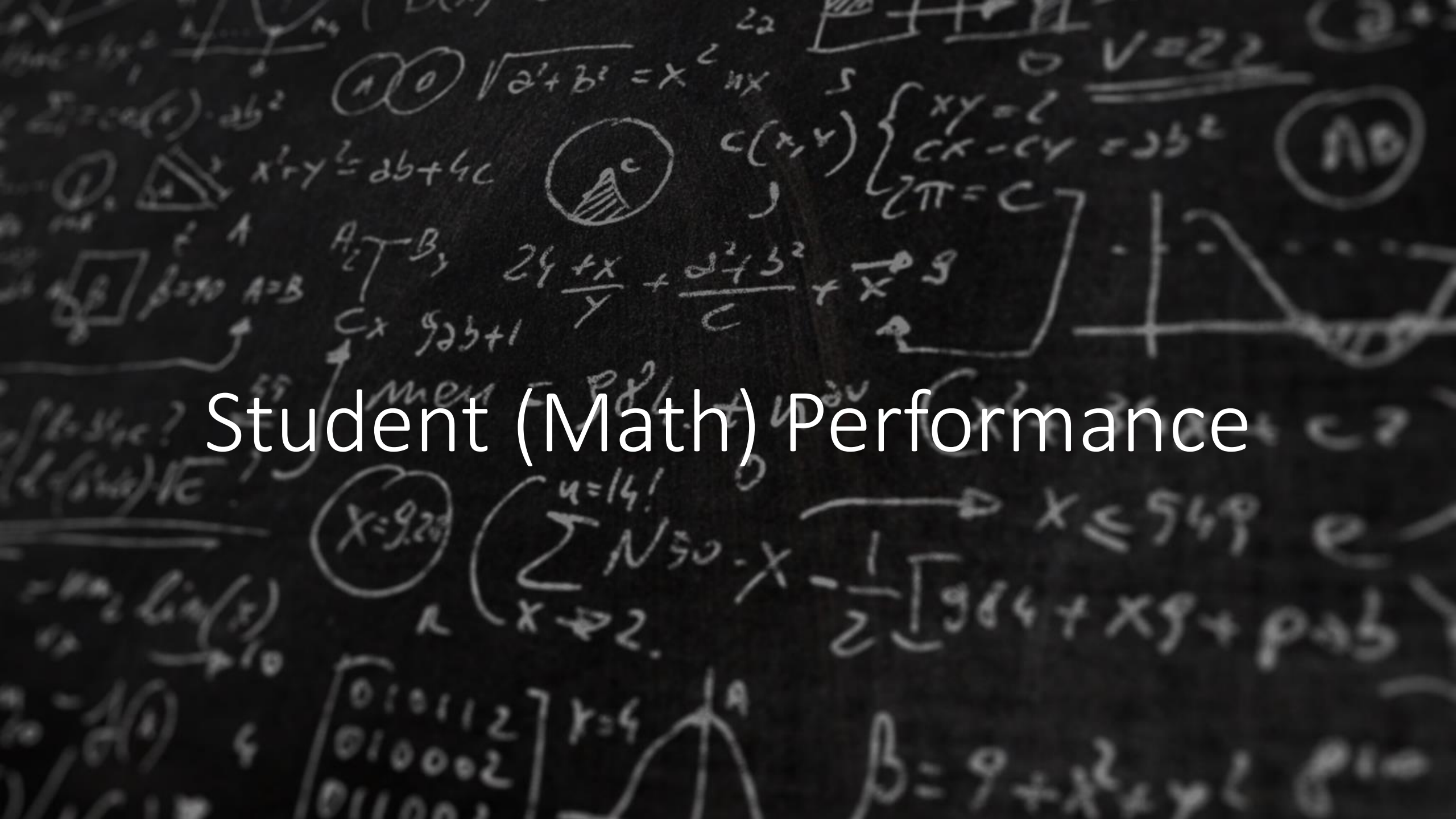


Student (Math) Performance

Problem Framing

- What factors influence students' final grades in Math course subjects?

