# School Result Data Analyzer

A Data Science Project

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# Problem Statement

- Manual analysis of exam results is **time-consuming and error-prone**.
- Teachers struggle to **identify weak subjects, toppers, and trends** across classes.
- Pass/Fail ratios are not **systematically tracked or visualized**.
- Schools lack **data-driven predictive support** to improve student performance.

# Project Overview

1)Objective: Analyze school exam results for insights.

2)Scope: Data cleaning, EDA, metrics, toppers, pass/fail.

3)Outcome: Visual summaries for academic decision-making.

# Dataset Summary

Source: School exam results dataset.

Contains: Student IDs, Names, Class, Subjects, Marks.

Size: ~several hundred records across multiple subjects.

Target: Pass/Fail classification (Avg >= 40).

# Methodology

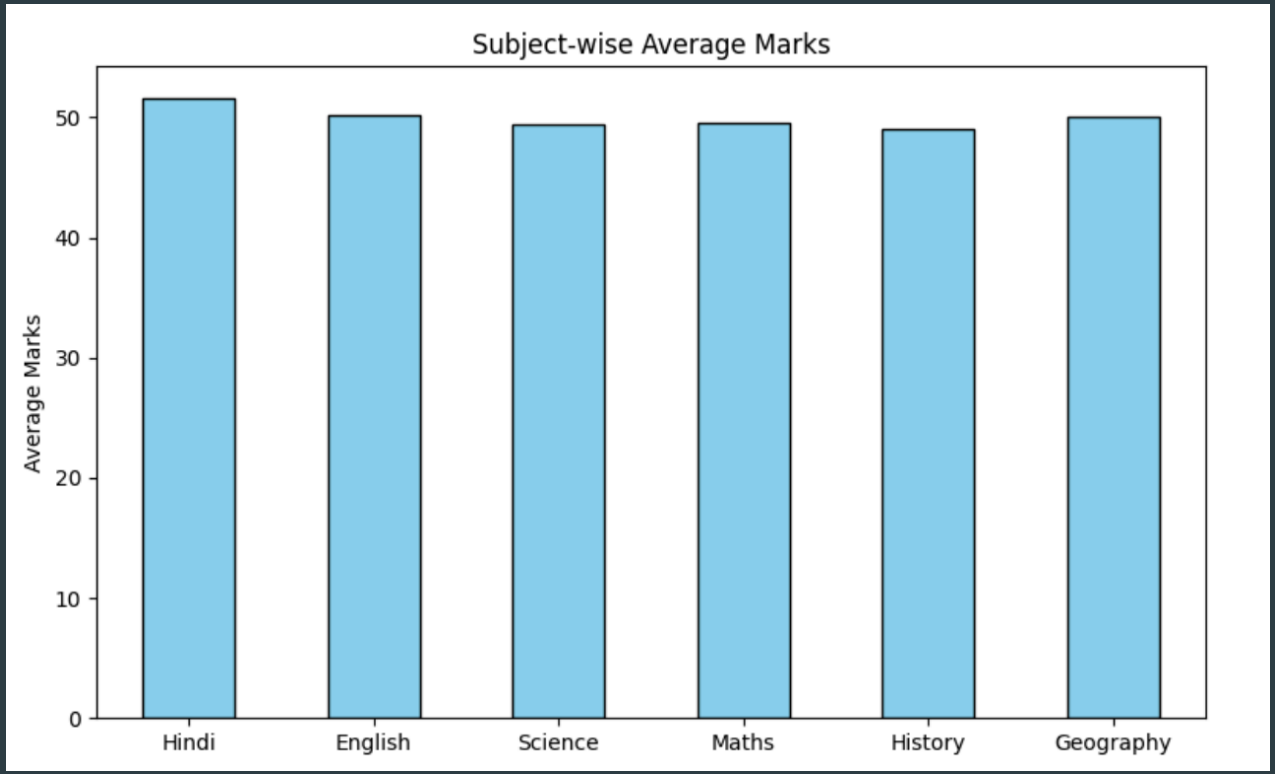
1)Data Cleaning & Validation.

2)Exploratory Data Analysis (EDA).

