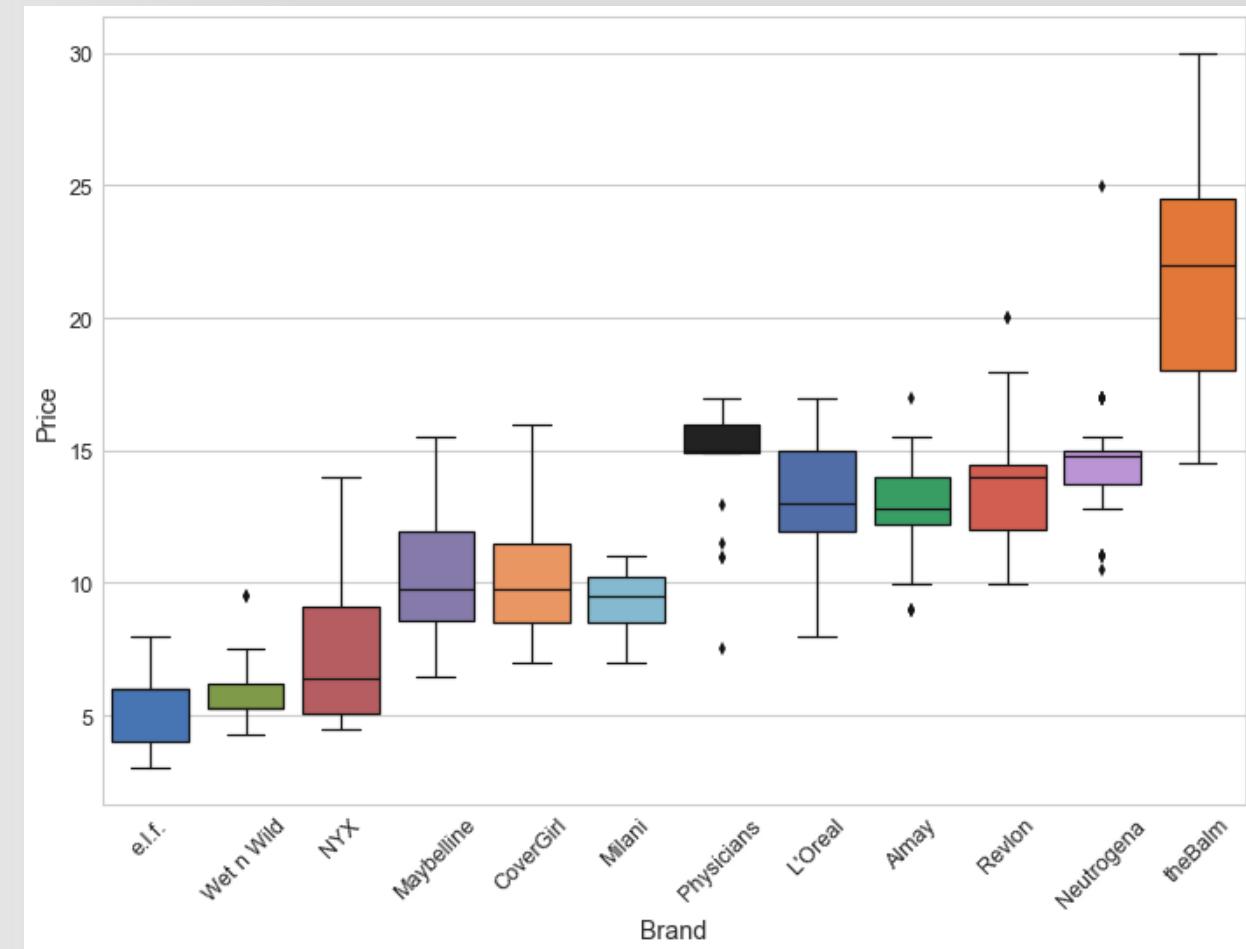
walgreens1.py x seph1.py x
-----
98     print('Price missing.')
99     ulta_Pr = None
100    try:
101        ulta_Wgt = driver.find_element_by_xpa
102            '//div[@class="ProductMainSection"]
103    except:
104        print('Weight missing')
105        ulta_Wgt = None
106    try:
107        ulta_Rev = driver.find_element_by_xpa
108        ulta_Rcount = driver.find_element_by_
109    except:
110        print('Reviews missing.')
