**Exploratory Data Analysis (EDA) on Academic Stress Dataset**

**📌 Project Overview**

This project performs **Exploratory Data Analysis (EDA)** on a dataset about **academic stress levels** among students.  
The goal is to clean, analyze, and visualize the data to discover key insights about stress patterns, correlations, and influencing factors.

**🔹 Steps Performed**

1. **Data Loading & Cleaning**
   * Loaded dataset using Pandas
   * Handled missing values in *Study Environment*
   * Removed duplicate records
2. **Data Exploration**
   * Checked dataset shape, column types, and null values
   * Generated descriptive statistics for numerical columns
   * Visualized distribution of stress index
3. **Univariate Analysis**
   * Frequency counts of *Academic Stage* and *Study Environment*
   * Histogram of *Academic Stress Index*
4. **Bivariate Analysis**
   * Correlation matrix + heatmap of numeric features
   * Boxplots of stress index across *Academic Stage* and *Study Environment*
5. **Outlier Detection**
   * Boxplot revealed outliers in stress index
6. **Hypothesis Testing**
   * Compared stress levels between *Quiet* vs *Noisy* environments using T-test
7. **Trend Analysis** (if Timestamp available)
   * Average stress index plotted over time

**🔎 Key Insights**

* Most students fall into the **[fill with your dataset’s dominant stage]** academic stage.
* Stress index is typically between **[min]–[max]**, with some high outliers.
* Students in **noisy environments** report higher stress compared to quiet ones.
* Correlation analysis shows **[mention any strong correlation found]**.
* Hypothesis testing indicates that the difference between *Quiet* and *Noisy* study environments is **[significant / not significant]**.

**📈 Visuals Included**

* Histogram of stress index distribution
* Correlation heatmap
* Boxplots for group comparisons
* Outlier detection via boxplot
* Time trend of stress index (if available)