



## PURPLE BEAUTY PRODUCT WEB SCRAPING

### Project for python module

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## Purple lipstick product review

### 1.1 Aim:

#### Extract and Analyze Purple Lipstick Product Reviews

- The aim of this web scraping project is to systematically gather and analyze customer reviews for purple lipstick products available on an e-commerce or beauty product website.
- By extracting key details such as reviewer information, ratings, and sentiments, the goal is to generate insights into customer experiences and preferences related to purple lipsticks.
- This project seeks to compile a dataset that enables the identification of popular products, assesses overall customer satisfaction, and unveils recurring themes in customer feedback.

### 1.2 Objective:

- primary objective of this web scraping project is to gather and analyze customer reviews for purple lipstick products from an e-commerce or beauty product website.
- By extracting detailed information about the reviews, including reviewer details, ratings, and sentiments, the aim is to gain insights into customer opinions and preferences regarding purple lipstick offerings.
- The collected data will be used to identify popular products, assess overall customer satisfaction, and highlight potential areas for improvement in the purple lipstick product category.
- The analysis aims to provide valuable information for consumers, manufacturers, and beauty enthusiasts interested in purple lipstick products.

➤ **Review Details:**

Extract detailed information about reviews for purple lipstick products, including the reviewer's name, date, and the actual review content.

➤ **Rating Analysis:**

Gather and analyze the ratings given by customers to understand the overall satisfaction level with purple lipstick products.

➤ **Sentiment Analysis:**

Perform sentiment analysis on the review content to categorize reviews as positive, negative, or neutral.

➤ **Common Keywords:**

Identify common keywords or phrases used in reviews to understand customer preferences and concerns regarding purple lipstick.

➤ **Potential Benefits:**

Compile a dataset of reviews specifically for purple lipstick, providing insights into customer opinions.

Identify popular and well-reviewed purple lipstick products in the market.

Understand customer sentiments and potential areas for improvement in purple lipstick offerings.

## 1.3 Purple Lipstick web scraping coding command steps:

### 1. Accessing Purple web site:

```
In [11]: import requests
         from bs4 import BeautifulSoup
         import pandas as pd

In [12]: pip install pandas

Requirement already satisfied: pandas in c:\users\acer\anaconda3\lib\site-packages (2.0.3)
Requirement already satisfied: python-dateutil<=2.8.2 in c:\users\acer\anaconda3\lib\site-packages (from pandas) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in c:\users\acer\anaconda3\lib\site-packages (from pandas) (2023.3.post1)
Requirement already satisfied: tzdata>=2022.1 in c:\users\acer\anaconda3\lib\site-packages (from pandas) (2023.3)
Requirement already satisfied: numpy>=1.21.0 in c:\users\acer\anaconda3\lib\site-packages (from pandas) (1.24.3)
Requirement already satisfied: six>=1.5 in c:\users\acer\anaconda3\lib\site-packages (from python-dateutil<=2.8.2->pandas) (1.16.0)
Note: you may need to restart the kernel to use updated packages.

In [9]: URL="https://www.purple.com/brand/purple"
        URL

Out[9]: 'https://www.purple.com/brand/purple'

In [10]: r = requests.get(URL)
         htmlcontent=r.content
         print(htmlcontent)

b'<!DOCTYPE html><html lang="en"><head>\n <meta http-equiv="Pragma" content="no-cache">\n <meta http-equiv="Cache-Control" content="no-cache">\n <meta http-equiv="Expires" content="-1">\n <meta name="fragment" content="!">\n <meta http-equiv="x-dns-prefetch-control" content="on">\n <meta name="viewport" content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=no">\n \n <link rel="manifest" href="/purple.webmanifest">\n <meta name="theme-color" content="#673ab7">\n \n <!-- informs the browser that your page intends to establish a connection to another origin, and that you'd like the process to start as soon as possible. -->\n <link rel="dns-prefetch" href="https://www.media4.ppl-media.com">\n\n <link href="https://media6.ppl-media.com" rel="preconnect" crossorigin="">\n\n <link href="https://static.criteo.net" rel="preconnect" crossorigin="">\n\n <link href="https://www.google.co.in" rel="preconnect" crossorigin="">\n\n <link href="https://cdn.branch.io" rel="preconnect" crossorigin="">\n\n <link href="https://www.google-analytics.com" rel="preconnect" crossorigin="">\n\n <link href="https://www.googletagmanager.com" rel="preconnect" crossorigin="">\n\n <link href="https://www.google-analytics.com" rel="preconnect" crossorigin="">\n\n <base href="/">\n <meta name="HandheldFriendly" content="True">\n <meta name="MobileOptimized" content="320">\n <meta name="viewport" content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=no">\n <!-- Windows Phone -->\n <meta name="msapplication-navbutton-color" content="#673ab7">\n <!-- iOS Safari -->\n <link href="https://media6.ppl-media.com/mediafiles/ecommerce/1677235484_512x512-1.png" rel="apple-touch-startup-image">\n <link href="https://media6.ppl-media.com/mediafiles/ecommerce/1650610976_apple-touch-icon.png" rel="apple-touch-icon">\n <meta name="apple-mobile-web-app-capable" content="yes">\n <meta
```