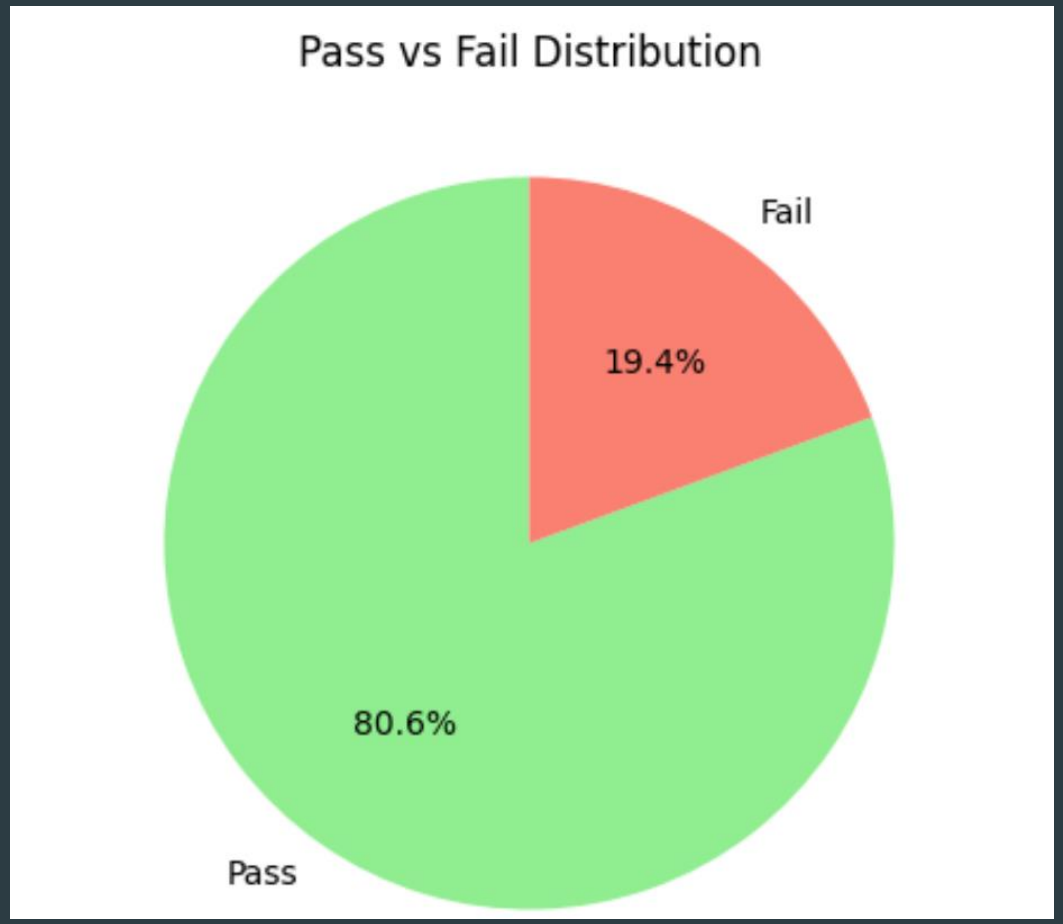
3)Performance Metrics (averages, pass rates, toppers).

4)Visualization & Insights.

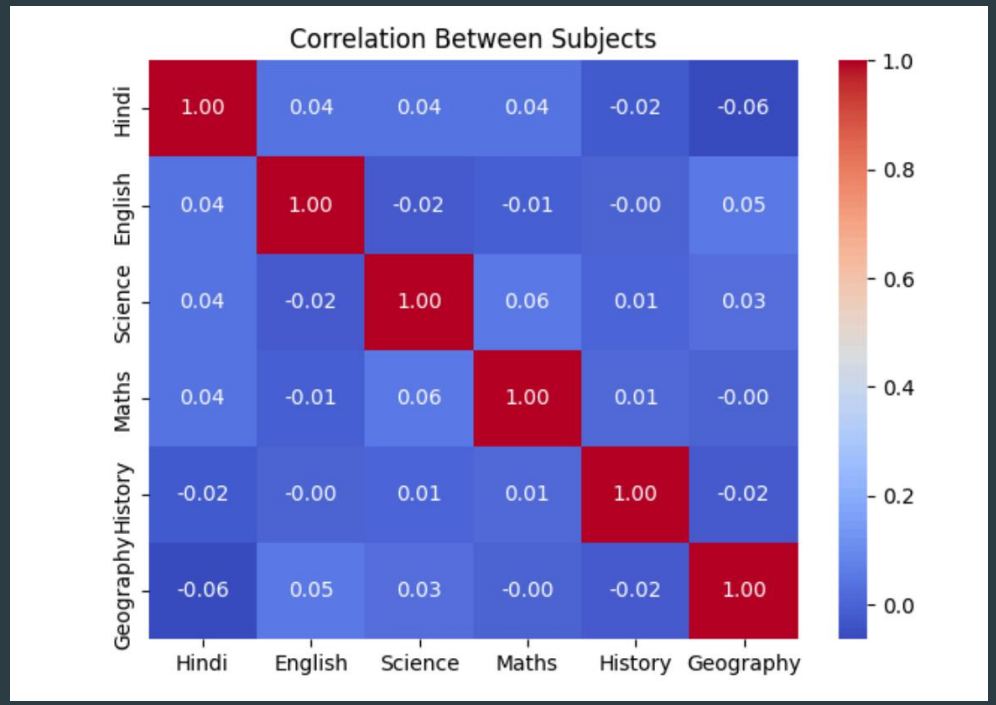
5)ML: Logistic Regression for Pass/Fail prediction.




# Subject-wise Average Marks




# Pass vs Fail Distribution




# Correlation Between Subjects

# Insights & Recommendations

I)Strong subjects identified through highest averages.

II)Weak subjects require focused attention.

III)Toppers highlight academic excellence benchmarks.

IV)Recommendations: remedial sessions, study pattern sharing.

# Limitations & Future Work

Dataset limited to marks; lacks demographic/behavioral data.

Fixed threshold (40%) — expand to grade bands.

ML model constrained by limited sample size.

Future: Predictive analytics, interactive dashboards.