

# fashion-recommend-myntra

December 4, 2023

```
[1]: # let's start this task by importing necessary python libraies:
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from wordcloud import WordCloud, STOPWORDS, ImageColorGenerator
from nltk.corpus import stopwords
import string
from sklearn.metrics.pairwise import cosine_similarity
```

```
[2]: data=pd.read_csv('Myntra kurtis.csv')
data.head()
```

```
[2]:
```

	Brand Name	Product URL \
0	Rain & Rainbow	<a href="https://www.myntra.com/kurtis/rain--rainbow/ra...">https://www.myntra.com/kurtis/rain--rainbow/ra...</a>
1	HERE&NOW	<a href="https://www.myntra.com/kurtis/herenow/herenow-...">https://www.myntra.com/kurtis/herenow/herenow-...</a>
2	Anouk	<a href="https://www.myntra.com/kurtis/anouk/anouk-wome...">https://www.myntra.com/kurtis/anouk/anouk-wome...</a>
3	Anubhutee	<a href="https://www.myntra.com/kurtis/anubhutee/anubhu...">https://www.myntra.com/kurtis/anubhutee/anubhu...</a>
4	GERUA	<a href="https://www.myntra.com/kurtis/gerua/gerua-wome...">https://www.myntra.com/kurtis/gerua/gerua-wome...</a>

	Image	Product Ratings \
0	<a href="https://assets.myntassets.com/dpr_2,q_60,w_210...">https://assets.myntassets.com/dpr_2,q_60,w_210...</a>	4.2
1	<a href="https://assets.myntassets.com/dpr_2,q_60,w_210...">https://assets.myntassets.com/dpr_2,q_60,w_210...</a>	4.2
2	<a href="https://assets.myntassets.com/dpr_2,q_60,w_210...">https://assets.myntassets.com/dpr_2,q_60,w_210...</a>	4.2
3	<a href="https://assets.myntassets.com/dpr_2,q_60,w_210...">https://assets.myntassets.com/dpr_2,q_60,w_210...</a>	4.3
4	<a href="https://assets.myntassets.com/dpr_2,q_60,w_210...">https://assets.myntassets.com/dpr_2,q_60,w_210...</a>	4.2

	Number of ratings	Product Info \
0	28	Printed Pure Cotton Kurti
1	805	Embroidered Pure Cotton A-Line Kurti
2	2800	Printed Pure Cotton Indigo Anarkali Kurta
3	1100	Ethnic Motifs Printed Kurti
4	157	Ethnic Motifs Printed Kurti

	Selling Price	Price	Discount
0	837.0	1395.0	(40% OFF)
1	719.0	1799.0	(60% OFF)

```

2          594.0  1699.0  (65% OFF)
3          521.0  1739.0  (70% OFF)
4          449.0  1499.0  (70% OFF)

```

```
[3]: data.shape
```

```
[3]: (599, 9)
```

```
[4]: data.info()
```

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 599 entries, 0 to 598
Data columns (total 9 columns):
#   Column                Non-Null Count  Dtype
---  -
0   Brand Name            599 non-null   object
1   Product URL           599 non-null   object
2   Image                 132 non-null   object
3   Product Ratings       401 non-null   float64
4   Number of ratings     599 non-null   int64
5   Product Info          599 non-null   object
6   Selling Price         525 non-null   float64
7   Price                 525 non-null   float64
8   Discount              525 non-null   object
dtypes: float64(3), int64(1), object(5)
memory usage: 42.2+ KB

```

```
[5]: # let's have a look if the dataset contains any null values or not:
data.isnull().sum()
```

```

[5]: Brand Name            0
     Product URL          0
     Image                467
     Product Ratings      198
     Number of ratings     0
     Product Info          0
     Selling Price        74
     Price                74
     Discount             74
     dtype: int64

```

The dataset has some null values, but there are 467 null values in the image column, where the total number of rows in the data 600. so i will delete the image column.