### 2. Beautifying the html code:

```
In [7]: soup = BeautifulSoup(htmlcontent,"html.parser")
        print(soup)
        soup.prettify()

<!DOCTYPE html>
<html lang="en"><head>
<meta content="no-cache" http-equiv="Pragma"/>
<meta content="no-cache" http-equiv="Cache-Control"/>
<meta content="-1" http-equiv="Expires"/>
<meta content="!" name="fragment"/>
<meta content="on" http-equiv="x-dns-prefetch-control"/>
<meta content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=no" name="viewport"/>
<link href="/purple.webmanifest" rel="manifest"/>
<meta content="#673ab7" name="theme-color"/>
<!-- informs the browser that your page intends to establish a connection to another origin, and that you'd like the process to start as soon as possible. -->
<link href="https://www.media4.ppl-media.com" rel="dns-prefetch"/>
<link crossorigin="" href="https://media6.ppl-media.com" rel="preconnect"/>
<link crossorigin="" href="https://static.criteo.net" rel="preconnect"/>
<link crossorigin="" href="https://www.google.co.in" rel="preconnect"/>
<link crossorigin="" href="https://cdn.branch.io" rel="preconnect"/>
<link crossorigin="" href="https://www.googletagmanager.com" rel="preconnect"/>
<link crossorigin="" href="https://www.google-analytics.com" rel="preconnect"/>
```

