Project Plan

Due 10/9/2025

1. Group:
    a. Names and UIDs
    1. Aayush Neupane (U01121300)
    2. Shishir Paudel (U01121306)

2. Project Dataset:
   The dataset contains 87 samples and 21 features collected from university students. It includes demographic information (gender, age, university, etc.) and psychological indicators like stress, anxiety, depression, etc., aiming to explore factors influencing student mental health.
    a. Link to dataset
       Student Mental Health Dataset
    b. Target (if supervised)
       Depending on the project direction, possible targets could include depression, anxiety, or isolation predicting mental health levels based on academic, social, and lifestyle factors.
    c. Features
        - Demographic features: gender, age, university, degree_level, degree_major, academic_year
        - Academic factors: cgpa, academic_workload, academic_pressure, study_satisfaction
        - Lifestyle factors: average_sleep, sports_engagement, financial_concerns, residential_status
        - Psychological outcomes: depression, anxiety, isolation, future_insecurity
        - Social factors: social_relationships, campus_discrimination, stress_relief_activities

    d. Brief description
       This dataset explores the relationship between academic life and mental health among university students. The features include numeric (e.g., study satisfaction, depression score) and categorical variables (e.g., gender, university, sleep range). The goal is to perform exploratory analysis and potentially predict student depression or anxiety levels using machine learning models.

3. Timeline

Date	Student	Task
Oct 14, 2025	Both	Explore dataset structure, clean data (handle missing values, fix inconsistent labels).
Oct 20, 2025	Aayush	Perform exploratory data analysis (EDA) such as distributions, correlations, and visualization.
Oct 25, 2025	Shishir	Feature encoding, normalization, and preprocessing for modeling.
Nov 1, 2025	Both	Select target variable (e.g., depression) and split dataset into train/test sets.
Nov 10, 2025	Aayush	Implement baseline models (Logistic Regression).
Nov 17, 2025	Shishir	Implement black-box models (Neural Network).
Nov 24,2025	Both	Evaluate models like accuracy, precision, recall, F1-score, confusion matrix.
Dec 1, 2025	Both	Interpret results, feature importance, and create visual summaries.
Dec 7th, 2025	Both	Final presentation and recording submission.

Note: While the timeline may change depending on progress and complexity, this provides a rough outline of the major tasks and their estimated durations. Some stages may require more or less time than expected. Adequate time will be left for final project report writing, which will serve as the outcome and evaluation component for the final project.