111        ulta_Rev = None
112        ulta_Rcount = None

```

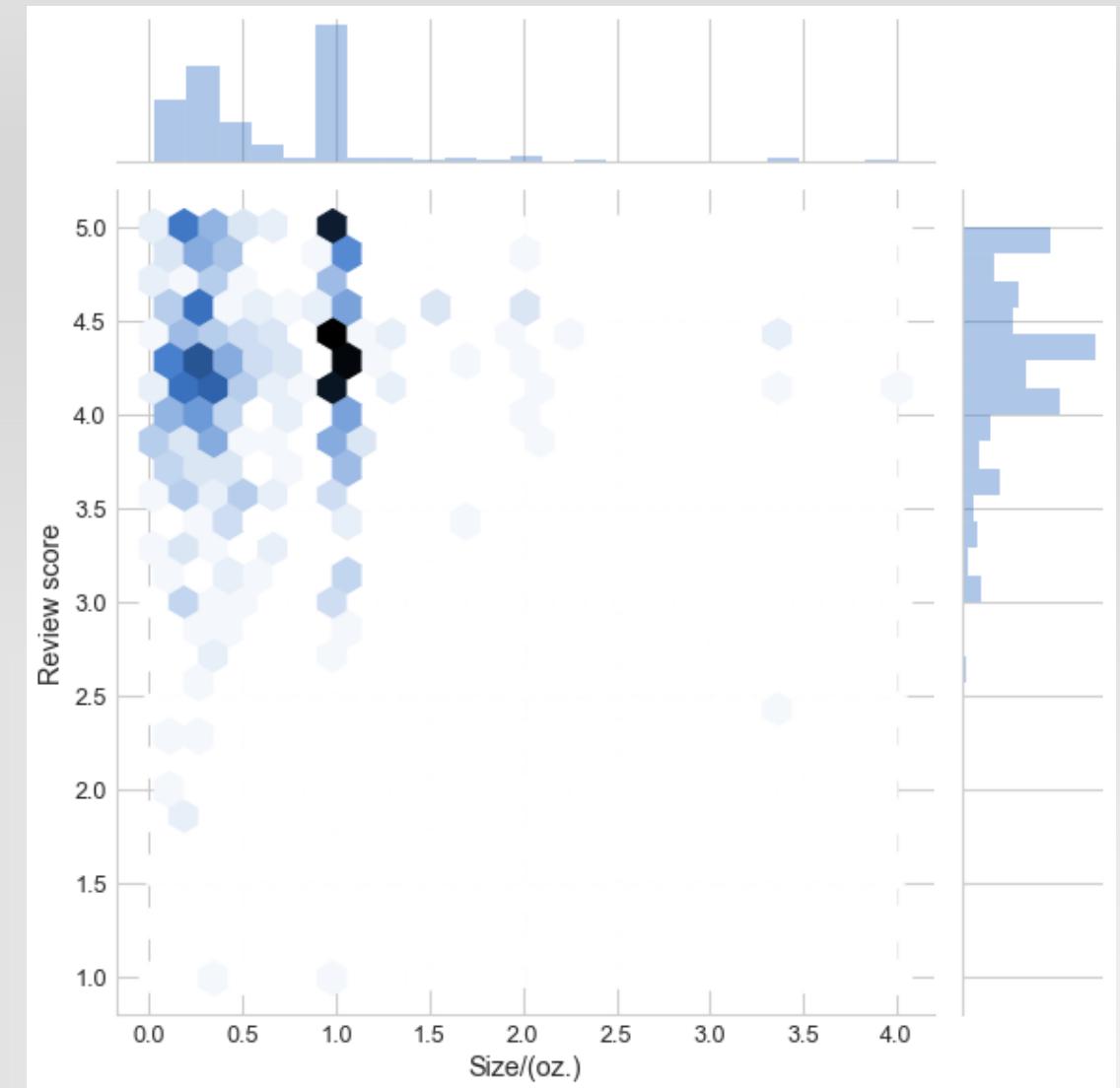
Wet n Wild	Made in China	Boron Nitride	5.29	5	9	0.19 oz
CYO Matte & Made in Germany	Aqua (Water)		5	4.6	16	1.0 oz
Milani Conce	Made in USA	Water (Aqua), Cyclopentadiene	4.5	485	1.0 oz	
Maybelline Instant Pore Eraser	Made in United States		8.49	4.1	1077	0.2 fl oz
No7 Airbrush	Made in Germany	Cyclopentadiene	19.99	4.3	174	1.01 oz
Rimmel Stay Matte	Made in England		5.29	4.4	859	0.49 oz
Milani Conce	Made in USA	Water (Aqua), Cyclopentadiene	4.4	528	1.0 oz	