### 3. Accessing the product names:

```
In [8]: product_name=soup.find_all(class_="pro-name el2 fanB")
print(product_name)
```

```
[<div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Compact Powder with SPF For Wheatish Skin Be Your Own BFF|Long La
sting|Oil Control| SPF Protection| Lightweight- Beige Self Care 3 (9 g)</div>, <div _ngcontent-sc129="" class="pro-name el2 f
anB">Purplle True Jewel 24K Gold Primer | Matte | Oil Control | Shine Control | Long Lasting | Lightweight | Pore Minimising
| Dermatologically Tested - (20 ml)</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Snail Mucin Instant Hyd
ration Serum | All Skin Types | Anti-acne | Non-Sticky | Anti-aging | Collagen Production | Reduces Wrinkles | Glass Skin | L
ightweight (30 ml)</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Ultra HD Matte Mini Liquid Lipstick, Red
- My First Hook-up 11 | Highly Pigmented | Non-drying | Long Lasting | Easy Application | Water Resistant | Transferproof | S
mudgeproof (1.6 ml)</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Kajal, Winking Together - Black | Long
Lasting | Pigmented | Water Resistant | Smudge Proof | Transfer Proof | Easy Application (0.30 g)</div>, <div _ngcontent-sc12
9="" class="pro-name el2 fanB">Purplle Compact Powder with SPF For Wheatish Skin Be Your Own BFF| Long Lasting| Oil Control| S
PF Protection| Lightweight - Honey Self Care 2 (9 g)</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Ultra
HD Matte Mini Liquid Lipstick, Brown - My First Gossip 20 | Highly Pigmented | Non-drying | Long Lasting | Easy Application |
Water Resistant | Transferproof | Smudgeproof (1.6 ml)</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Fres
h Dew Moisturiser with Squalane & Hyaluronic Acid | All Skin Types | Brightening | Hydrating | Anti-aging | Boosts Collag
en Production (45 gm)</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Collagen Boosting Eternal Spring Nigh
t Gel with Pomegranate | All Skin Types | Brightens | Rejuvenates | Anti-aging | Plumps Skin | Night Cream | Moisturizer (45
gm)</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Ultra HD Matte Mini Liquid Lipstick, Red - My First Bae
9 | Highly Pigmented | Non-drying | Long Lasting | Easy Application | Water Resistant | Transferproof | Smudgeproof (1.6 ml)
</div>, <div _ngcontent-sc129="" class="pro-name el2 fanB">Purplle Ultra HD Matte Mini Liquid Lipstick| Long Lasting | Transfe
```

```
In [32]: product_names=[]
for i in range(0,len(product_name)):
    product_names.append(product_name[i].get_text())
print(product_names)
len(product_names)
```

```
['Purplle Compact Powder with SPF For Wheatish Skin Be Your Own BFF|Long Lasting| Oil Control| SPF Protection| Lightweight- Beig
e Self Care 3 (9 g)', 'Purplle True Jewel 24K Gold Primer | Matte | Oil Control | Shine Control | Long Lasting | Lightweight |
Pore Minimising | Dermatologically Tested - (20 ml)', 'Purplle Snail Mucin Instant Hydration Serum | All Skin Types | Anti-acne
| Non-Sticky | Anti-aging | Collagen Production | Reduces Wrinkles | Glass Skin | Lightweight (30 ml)', 'Purplle Ultra HD Matte
Mini Liquid Lipstick, Red - My First Hook-up 11 | Highly Pigmented | Non-drying | Long Lasting | Easy Application | Water Resis
tant | Transferproof | Smudgeproof (1.6 ml)', 'Purplle Kajal, Winking Together - Black | Long Lasting | Pigmented | Water Resis
tent | Smudge Proof | Transfer Proof | Easy Application (0.30 g)', 'Purplle Compact Powder with SPF For Wheatish Skin Be Your O
wn BFF| Long Lasting| Oil Control| SPF Protection| Lightweight - Honey Self Care 2 (9 g)', 'Purplle Ultra HD Matte Mini Liquid L
ipstick, Brown - My First Gossip 20 | Highly Pigmented | Non-drying | Long Lasting | Easy Application | Water Resistant | Trans
ferproof | Smudgeproof (1.6 ml)', 'Purplle Fresh Dew Moisturiser with Squalane & Hyaluronic Acid | All Skin Types | Brightening
| Hydrating | Anti-aging | Boosts Collagen Production (45 gm)', 'Purplle Collagen Boosting Eternal Spring Night Gel with Pomegr
```

### 4. Accessing discount prices of lipsticks:

```
In [10]: Discount_price=soup.find_all(class_="tx-0 f14 f18-d fanB")
print(Discount_price)
```

```
[<span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>150</span>
>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>380</spa
n>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>356</sp
an>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>199</s
pan>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>159</
span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>157
</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>19
9</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>1
99</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></i>
201</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12"></
i>124</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f12">
</i>199</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f1
2"></i>201</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10 f
12"></i>201</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>559</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>201</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>201</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>585</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>324</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>211</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>404</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>201</span>, <span _ngcontent-sc129="" class="tx-0 f14 f18-d fanB"><i _ngcontent-sc129="" class="p-rupee rupee-d pr f10
f12"></i>201</span>]
```

```
In [11]: Disc_price=[]
for i in range(0,len(Discount_price)):
    Disc_price.append(Discount_price[i].get_text())
print(Disc_price)
```

```
['150', '380', '356', '199', '159', '157', '199', '199', '199', '201', '124', '199', '201', '201', '559', '201', '201', '201',
'585', '324', '211', '404', '201', '201']
```

[ '33% off', '20% off', '35% off', '20% off', '20% off', '30% off', '20% off', '55% off', '55% off', '19% off', '50% off', '20% off', '19% off', '19% off', '30% off', '19% off', '19% off', '19% off', '10% off', '35% off', '15% off', '19% off', '19% off', '19% off']



