

Business Context

We are building a Customer Experience platform for B2C Customers. One of the core components of this Customer Experience Platform is our NLP Engine, which would consume textual data and generate insights.

Problem statement:

We have recently started working building an initial iteration for an Ecommerce customer with their Reviews data

Let us use a dataset available in Kaggle for our reference. **Link to ecommerce reviews data**

<https://www.kaggle.com/nicapotato/womens-ecommerce-clothing-reviews/version/1?select=Womens+Clothing+E-Commerce+Reviews.csv>

Refer to the column's **reviews. Title and reviews. Text**


Clothing ID	Age	Title	Review Text	Rating	Recomi	Positivi	Division Name	Depart	Class Name
69	1078	56 Great summer fabric!	I really wanted this to work. alas, it had a strange fit for me. the straps would not stay up, and	3	0	1	General Petite	Dresses	Dresses
90	1078	51 Sweet flattering dress	I love cute summer dresses and this one, especially because it is made out of linen, is unique	4	1	0	General Petite	Dresses	Dresses
117	1078	32	This is the perfect summer dress. it can be dressed up or down. the quality of the linen fabric	5	1	2	General Petite	Dresses	Dresses
467	1078	61 Great sweater dress!	Nice fit and flare style, not clingy at all. i got the grey color, petite large, fits perfect. will wear	5	1	1	General	Dresses	Dresses
470	1078	33 Cute, but cheap	When i first opened this dress and tried it on i thought it was adorable. it is very flattering on	3	0	0	General	Dresses	Dresses
474	1078	20 Super cute and flattering too	I love this sweater dress and get compliments every time i wear it.. i bought the navy in size	5	1	1	General	Dresses	Dresses
476	1078	52 Fun dress	Extremely flattering, an easy dress to wear - good choice for both day and evening	5	1	1	General	Dresses	Dresses
486	1078	46 Fun mix of colors in the grey version	I ordered this dress in size xl in the grey/red/yellow combination. i love everything about thi	5	1	1	General	Dresses	Dresses
492	1078	31 For the shorter girls	I really wanted to love this dress, but it was so short! i'm only 5'6" so i don't consider myself r	4	1	4	General	Dresses	Dresses
497	1078	49	Very cute, very comfortable. for me aesthetics and comfort must go hand in hand. this dress f	5	1	2	General	Dresses	Dresses
499	1078	36 Cute concept, fits weird	The fun colors drew me to this but it sure fit weird. the top was fine but it became a bit tent-i	2	0	1	General	Dresses	Dresses
502	1078	39 Love this dress	Very comfortable and versatile. got lots of compliments.	5	1	0	General	Dresses	Dresses
506	1078	51 So cute, but weird fit	This dress is really cute in person. however, it did not fit me like it does the model in the pic	3	1	11	General	Dresses	Dresses
508	1078	67 Comfy, cute, and colorful.	This knit dress is very comfortable. i liked the various colors used in the stripes. my only issue	4	1	0	General	Dresses	Dresses
509	1078	36 Best fitting dress	Love love this dress. fits so great. i normally wouldn't have picked this dress. more preppy thi	5	1	8	General	Dresses	Dresses
512	1078	49 Cute but skip the petite unless you are very short	Beautiful colors, especially the pink. i am 5'3" and about 124 lb. i got the small petite but am t	5	1	3	General	Dresses	Dresses
525	1078	25 Cute and fun!	The horizontal lines on the skirt and top gives the wearer and very nice dress. i am short so i g	5	1	0	General	Dresses	Dresses
529	1078	47 Great dress or tunic	The colors are more vibrant than the photo indicates. indeed, though, the dress is very short.	5	1	1	General	Dresses	Dresses
533	1078	68	I love this dress because its very playful and bouncy. it puts me in a light hearted mood when	3	1	1	General	Dresses	Dresses
540	1078	71 Flattering	This dress is comfortable as well as flattering, which does not happen very often!	5	1	0	General	Dresses	Dresses
543	1078	36 Cute dress	Based on some reviews i decided to get the regular xs, even tho i am an xs petite (5'2, 107 lb,	4	1	2	General	Dresses	Dresses
546	1078	53 Love this dress!	I went to my local store and they only had the blue dress in stock, i had seen it online and i di	5	1	2	General	Dresses	Dresses
550	1078	52 Not a fan - childish	I thought that it looked like it belonged on a 15 year-old. i can almost see why they styled the	3	0	2	General	Dresses	Dresses
551	1078	49	I loved this dress when i saw it. however the fit was way off. i am 5'7" 120 lbs and the small w	2	1	0	General	Dresses	Dresses
554	1078	45		5	1	0	General	Dresses	Dresses
602	1078	39 Gorgeous quality knit	I was lucky enough to get a hold of this intarsia sweater dress after the sale and i wish i had p	5	1	0	General Petite	Dresses	Dresses
811	1078	61 Flattering	Very slimming, lovely dress.	5	1	7	General Petite	Dresses	Dresses
822	1078	39 Nice casual tunic-dress	Comfortable, the fabric is very soft. the embroidery adds a little to the otherwise plain black	5	1	2	General Petite	Dresses	Dresses
840	1078	46 I'm in love!	I love this shirtdress. the lace and collar design pops off the black. super comfortable and lov	5	1	0	General Petite	Dresses	Dresses
846	1078	82 Great dress!!	I am 5'4" 140 pounds and ordered the 8 petite. it fits perfectly and is very flattering. the embr	5	1	5	General Petite	Dresses	Dresses
852	1078	41 The perfect fall dress	Ordered this dress online and wasn't sure about the criss-cross neckline feature but i love it!	5	1	5	General	Dresses	Dresses
853	1078	56 Adorable, comfortable, flattering; this has it all	I was not shopping for a dress and somehow came home with this. in person the material anc	5	1	6	General	Dresses	Dresses
854	1078	42	Love this dress! it is super-flattering, and the embroidery is beautiful.	5	1	1	General	Dresses	Dresses
864	1078	47 Could be a bit shorter	Great material. a bit loose in the middle / lower half. doesn't belt well. it could be 3" shorter,	4	1	0	General	Dresses	Dresses
1557	1078	66 Love it!	Great dress! wish it came it more colors, would like to buy another one. i am 5'5",125, size sm	5	1	2	General	Dresses	Dresses