Maybelline Instant Pore Eraser	Aqua (Water)		6.99	3.6	145	0.67 fl oz
NYX Professional	Made in China	Water/Aqua/Eau, Alcohol, Glycerin	4.5	502	2.03 fl oz	
No7 Airbrush	Made in Germany	Cyclopentadiene	19.99	4.3	216	1.01 oz
CYO Powder Blush	Crush On Talc, Mica, Polyethylene		3	5	4	0.17 oz
CYO Matte Finish	Made in Germany	Aqua (Water)	6	4.7	45	1.0 oz
Rimmel Stay Matte	Primer	Aqua/Water, Glycerin, Ethylhexyl	6.79	4	109	0.09 fl oz





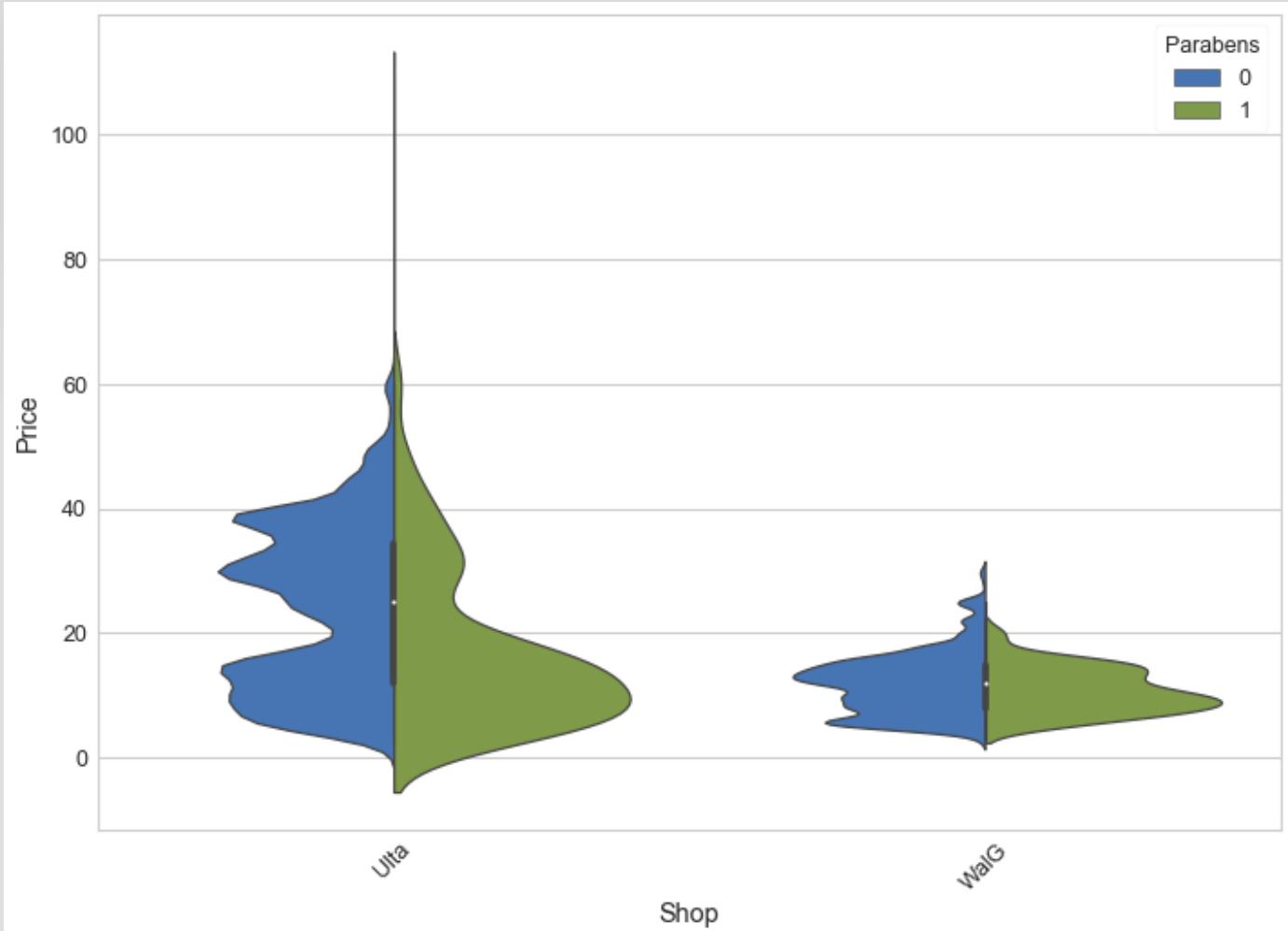


Walgreens



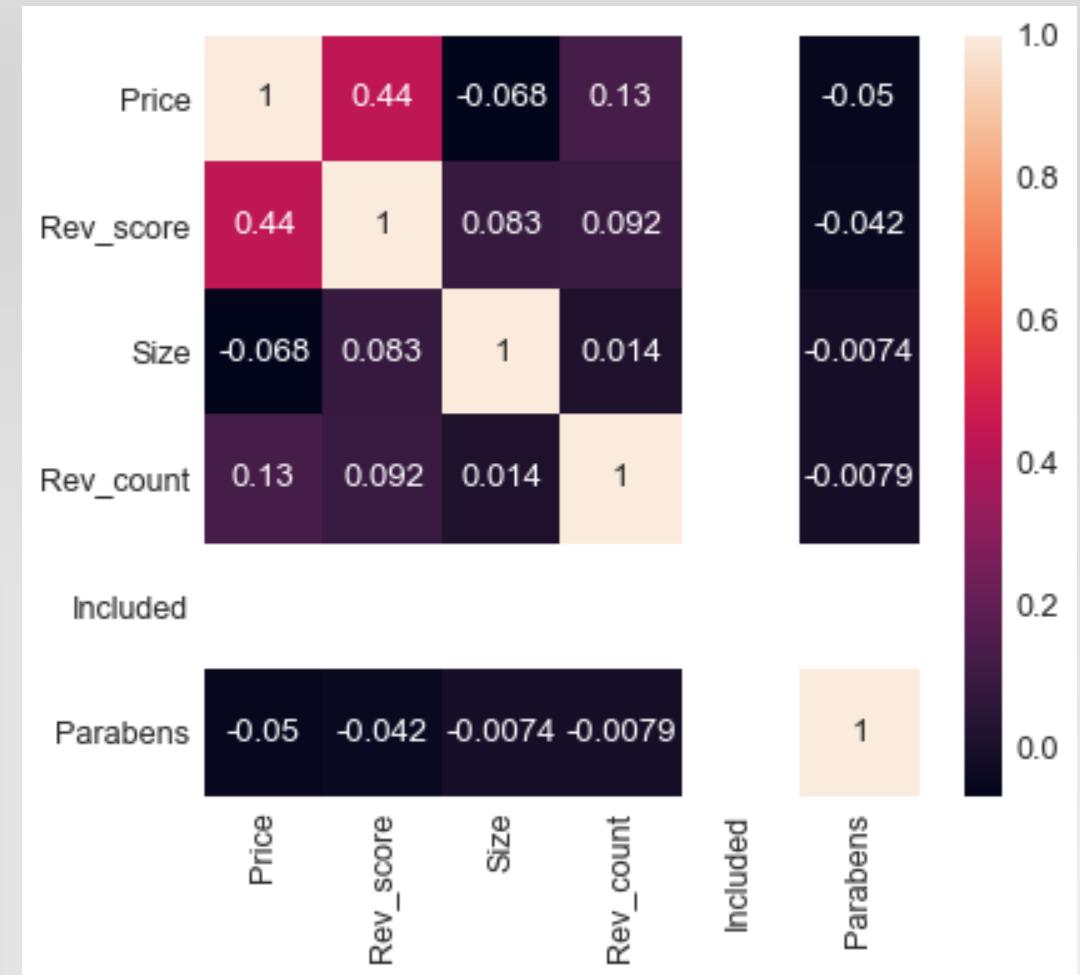
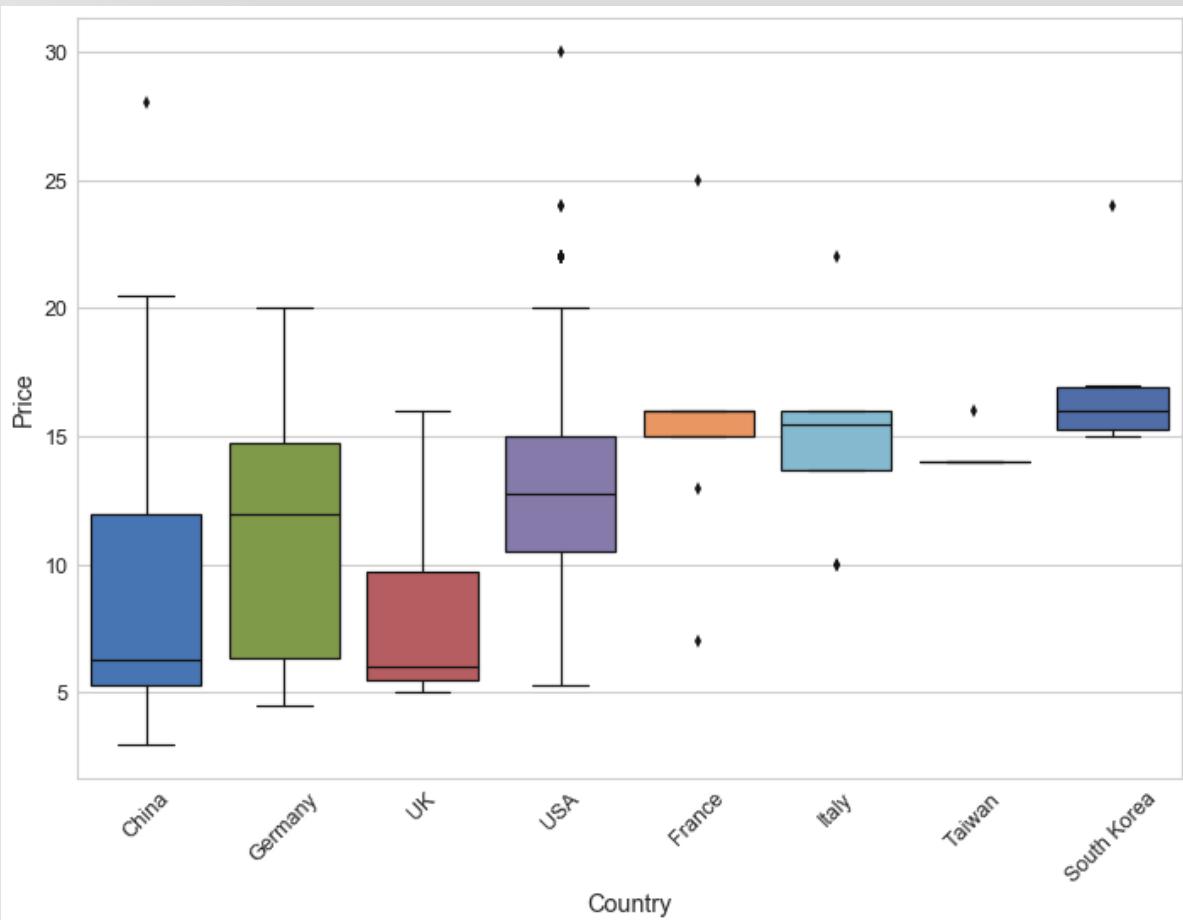
```
