GYM MEMBER CHURN PREDICTION PROBLEM STATEMENT

Business Context:

Fitness centers face high competition and member turnover, which directly affects revenue and long-term growth. Understanding the factors that influence member retention and predicting potential churn can help gyms take proactive measures such as targeted offers, improved customer service, or engagement programs.

Objective:

The goal of this project is to develop a predictive model that identifies members who are likely to leave the gym (churn). By doing so, the gym can implement personalized retention strategies to reduce churn rates and enhance customer loyalty.

Dataset Overview:

The dataset contains records of 4,000 gym members with 14 attributes, including demographic details, membership characteristics, activity frequency, and spending behavior. The target variable is `Churn`, which indicates whether a member has left the gym.

Key Variables:

- GENDER: Gender of the customer (0 = Female, 1 = Male)
- NEAR_LOCATION: Whether the gym is close to the member's residence
- PARTNER: Whether the member's employer is a corporate partner of the gym
- PROMO_FRIENDS: If the member joined via a friend promotion
- CONTRACT_PERIOD: Duration of the gym membership in months
- GROUP_VISITS: Indicates participation in group classes
- AVG_ADDITIONAL_CHARGES_TOTAL: Average monthly spending on additional services
- LIFETIME: Total number of months the member has been with the gym
- AVG_CLASS_FREQUENCY_TOTAL AND AVG_CLASS_FREQUENCY_CURRENT_MONTH: Measures ofengagement
- CHURN: Target variable (1 = churned, 0 = retained)

Problem Statement:

Given historical member data, build a machine learning model that predicts the likelihood of a member churning. The model should help gym management identify at-risk members and design effective retention interventions.

Expected Outcome:

- A churn prediction model with interpretable insights
- Identification of key factors driving churn
- Recommendations for reducing member attrition and improving retention

Success Metrics:

- High accuracy and recall for identifying churners
- Actionable insights that support data-driven business decisions.