# Objective:

The objective of this assignment is to deploy a recommendation engine for the IMDB Top 1000 Movies dataset. You will create a web application that takes user preferences or movie inputs and provides personalized movie recommendations based on collaborative filtering techniques.

# Tasks:

Recommendation Engine Development:

 Choose a collaborative filtering algorithm suitable for movie recommendations, such as user-based or item-based collaborative filtering, matrix factorization, or hybrid approaches.

 Split the dataset into training and testing sets.

 Train the recommendation engine using the training set.

 Evaluate the recommendation engine's performance using appropriate evaluation metrics, such as precision, recall, or mean average precision.

Web Application Development:

 Choose a web development framework or library, such as Flask, Django, or FastAPI, for building the web application.

 Create a user interface that allows users to input their preferences or movie choices so that they can get the Top 10 Recommendations based on that Movie.

# Tasks:

 Implement the necessary code to load the trained recommendation engine from Step 2 and use it to provide personalized movie recommendations.

 Test the web application locally to ensure it is functioning correctly.

Deployment:

 Select a cloud platform (e.g., AWS, Google Cloud, Azure) or a suitable hosting service for deploying your web application.

 Deploy your web application on the chosen platform.

 Verify that the deployed web application is accessible and can provide movie recommendations based on user preferences or inputs.

Documentation and Presentation:

 Create a document or a presentation summarizing the steps taken to deploy the recommendation engine for the IMDB Top 1000 Movies dataset.

 Include the code snippets, explanations, and screenshots demonstrating the functionality of the deployed web application.

 Discuss any challenges faced during the deployment process and how you addressed them.

 Reflect on the importance of recommendation engines and their potential real-world applications.

# Dataset:

The Dataset is about the IMDB Ratings and Other basic details about the Top 1000 Movies in the IMDB Database.

**Dataset Link:** [https://docs.google.com/spreadsheets/d/1CQFgYbUlQ](https://drive.google.com/file/d/1W-NwC14eVHRhR7yKDgmSk38kWUAMQL4F/view?usp=sharing) [0eJFCON8dwrQNrkpXIlRsBgm-](https://drive.google.com/file/d/1W-NwC14eVHRhR7yKDgmSk38kWUAMQL4F/view?usp=sharing) [CWeR5nPSQ/edit#gid=0](https://drive.google.com/file/d/1W-NwC14eVHRhR7yKDgmSk38kWUAMQL4F/view?usp=sharing)

# Submission:

 Submit your code files and any additional resources used for deployment.

 Include the documentation or presentation summarizing the deployment process and the web service's functionality.

 Provide any necessary instructions for running or testing your code.