7]:  
    ingcount = ultadfBrand3.groupby('Ing')  
    ingcount.head(15)
```

	Ing	counts
3218	Phenoxyethanol	592
1579	Dimethicone	554
3814	Silica	544
803	CI 77492	412
2736	Mica	389
1941	Glycerin	387
1033	Caprylyl Glycol	379
4290	Tocopheryl Acetate	319
609	Butylene Glycol	305
1757	Ethylhexylglycerin	297
4258	Tocopherol	280
4092	Talc	271
2242	Iron Oxides (CI 77491	246
1491	Cyclopentasiloxane	242
4179	Titanium Dioxide (CI 77891)	240



Challenges

- Server issues **I think**:
 - Scraping at different times yielded different results. Loading issues, NaNs, same values... cheap companies :)
 - Blocked at times
- Dynamic content
 - How often should this be repeated? Price changes often
 - Sometimes, scrapy works/doesn't and selenium doesn't/works
- More detailed understanding of data
 - Brands
 - Could some of the brands be rebrands of products from same company
 - Offline products
 - Ingredients
 - Same compounds/stuff but recorded wrongly/differently
 - Composition not included



Future

- Scrape other
 - Companies
 - Product categories (~violin plot)
 - Parts of the product: details, individual reviews
- Cleaner scrapes