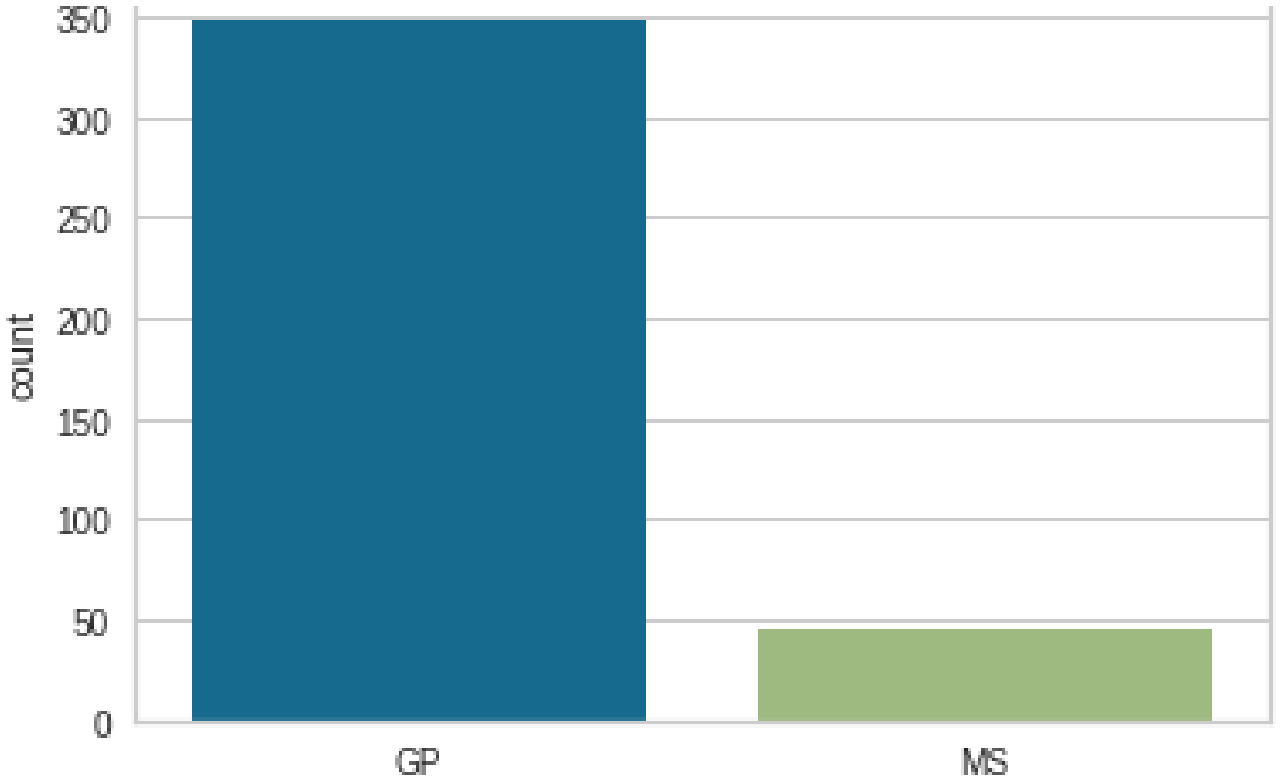
Dataset

This is a dataset from the UCI datasets repository.

There are 395 entries & 33 features.

This is a dataset from the UCI datasets repository. This dataset contains the final scores of students at the end of a math programs with several features that might or might not impact the future outcome of these students.

