**Assignment (1)**

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**1. Define the Goal**

**- Aim to reduce customer churn by predicting which customers are likely to leave and understanding why.**

**2. Data Exploration**

**- Review the dataset (demographics, account details, services, churn status) to identify potential churn patterns and any data issues.**

**3. Data Cleaning & Preparation**

**- Clean data by handling missing values, removing outliers, encoding categories, and splitting data into training and testing sets.**

**4. Analyze Key Factors**

**- Perform exploratory data analysis to identify which features (like contract type or tenure) correlate with higher churn.**

**5. Model Building**

**- Train different models (like Logistic Regression, Random Forest) to predict churn, and**

**tune them for better performance.**

**6. Model Evaluation**

**- Use metrics like recall to assess model accuracy, focusing on correctly identifying customers likely to churn.**

**7. Deploy & Act**

**- Deploy the model to flag high-risk customers and set up targeted retention actions (e.g., personalized offers).**

**8. Monitor & Improve**

**- Regularly check model accuracy and retrain with new data to keep it effective over time.**