**Project Proposal**

**Project Title:**

Heart Disease in the USA: Exploring Trends and Health Determinants."

**Team Member:** Ashlin George.

**Project Outline:**

The proposed research project is to conduct thorough research into the current trends of cardiovascular disease (CVD) in the United States. This study will explore the prevalence of CVD, its impact on various demographic groups(age, gender), and the health indicators and tests that can identify heart risk. This research is driven by the dedication to providing valuable insights into heart health.

**Research Questions to Answer:**

**1.** Are older individuals more susceptible to heart-related issues?

**2.** Does gender play a role in heart disease risk?

**3.** Are elevated blood pressure levels associated with a higher risk of heart disease?

**4.** Are individuals with higher cholesterol levels more likely to develop heart-related issues?

**5.** Are higher heart rates associated with a greater likelihood of heart problems?

**Datasets to be Used:**

API CDC : <https://data.cdc.gov/resource/9dzk-mvmi.json>

Kaggle:<https://www.kaggle.com/datasets/rashikrahmanpritom/heart-attack-analysis-prediction-dataset>

**Tasks Breakdown:**

1. Data Acquisition and Cleaning
   1. Identify and secure access to relevant datasets (e.g., health records, surveys, clinical studies).
   2. Perform data cleaning to ensure data quality and consistency.
   3. Handle missing values, duplicates, and outliers.
2. Exploratory Data Analysis (EDA)
   1. Conduct EDA to gain insights into the data.
   2. Explore the prevalence of CVD within the dataset.
   3. Identify demographic variations and risk factors.
3. Data Visualization
   1. Create visualizations to present findings effectively.
   2. Use charts, graphs, and plots to illustrate trends, correlations, and risk factors.
4. Statistical Analysis
   1. Apply statistical tests to validate findings.
   2. Evaluate the significance of identified risk factors.
5. Conclusion and Insights
   1. Summarize the project's findings.