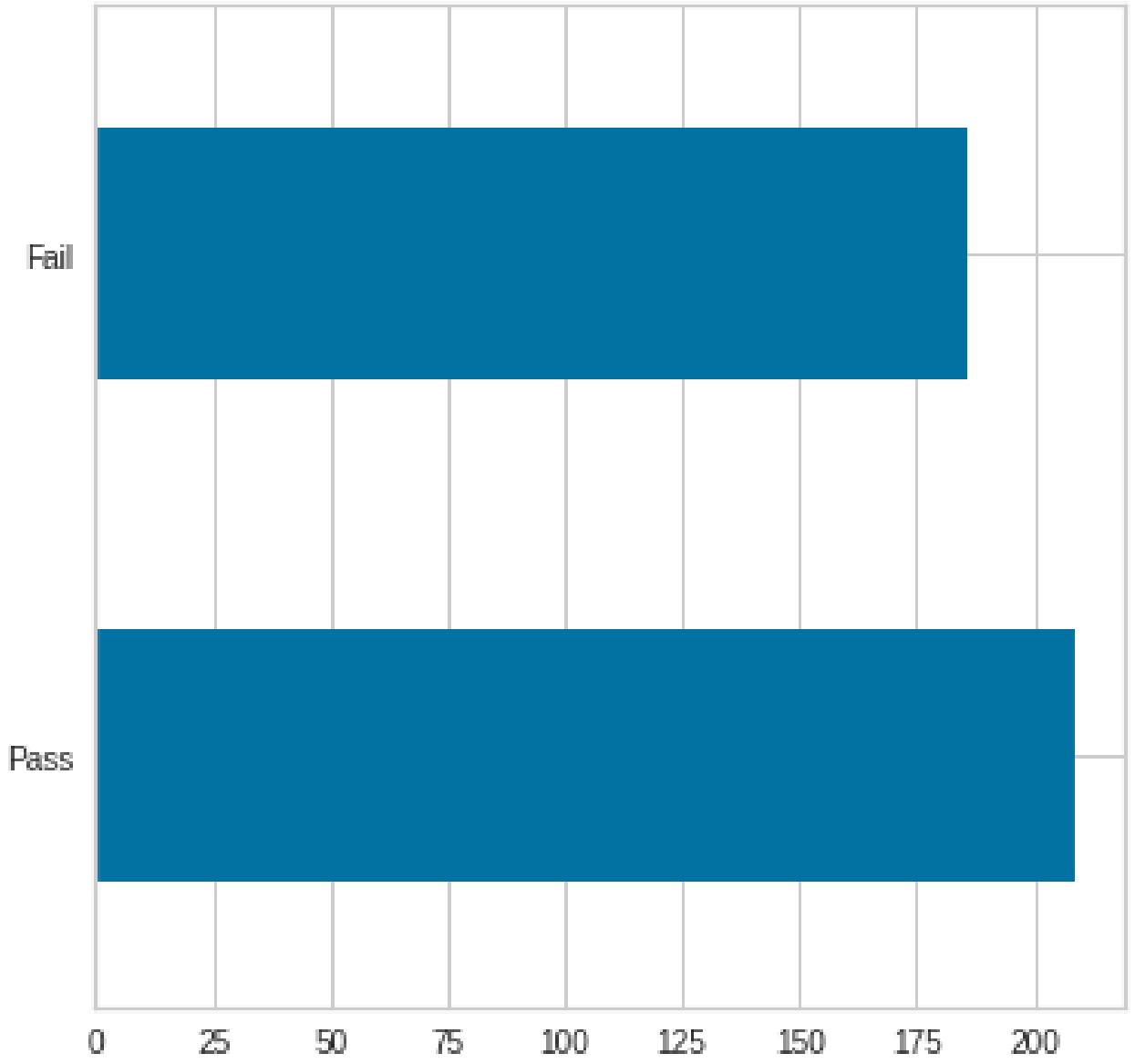
Data Sample



- Student data comes from both Gabriel Pereira & Mousinho da Silveira school; but most comes from Gabriel Pereira.