```
[6]: data = data.drop('Image',axis=1)
```

Now let's drop the null values present in the other columns in the dataset.

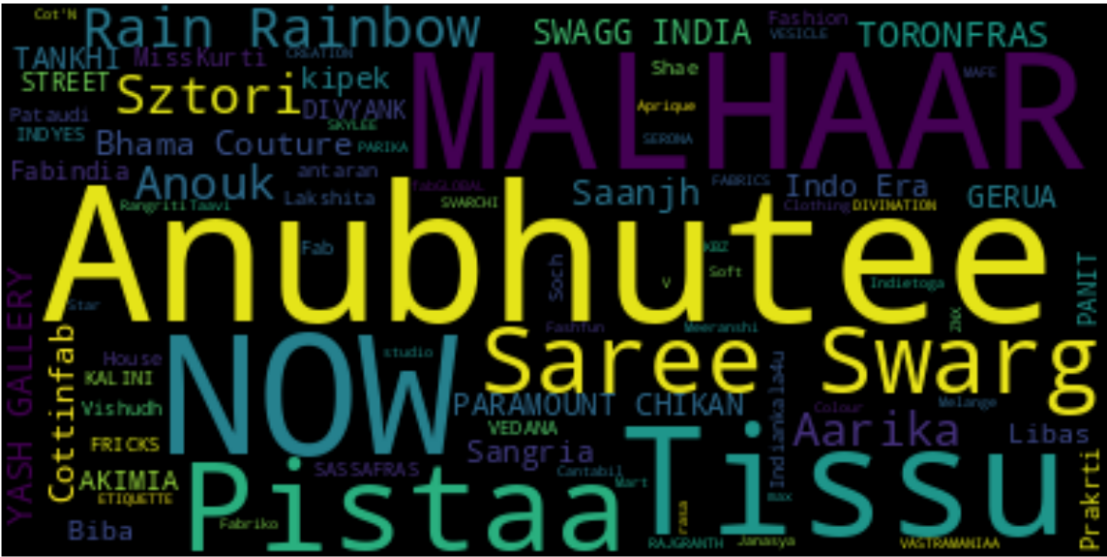
```
data = data.dropna()
```

```
# now let's have a look at the shape of the dataset.  
data.shape
```

(364, 8)

so there are 364 rows present in the dataset,after removing all null values.

```
text = " ".join(i for i in data['Brand Name'])
stopwords = set(STOPWORDS)
wordcloud = WordCloud(stopwords=stopwords, background_color='black').
    ↪ generate(text)
plt.figure(figsize=(15,10))
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.show()
```



so brand like Anubhutee,malhaar,pistaa,now,tissu and swarg are popular for kurtis on myntra.

```
data.head(3)
```

	Brand Name	Product URL \
0	Rain & Rainbow	<a href="https://www.myntra.com/kurtis/rain--rainbow/ra...">https://www.myntra.com/kurtis/rain--rainbow/ra...</a>
1	HERE&NOW	<a href="https://www.myntra.com/kurtis/herenow/herenow-...">https://www.myntra.com/kurtis/herenow/herenow-...</a>
2	Anouk	<a href="https://www.myntra.com/kurtis/anouk/anouk-wome...">https://www.myntra.com/kurtis/anouk/anouk-wome...</a>

	Product Ratings	Number of ratings \
0	4.2	28

1	4.2	805
2	4.2	2800

	Product Info	Selling Price	Price	Discount
0	Printed Pure Cotton Kurti	837.0	1395.0	(40% OFF)
1	Embroidered Pure Cotton A-Line Kurti	719.0	1799.0	(60% OFF)
2	Printed Pure Cotton Indigo Anarkali Kurta	594.0	1699.0	(65% OFF)

```
[14]: highest_rated = data.sort_values(by=['Product Ratings'],ascending=False)

highest_rated = highest_rated.head(10)
```

```
[15]: print(highest_rated[['Product Info','Product Ratings','Brand Name']])
```

	Product Info	Product Ratings	Brand Name
435	Mandarin Collar Kurti	5.0	INDYES
249	Floral Printed Kaftan Kurta	5.0	Sangria
448	Solid Pure Cotton Kurti	5.0	MALHAAR
308	Floral Printed Kurti	5.0	MALHAAR
538	Pure Cotton Kurti	5.0	MALHAAR
277	Women Solid Embellished Kurti	5.0	Fabindia
515	Chikankari Embroidered Kurti	5.0	PARAMOUNT CHIKAN
62	Ethnic Motifs Printed Kurti	4.9	Biba
80	Ethnic Motifs Embroidered Kurti	4.8	Sangria
450	Self Striped Straight Kurti	4.8	Saanjh

So, brands like indyes,sangria,malhaar,fabindia,paramount chikan,biba and saanjh are selling the highest rated kurtis on myntra.

## Recommending Fashion Products

To recommend the trending fashion,we can not use the content-based filtering strategy, the content based filtering strategy is good to use when a user is looking at a fashion product, and your application wants to recommended something similar.

To recommend the trend fashion, we can find weighted average of all the rating and recommend the products based on the weighted average ratings. To count the weighted score of all the rating of kurtis, we need:

Mean rating(mr): The mean rating of all the products

minimum rating(m): Minimum number of ratings.

number of ratings(n):Total number of ratings of the product.

average rating(a): average ratings of the products.

now below is the formula to calculate the weighted score of the product ratings:

$$\text{score} = (n/(n+m)* a)+(m/(m+n)* mr)$$

**Now let's calculate the weighted score and recommend the most trending Kurtis on Myntra:**

