

School Result Data Analyzer

A Data Science Project

Name: Nandni Jaiswal

Roll No: nandni_2312res965@iitp.ac.in

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.

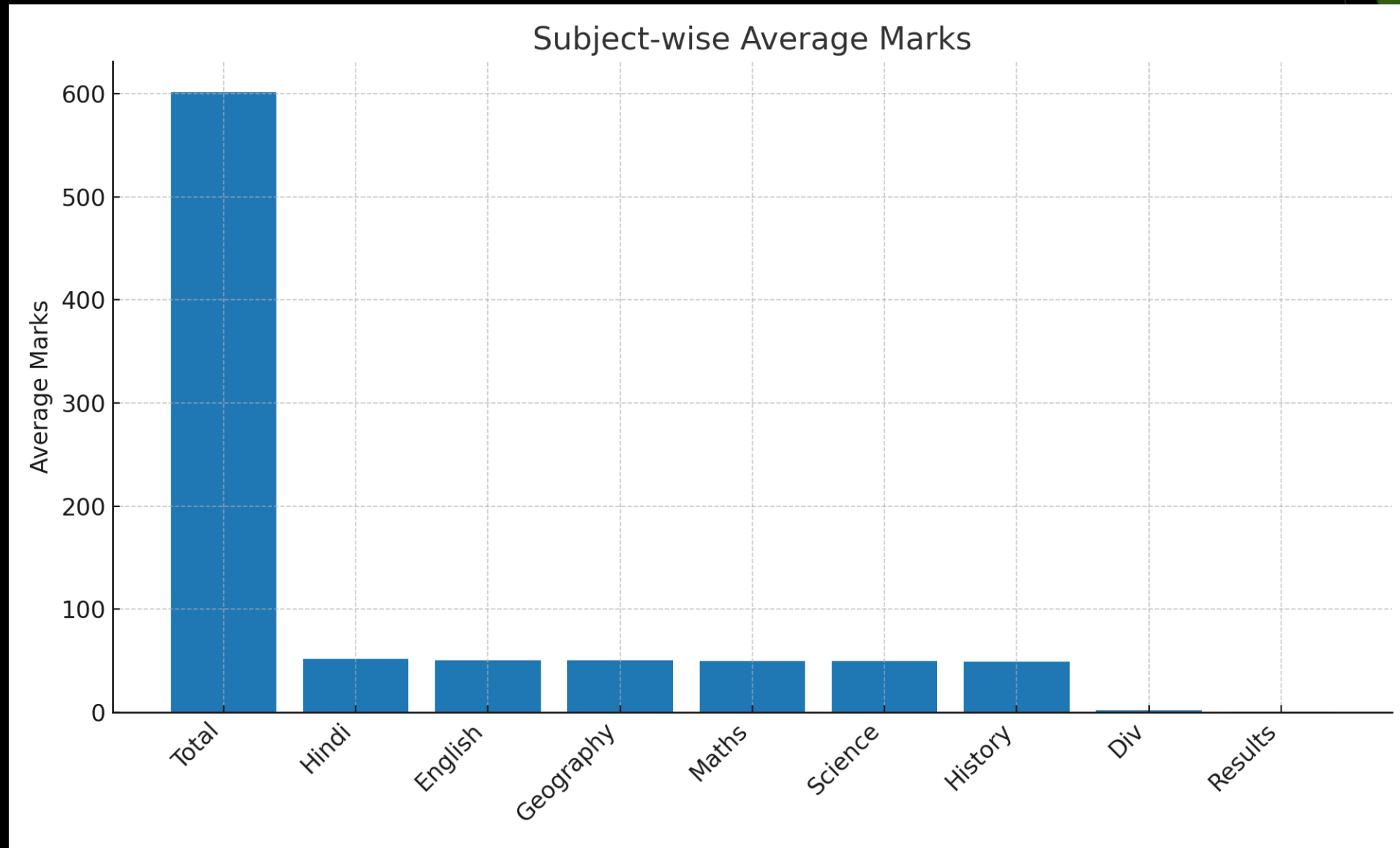
Size: ~several hundred records across multiple subjects.

Target: Pass/Fail classification (Avg ≥ 40).

