📋DRUG RECOMMENDATION SYSTEM STEPS TO ACHIEVEMENT

- **Step 1: Data Acquisition = ✅.**

  Acquired drug patient interaction dataset (includes patient medical history, symptoms, conditions, and prescribed drugs).

- **Step 2: Data Cleaning & Preprocessing = ✅.**

  - Removed duplicates and irrelevant entries.

  - Handled missing values (imputation where possible).

  - Normalized categorical values (gender, condition, drug type).

- **Step 3: Data Transformation = ✅.**

  - Encoded categorical variables using One-Hot/Label encoding.

  - Scaled numerical features like Age, Dosage, and Lab Results.

- **Step 4: Dataset Loading = ✅.**

  Loaded cleaned dataset into Pandas/SQL environment for exploration and modeling.

- **Step 5: Exploratory Data Analysis (EDA) = ✅.**

  - Distribution plots of drug prescriptions across conditions.

  - Correlation analysis between patient features and drug recommendation.

- **Step 6: Data Modeling = ✅.**

  - Built machine learning models (Logistic Regression, Random Forest, XGBoost) to predict the most suitable drug.

  - Compared accuracy, precision, recall, and F1-score.

- **Step 7: Data Visualization & Communication = ✅.**

  - Power BI dashboards: drug–condition heatmaps, patient profiles, model prediction trends.

- **Step 8: Project Review** = ✅.

  o Validated model outputs with dataset consistency.

- **Step 9: GitHub Upload** = ✅.

  o Uploaded cleaned dataset, code, model, and notebooks.

- **Step 10: Task Report Submission** = ✅.

  o Submitted final documentation & visuals.

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🔗 **GitHub:** *Completed* 💯