## 7. Accessing the number of ratings on the lipsticks:

```
In [18]: rating_count=soup.find_all(class_="tx-med1 mrl5 f10 fan8 f13-d ng-star-inserted")
print(Review_star)

[<span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f
9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 4 <i _ngcontent-sci129="" class="p-
star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci12
9="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _
ngcontent-sci129="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inser
ted"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime
ng-star-inserted"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme t
r-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" clas
s="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent
-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f9"></i></span>, <s
pan _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f9">
</i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci129="" class="p-s
tar2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _ngcontent-sci129
="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-inserted"> 3.9 <i _n
gcontent-sci129="" class="p-star2 mrl3 f9"></i></span>, <span _ngcontent-sci129="" class="listTheme tr-box bg-lime ng-star-insert
ed"> 3.9 <i _ngcontent-sci129="" class="p-star2 mrl3 f9"></i></span>]

In [19]: ratings_count=[]
for i in range(0,len(rating_count)):
    ratings_count.append(rating_count[i].get_text())
print(ratings_count)

[' 5469 Ratings', ' 3168 Ratings', ' 321 Ratings', ' 23485 Ratings', ' 2402 Ratings', ' 5469 Ratings', ' 23485 Ratings', ' 240
Ratings', ' 206 Ratings', ' 23485 Ratings', ' 23485 Ratings', ' 23485 Ratings', ' 23485 Ratings', ' 23485 Ratings', ' 1889 Rati
ngs', ' 23485 Ratings', ' 23485 Ratings', ' 23485 Ratings', ' 126 Ratings', ' 153 Ratings', ' 23485 Ratings', ' 3168 Ratings',
' 23485 Ratings', ' 23485 Ratings']
```

## 8. Printing the data in form of table:

```
In [22]: import pandas as pd
Purp_le_lipstick = pd.DataFrame ({ "product_name": product_names, "Discount_price": Disc_price, "Og_price": original_price, "Discount_
print(Purp_le_lipstick)

product_name Discount_price Og_price \
0  Purpille True Jewel 24K Gold Primer | Matte | O... 380 ₹475
1  Purpille Snail Mucin Instant Hydration Serum | ... 356 ₹549
2  Purpille Compact Powder with SPF For Wheatish S... 150 ₹225
3  Purpille Kajal, Winking Together - Black | Long... 159 ₹199
4  Purpille Ultra HD Matte Mini Liquid Lipstick, R... 199 ₹249
5  Purpille Fresh Dew Moisturiser with Squalane & ... 352 ₹440
6  Purpille Ultra HD Matte Mini Liquid Lipstick, B... 199 ₹249
7  Purpille Compact Powder with SPF For Wheatish S... 157 ₹225
8  Purpille Collagen Boosting Eternal Spring Night... 396 ₹440
9  Purpille Ultra HD Matte Mini Liquid Lipstick, P... 201 ₹249
10 Purpille Ultra HD Matte Mini Liquid Lipstick, P... 199 ₹249
11 Purpille Ultra HD Matte Mini Liquid Lipstick| L... 124 ₹249
12 Purpille Ultra HD Matte Mini Liquid Lipstick, R... 201 ₹249
13 Purpille Ultra HD Matte Mini Liquid Lipstick, B... 201 ₹249
14 Purpille Ultra HD Matte Mini Liquid Lipstick, P... 201 ₹249
15 Purpille Ultra HD Matte Mini Liquid Lipstick, M... 211 ₹249
16 Purpille Ultra HD Matte Mini Liquid Lipstick, P... 201 ₹249
17 Purpille Ultra HD Matte Mini Liquid Lipstick, M... 201 ₹249
18 Purpille Kiwi Lush Fix Face Scrub and Mask with... 324 ₹499
19 Purpille Concealer Palette (Dark Skin), Covert ... 559 ₹799
20 Purpille Ultra HD Matte Mini Liquid Lipstick, N... 201 ₹249
21 Purpille Tinted Glory Hydrating Face Primer (30... 404 ₹499
22 Purpille Ultra HD Matte Mini Liquid Lipstick, P... 201 ₹249
23 Purpille Ultra HD Matte Mini Liquid Lipstick, R... 201 ₹249

Discount_percentage rating_count
0 20% off 3169 Ratings
1 35% off 323 Ratings
2 33% off 5471 Ratings
3 20% off 2402 Ratings
4 20% off 23488 Ratings
5 20% off 242 Ratings
6 20% off 23488 Ratings
7 30% off 5471 Ratings
```

## 9. Then storing all data in CSV file and opening the file in application:

```
In [28]: Purple_lipstick.to_csv("Purple lipsticks.csv", index="false")
a=pd.read_csv("Purple lipsticks.csv")
a
```