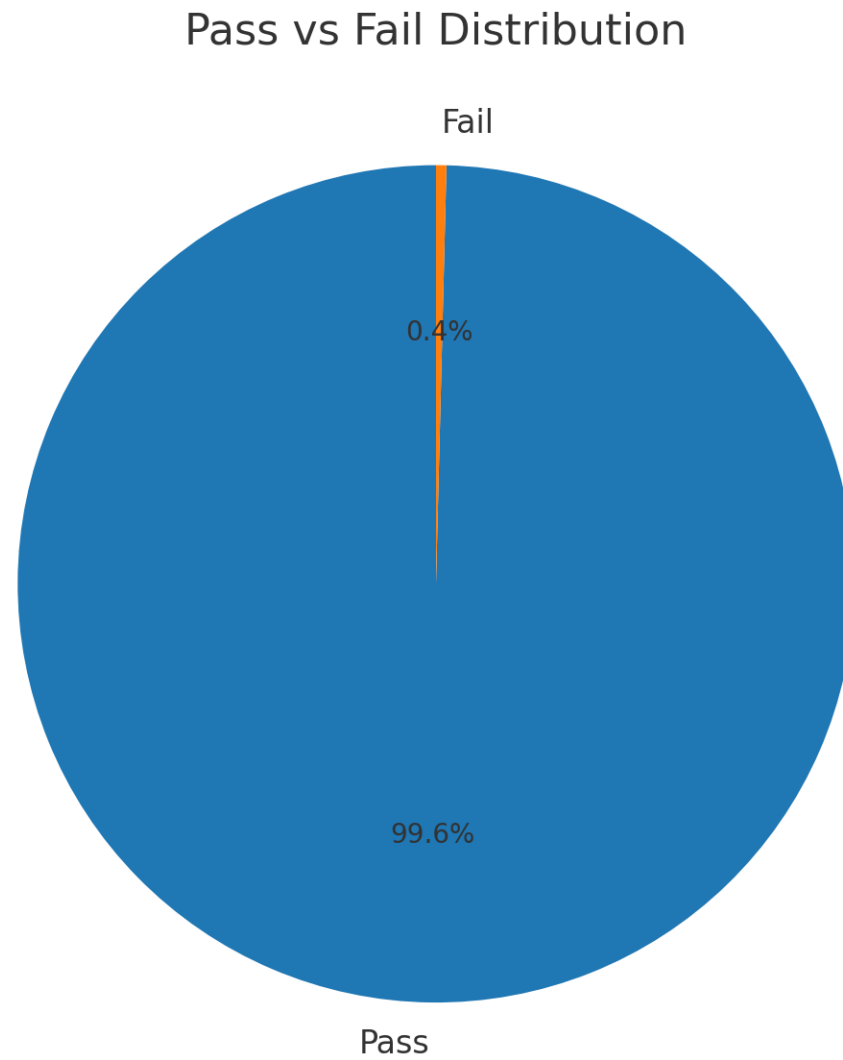
Methodology

- 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.