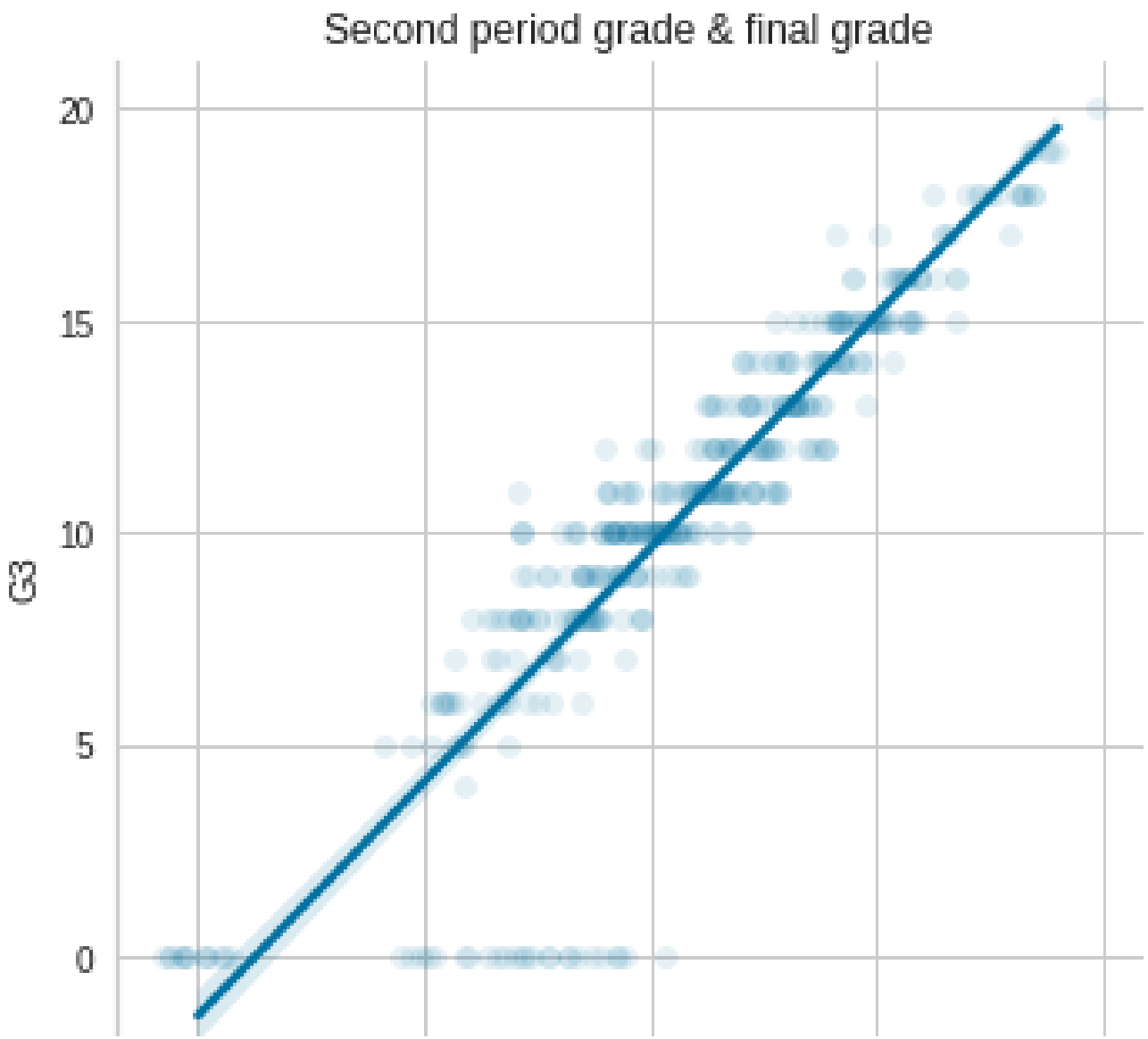
Overall Student Performance

- For the most part, students did not do that well since only 209 passed while 186 failed.



