The purpose of this project was to analyze the relationship between **Attendance** and **Exam Scores** using a dataset containing various factors influencing student performance (**StudentPerformanceFactors.csv**). The goal was to determine whether higher attendance levels correlate with better exam scores. The **ETL (Extract, Transform, Load)** process was applied to prepare, analyze, and visualize the data. I used Python libraries like **Pandas** for data manipulation and **Matplotlib** for data visualization to uncover meaningful insights from the dataset.

The first step of the ETL Process was to extract the data from a reliable data source. The dataset, **StudentPerformanceFactors.csv**, was downloaded from a website (Kaggle). The dataset contained a wide range of variables including hours studied, attendance levels, parental involvement, sleep hours, motivation levels, and exam scores. I structured the data into a data frame by importing the dataset into Python using the Pandas library,

The second step of the ETL Process involved transforming the data to prepare into for analysis. Attendance levels were grouped to aggregate corresponding exam scores. A dictionary was used to store attendance levels as keys and the. average exam scores were calculated by dividing the total score with the number of students at that level. The dictionary was then sorted in ascending order.

The final step of the ETL process was loading the transformed data into a visualization. I used the Matplotlib library to create a bar chart, with attendance levels being represented on the x-axis and average exam scores on the y-axis. The plot was titled “Average Exam Scores by Attendance Level”. The bar chart was saved as a jpg file.

One of the challenges I initially encountered while working with the dataset was ensuring that it was correctly located and accessible within my Python script. The script was not executed in the same path as the directory in Visual Studio Code. To resolve this error, I updated the JSON file setting configurations.