**Python:**

1. User CRUD
   1. User Signup
   2. User Profile by ID
   3. User Edit profile
   4. User login
   5. User Delete
2. Product
   1. Collaborative Filtering Recommendation model (Model Based).
   2. Content based collaborative filtering (Based on the product ingredients).
      1. Content based is applied on both general items as well as the liked list.
   3. Liked List by User ID
   4. Recommendation List by ID.

General procedure that needs to be followed:

the rough procedure we are going to follow is: 1: classify user based features, content based features 2: Implement content based algorithms using tfidfvectorizer and cosine similarity. 3: Implement Popularity algorithm and merge it to content based algorithm 4: Implement collaborative (user) algorithms for user similarity using SVD 5: combine all the algorithms to extract hybrid recommendation.

**Database:**

1. User Table  
2. Product List  
3. Product Collaborative Data 4. Product Content Data  
5. Like List

Android APP

1. Log In  
2. Sign Up  
3. MyProfile  
4. My Like List  
5. Content Base Sort List

6. Collaborative Sort List

Highlighted below can be merged into the same view pane in the android to show the recommendations of the product.

**Flowchart of the Content based Algorithm:**

Diagram

Description automatically generated

**Flow chart of the Collaborative filtering Algo:**

See the documentation of SVD algorithm and I will share the resources in the meantime!

**Datasets / Scrapping website:**

1. Sent via the email
2. <https://www.kaggle.com/datasets?search=skincare> (Find most suitable from this list).
3. Scrapping can be discussed if necessary (LOOK fantastic / Sephora / any other cosmetic website can be used).