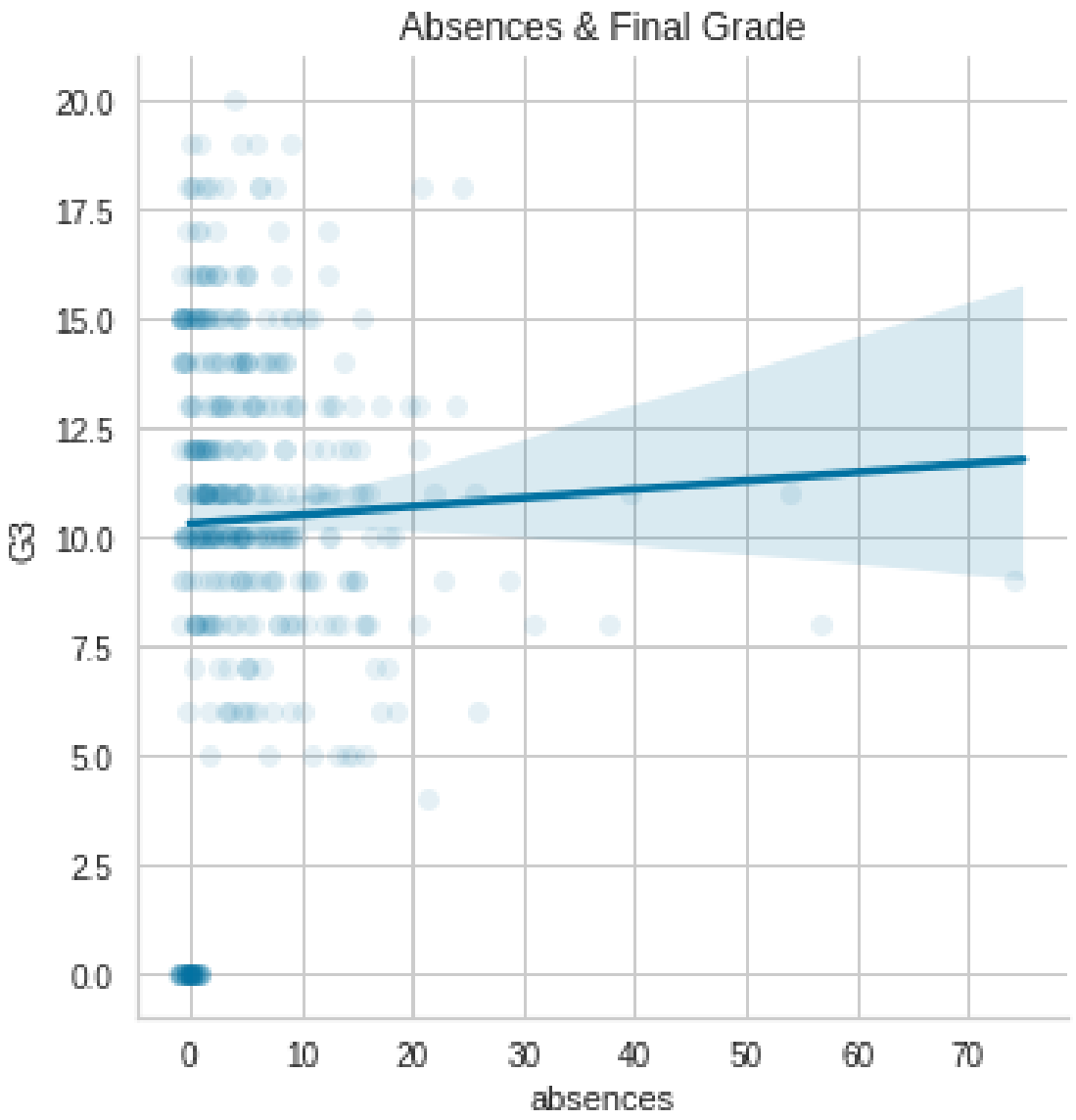
Factor one that influence: G3 (Final Grade)

- If students do well in second period grade, then he /she will do well in final grade.



Factor two that influence: G3 (Final Grade)

- The fewer absences students had, the better their final grade.



Feature Importance

	IMPORTANCE
G2	0.767002
Absences	0.122073
reason_home	0.013175
age	0.013127

Models Eva

- I used 5 models, and RF did best since it had the lowest prediction error.
-

Models	R^2	RMSE
Baseline Model	0.06%	4.80
Linear Regression	78.11%	2.25
Decision tree score	80.49%	2.12
Bagged tree	85.59%	1.82
Random Forest	85.86	1.80

Conclusion/Recommendation

- In sum: if students fall behind, whether, from absences or doing poorly mid-course.
- Recommendations:

- Pay extra attention to students that start doing poorly early in first-period grade & second-period grade.

- Pay extra attention if students miss more than two classes since the more absences, the worse their final grade.