We had an initial discussion with the business team to understand their expectations.

One of the requirements, business team mentioned is that for **each product**, they want to **see the most relevant reviews**.

When we tried understanding the details, we got to know that these are reviews from ecommerce sites. The number of reviews per product increases over a period. Obviously, business team don't have the bandwidth to go through each review and understand what are the reviews that they should spend their time.

An example would be how ecommerce website (flipkart) has the option to sort data by the **most helpful** reviews. Refer to the screenshot below.











HP Pavilion Ryzen 5 Hexa Core 5500U - (8 GB/512 GB SSD/Windows 10 Home) 14-ec0035AU Thin and Light Laptop Reviews

4.3 ★
194 Ratings & 28 Reviews

5 ★ 119
4 ★ 50
3 ★ 7
2 ★ 6
1 ★ 12

HP Pavilion Ryzen 5 Hexa Core 5500U - (8 GB/512 GB SSD/Windows 10 Home) 14-ec0035AU
4.3 ★ 194 Ratings & 28 Reviews
₹53,990 ₹67,991 20% off

User Images

5 ★ Perfect product!
Battery is 5-8hrs (No gaming). My Basic Usage is YT + Vscode, GMeet, Other streaming platforms.
Build Quality is Awesome. Hinge looks a bit of a problem though.
Ryzen 5 5500U is the best for students who don't want to do gaming.
2 level Backlit is good.
4x2 ram is a Con.
Webcam and sound quality is okayish.
Keyboard keys are awesome love them.
Ranjeet Bansode Certified Buyer, New Delhi 3 months ago

4 ★ Really Nice
I purchased it for normal work mostly for studyit's good ..battery performance is good ..screen is nice and easy to eyes.....
Boot time is below five seconds.....
Design is superb ..screen is 14 inch and not that big but good for normal work and handling
Overall a good product in this price range.
Amit Vardhan Certified Buyer, Hamirpur District 1 month ago

4 ★ Worth the money
Overall good performance but battery is not good discharge fast but performance wise good laptop go for it.

Most Helpful
Most Recent
Positive First
Negative First

Expectation from your solution:

- A working solution to prioritize and rank the reviews. For this exercise, you may want to filter the reviews based on ClothingID, take couple of products (IDs) which has the maximum reviews for this.
 - Model should take input as All or a Specific Product ID.
 - Model should generate the output as CSV (containing the Top X reviews)
- Why did the Model Rate them as the TOP X reviews (X – Configurable number like 10 or 20 etc.) This needs to be explainable.

You are NLP expert in the team, and we want you to come up with a solution which can meet the business team's expectations. This will help in iterating and taking this solution further.

Following are our expectations:

As a data scientist, we want you to come up with

- How would you approach this problem statement? We would like to understand your thought process?
- Can you come up with an initial model using any of your favorite language, frameworks, libraries and model?
- What are the assumptions you have made to come up with a solution?

What are we trying to achieve with this?

- Our objective is to understand your approach (thought process, code), when there is a one-liner like this given to you.
- We understand that we have given you a one liner. We are not expecting a perfect model which would take care of all the edge cases.
- Feel free to make your own assumptions. Document your assumptions so that we can review them later.
- Create a repo in GitHub, upload your model and send us the link