Capstone Project Submission

Team Member's Name, Email and Contribution:
Name : **Mohammed arifuddin atif** **Email** : **arifuddinatif63@gmail.com** **Contribution** : **Performing exploratory data analysis on the given dataset to draw relevant conclusions from the dataset.** **Using the popularity based recommender model to get recommendations for the customers.** **Name** : **sajal sinha** **Email** : **sajals1146@gmail.com** **Contribution** : **Cleaning the data and performing exploratory data analysis on the given dataset.** **Using the collaborative filtering (surprise library) based recommender model to get recommendations for the customers.**
Please paste the GitHub Repo link.
Github Link :- https://github.com/SajalSinha/ProductRecommendationEngine
Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)

Amazon.com is one of the largest electronic commerce and cloud computing companies.The products which the customers buy on amazon can be rated based on the satisfaction of the customer towards the product or the likeness of the product.These products are rated 1-5 based on the customers emotions.We are tasked with building a recommender engine that reviews customer ratings and purchase history to recommend items and improve sales.This engine looks at the customers previous purchases and ratings and provides recommendations of products similar to the products they like.

The data given to us contains the unique user id , product id , ratings , timestamp columns.First we performed exploratory data analysis like understanding the type of data and extracting relevant info from the data.Then we checked for null values.Then after necessary cleaning of the data we drew conclusions from the data with insights on data.

We then split our data into train and test to train our model.we used different types of recommender systems to get varied results from the data.we then performed hyper parameter tuning to increase our models recommending ability .we then produced metrics to evaluate our model such as RMSE values.

Finally we conclude that we were able to create a product recommendation engine which recommends n products to the customers and also performs well given the amount and complexity of the dataset.