**Report Title**

**Project and Course Name**

**Date**

**Contents / Agenda**

* **Business Problem and Data Overview**
* **Exploratory Data Analysis**
* **Rank Based Model**
* **User-User Similarity-based Model**
* **Item-Item Similarity-based Model**
* **Matrix Factorization based Model**
* **Conclusion and Recommendations**

**Business Problem and Data Overview**

* **Overview of the business problem and what we are trying to solve.**
* **Overview of the dataset.**

**Exploratory Data Analysis**

* **Check the number of rows and columns and provide observations**
* **Check data types and provide observations**
* **Check for missing value in the data and provide observations**
* **Summary statistics of 'rating' variable and provide observations**
* **Create the bar plot to check the 'rating' distribution and provide observations**
* **Check the number of unique USERS and PRODUCTS in the data and provide observations**

**Rank Based Model**

* **Approach taken to build the Rank-based Model.**
* **Observations about the recommendations made using Rank-based Model.**

**User-User Similarity-based Model**

* **Write observations about the model performance for the model with default parameters and post hyperparameter tuning. Compare the performance.**
* **Explain the difference in predictions using both models.**

**Item-Item Similarity-based Model**

* **Write observations about the model performance for the model with default parameters and post hyperparameter tuning. Compare the performance.**
* **Explain the difference in predictions using both models.**

**Matrix Factorization based Model**

* **Write observations about the model performance for the model with default parameters and post hyperparameter tuning. Compare the performance.**
* **Explain the difference in predictions using both models.**

**Conclusion and Recommendations**

* **Compare different models' performance and choosing the final model with reasoning**
* **Provide recommendations that can be acted upon to improve the business outcomes.**

**Appendix**

* **Please add any other pointers or screenshots (if needed)**