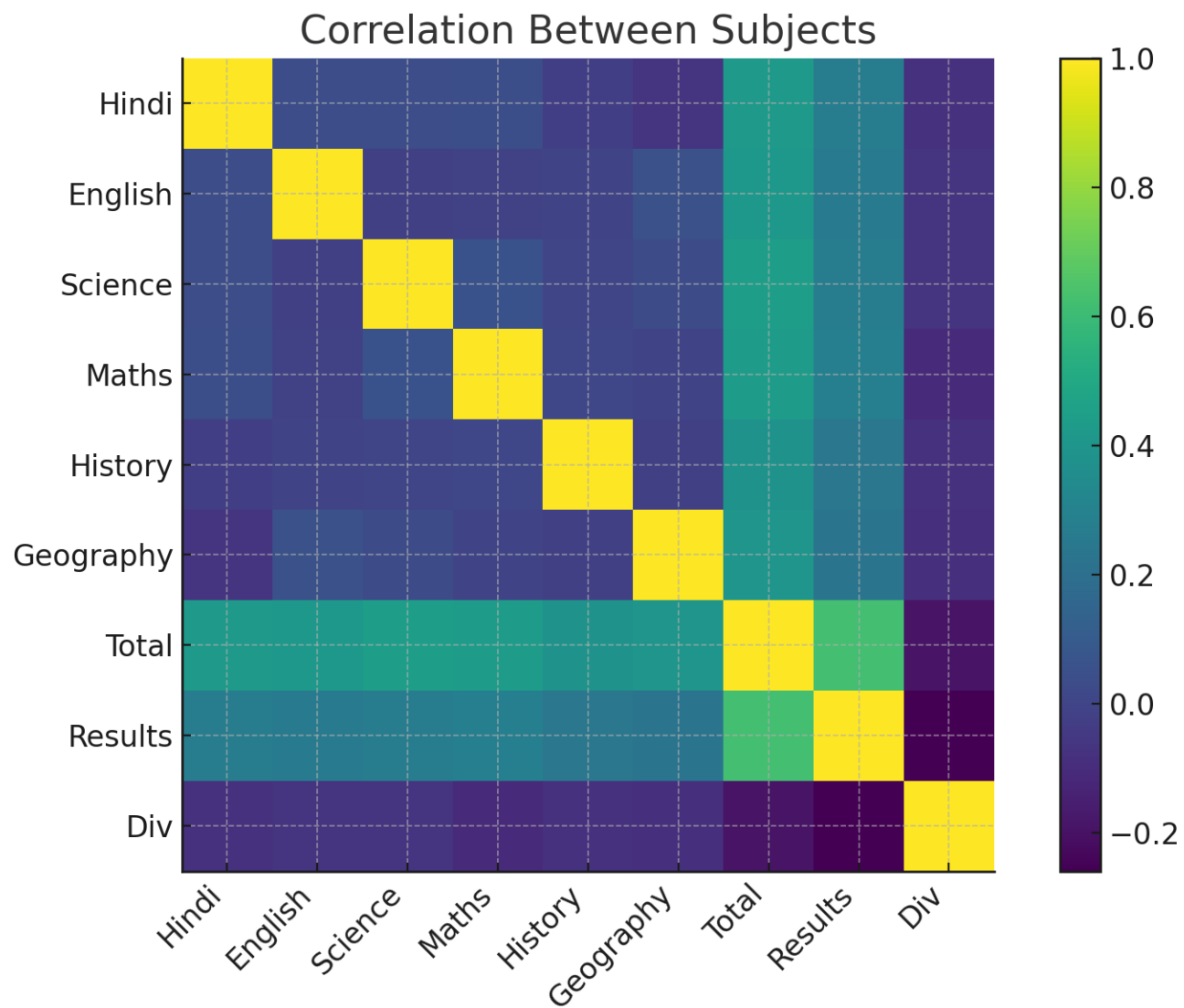
Subject-wise Average Marks



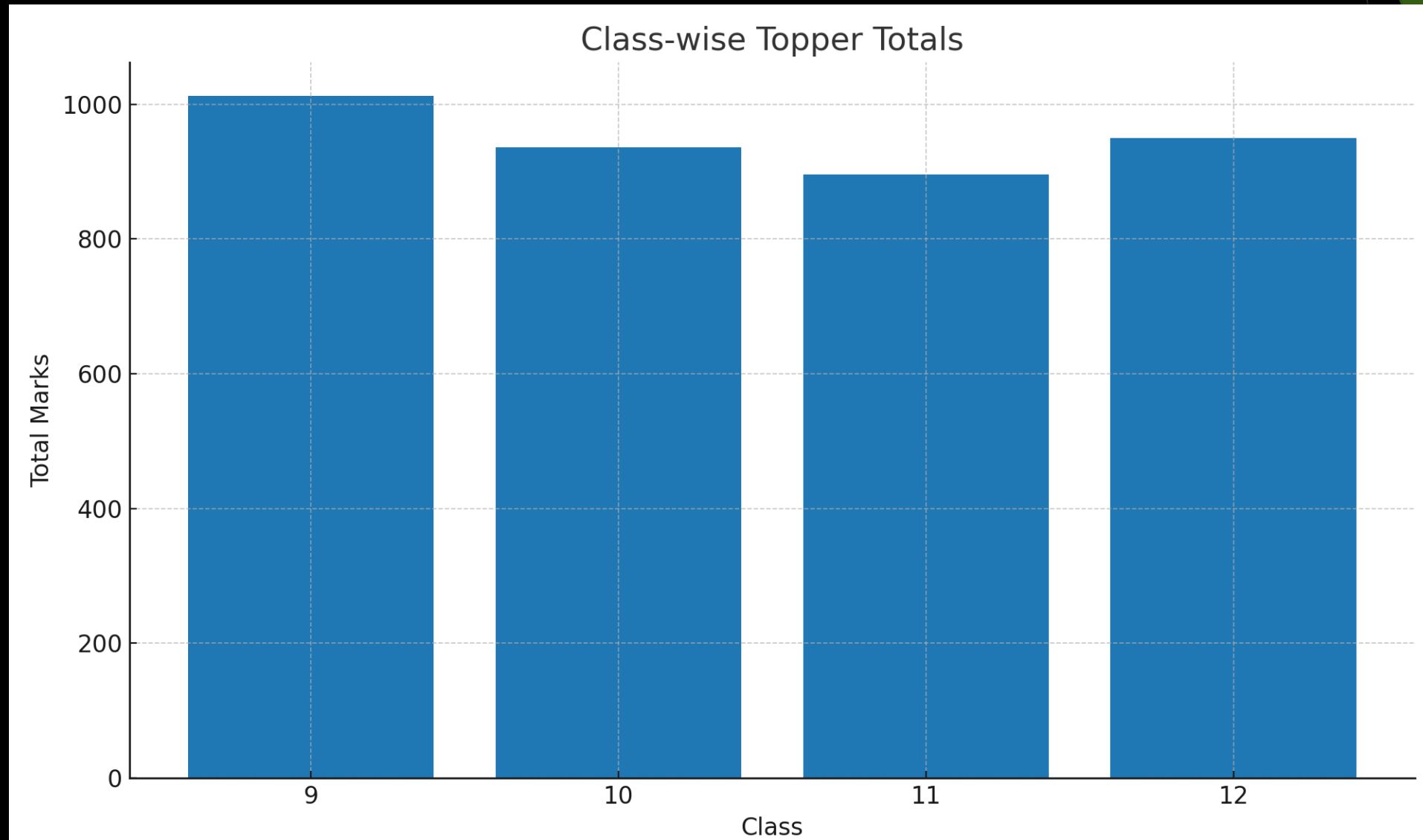
Pass vs Fail Distribution



Correlation Between Subjects



Class-wise Toppers



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.