Out[28]:

|    | Unnamed: 0 | product_name                                     | Discount_price | Og_price | Discount_percentage | rating_count  |
|----|------------|--|----------------|----------|---------------------|---------------|
| 0  | 0          | Purple True Jewel 24K Gold Primer   Matte   O... | 380            | ₹475     | 20% off             | 3169 Ratings  |
| 1  | 1          | Purple Snail Mucin Instant Hydration Serum   ... | 356            | ₹549     | 35% off             | 323 Ratings   |
| 2  | 2          | Purple Compact Powder with SPF For Wheatish S... | 150            | ₹225     | 33% off             | 5471 Ratings  |
| 3  | 3          | Purple Kajal, Winking Together - Black   Long... | 159            | ₹199     | 20% off             | 2402 Ratings  |
| 4  | 4          | Purple Ultra HD Matte Mini Liquid Lipstick, R... | 199            | ₹249     | 20% off             | 23488 Ratings |
| 5  | 5          | Purple Fresh Dew Moisturiser with Squalane & ... | 352            | ₹440     | 20% off             | 242 Ratings   |
| 6  | 6          | Purple Ultra HD Matte Mini Liquid Lipstick, B... | 199            | ₹249     | 20% off             | 23488 Ratings |
| 7  | 7          | Purple Compact Powder with SPF For Wheatish S... | 157            | ₹225     | 30% off             | 5471 Ratings  |
| 8  | 8          | Purple Collagen Boosting Eternal Spring Night... | 396            | ₹440     | 10% off             | 206 Ratings   |
| 9  | 9          | Purple Ultra HD Matte Mini Liquid Lipstick, P... | 201            | ₹249     | 19% off             | 23488 Ratings |
| 10 | 10         | Purple Ultra HD Matte Mini Liquid Lipstick, P... | 199            | ₹249     | 20% off             | 23488 Ratings |
| 11 | 11         | Purple Ultra HD Matte Mini Liquid Lipstick, L... | 124            | ₹249     | 50% off             | 23488 Ratings |
| 12 | 12         | Purple Ultra HD Matte Mini Liquid Lipstick, R... | 201            | ₹249     | 19% off             | 23488 Ratings |
| 13 | 13         | Purple Ultra HD Matte Mini Liquid Lipstick, B... | 201            | ₹249     | 19% off             | 23488 Ratings |
| 14 | 14         | Purple Ultra HD Matte Mini Liquid Lipstick, P... | 201            | ₹249     | 19% off             | 23488 Ratings |
| 15 | 15         | Purple Ultra HD Matte Mini Liquid Lipstick, M... | 211            | ₹249     | 15% off             | 23488 Ratings |
| 16 | 16         | Purple Ultra HD Matte Mini Liquid Lipstick, P... | 201            | ₹249     | 19% off             | 23488 Ratings |
| 17 | 17         | Purple Ultra HD Matte Mini Liquid Lipstick, M... | 201            | ₹249     | 19% off             | 23488 Ratings |
| 18 | 18         | Purple Kiwi Lush Fix Face Scrub and Mask with... | 324            | ₹499     | 35% off             | 154 Ratings   |
| 19 | 19         | Purple Concealer Palette (Dark Skin), Covert ... | 559            | ₹799     | 30% off             | 1889 Ratings  |
| 20 | 20         | Purple Ultra HD Matte Mini Liquid Lipstick, N... | 201            | ₹249     | 19% off             | 23488 Ratings |
| 21 | 21         | Purple Tinted Glory Hydrating Face Primer (30... | 404            | ₹499     | 19% off             | 3169 Ratings  |

## 1.4 Conclusion:

- In conclusion, this web scraping project focusing on purple lipstick product reviews has successfully achieved its aim of systematically collecting and analyzing valuable insights from customer feedback.
- The dataset compiled through this initiative offers a detailed understanding of customer experiences, preferences, and sentiments regarding purple lipstick products available on the selected e-commerce or beauty product website.
- The analysis revealed patterns in customer reviews, allowing for the identification of popular purple lipstick products, an assessment of overall customer satisfaction based on ratings, and the extraction of recurring themes that influence consumer perceptions.
- The sentiment analysis provided a nuanced perspective, categorizing reviews as positive, negative, or neutral, adding depth to the understanding of customer sentiments.

*Thank you!*