```
[25]: mr = data['Product Ratings'].mean()

m = data['Number of ratings'].quantile(0.9)

n = data['Number of ratings']

a = data['Product Ratings']
```

```
[26]: data['Score'] = (n/(n+m)*a) +(m/(m+n) *mr)
```

```
[30]: recommened = data.sort_values('Score',ascending=False)

recommened.head(10)
```

```
[30]:
```

	Brand Name	Product URL \
48	Tissu	<a href="https://www.myntra.com/kurtis/tissu/tissu-wome...">https://www.myntra.com/kurtis/tissu/tissu-wome...</a>
11	Anubhutee	<a href="https://www.myntra.com/kurtis/anubhutee/anubhu...">https://www.myntra.com/kurtis/anubhutee/anubhu...</a>
155	Anubhutee	<a href="https://www.myntra.com/kurtis/anubhutee/anubhu...">https://www.myntra.com/kurtis/anubhutee/anubhu...</a>
66	YASH GALLERY	<a href="https://www.myntra.com/kurtis/yash-gallery/yas...">https://www.myntra.com/kurtis/yash-gallery/yas...</a>
27	Anubhutee	<a href="https://www.myntra.com/kurtis/anubhutee/anubhu...">https://www.myntra.com/kurtis/anubhutee/anubhu...</a>
102	AKIMIA	<a href="https://www.myntra.com/kurtis/akimia/akimia-se...">https://www.myntra.com/kurtis/akimia/akimia-se...</a>
88	Tissu	<a href="https://www.myntra.com/kurtis/tissu/tissu-wome...">https://www.myntra.com/kurtis/tissu/tissu-wome...</a>
3	Anubhutee	<a href="https://www.myntra.com/kurtis/anubhutee/anubhu...">https://www.myntra.com/kurtis/anubhutee/anubhu...</a>
42	Rain & Rainbow	<a href="https://www.myntra.com/kurtis/rain--rainbow/ra...">https://www.myntra.com/kurtis/rain--rainbow/ra...</a>
18	GERUA	<a href="https://www.myntra.com/kurtis/gerua/gerua-wome...">https://www.myntra.com/kurtis/gerua/gerua-wome...</a>

	Product Ratings	Number of ratings \
48	4.4	1000
11	4.4	480
155	4.4	447
66	4.5	223
27	4.3	1500
102	4.5	165
88	4.3	1100
3	4.3	1100
42	4.4	251
18	4.6	98

	Product Info	Selling Price	Price \
48	Women Floral Print A-Line Kurti	549.0	999.0
11	Ethnic Motifs Printed Kurti	521.0	1739.0
155	Women Printed Kurti	486.0	1739.0
66	Printed A-Line Kurti	629.0	1399.0
27	Women Printed Straight Kurti	521.0	1739.0
102	Embroidered Pure Cotton Kurti	767.0	1599.0
88	Women Floral Printed Straight Kurti	548.0	899.0
3	Ethnic Motifs Printed Kurti	521.0	1739.0

42	Women Printed Pure Cotton Pure Cotton A-Line K...	797.0	1595.0
18	Ethnic Motifs Printed Kurti	449.0	1499.0

	Discount	Score
48	(45% OFF)	4.338320
11	(70% OFF)	4.300868
155	(72% OFF)	4.296895
66	(55% OFF)	4.295568
27	(70% OFF)	4.274815
102	(52% OFF)	4.273667
88	(39% OFF)	4.267992
3	(70% OFF)	4.267992
42	(50% OFF)	4.264685
18	(70% OFF)	4.262359

```
[32]: print(recommened[['Brand Name', 'Product Info',
                        'Product Ratings', 'Score',
                        'Selling Price', 'Discount']].head(10))
```

	Brand Name	Product Info \
48	Tissu	Women Floral Print A-Line Kurti
11	Anubhutee	Ethnic Motifs Printed Kurti
155	Anubhutee	Women Printed Kurti
66	YASH GALLERY	Printed A-Line Kurti
27	Anubhutee	Women Printed Straight Kurti
102	AKIMIA	Embroidered Pure Cotton Kurti
88	Tissu	Women Floral Printed Straight Kurti
3	Anubhutee	Ethnic Motifs Printed Kurti
42	Rain & Rainbow	Women Printed Pure Cotton Pure Cotton A-Line K...
18	GERUA	Ethnic Motifs Printed Kurti

	Product Ratings	Score	Selling Price	Discount
48	4.4	4.338320	549.0	(45% OFF)
11	4.4	4.300868	521.0	(70% OFF)
155	4.4	4.296895	486.0	(72% OFF)
66	4.5	4.295568	629.0	(55% OFF)
27	4.3	4.274815	521.0	(70% OFF)
102	4.5	4.273667	767.0	(52% OFF)
88	4.3	4.267992	548.0	(39% OFF)
3	4.3	4.267992	521.0	(70% OFF)
42	4.4	4.264685	797.0	(50% OFF)
18	4.6	4.262359	449.0	(70% OFF)

## Summary

A fashion recommendation system is an application that recommends the most trending fashion based on the user's search query. Myntra is one of the popular e-commerce platforms known for its fashion recommendations. I hope you liked this article on building a fashion recommendation

system using Python

[ ]: