# Measures and Methods Used – EdTech User Engagement Analysis

## 🧮 Data Cleaning and Preparation (Python)

- Loaded `students.csv`, `course\_activity.csv`, and `feedback.csv` using Pandas  
- Checked for missing values using `.isnull().sum()`  
- Removed or filled nulls based on column type  
- Converted timestamp columns to datetime format for analysis  
- Merged datasets using `merge()` on Student ID and Course ID

## 🔍 Exploratory Data Analysis (EDA)

- Counted active vs inactive users by course using groupby and value\_counts  
- Calculated average activity time by gender and course  
- Used correlation (`.corr()`) between activity and feedback rating  
- Segmented data by engagement status and feedback score bins

## 📊 Visualizations Created (with Libraries)

- Bar chart: Active vs inactive users per course (Seaborn)  
- Pie chart: Percentage of active vs inactive students (Matplotlib)  
- Line plot: Average feedback scores per course (Matplotlib)  
- Scatter plot: Feedback score vs activity time (Seaborn)  
- Heatmap: Correlation between variables (Seaborn)