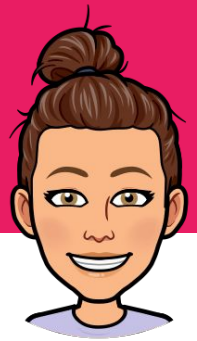
FSA SCORE PREDICTOR

Can they pass?

Our Team



Leah

Jessica

Daniel

Chris

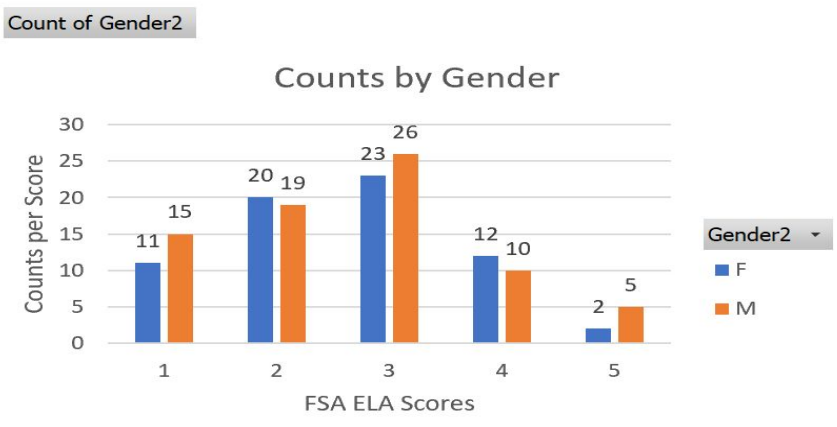
Overview

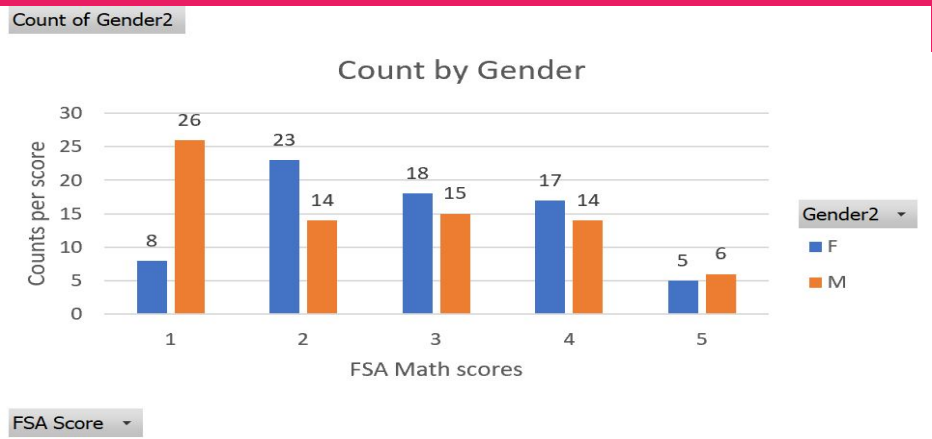
The purpose of this project is to predict FSA scores in ELA and Math based on historical data of students in grades Third, Fourth, and Fifth. The Florida Standards Assessments (FSA) is a high-stakes test that measure whether students in the State of Florida are making progress in terms of curriculum standards set by the state. These assessments examine students higher order thinking skills.The FSA is a test that is used to determine teacher ratings, school grades, Third Grade promotion requirements, and graduation eligibility. Florida teachers spend a great deal of time using data to drive their instruction. Educators provide targeted interventions that close learning gaps to ensure students achieve proficiency of grade level standards.

Data

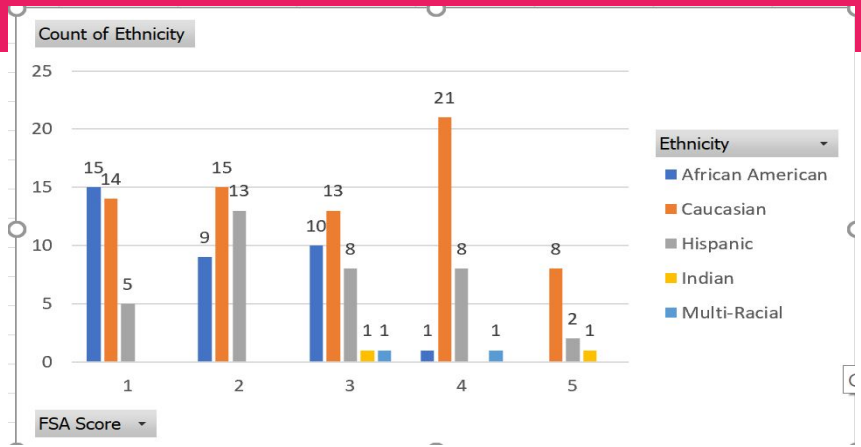
Our data is composed of 300 or more students in two different schools in the State of Florida. The data collected was I-Ready diagnostic tests for grades K-2 and FSA scores for grades 3-5. There is at least three data points per student in one given school year. The categorical data chosen include race, gender, absence rate, behavior incidents, and retentions. Fall, Winter, and Spring Diagnostic assessment scores dating back to the 2017-2018 school year provide evidence of academic growth. ELA and Math scores are in separate tables due to the fact that they are scored on separate scales.

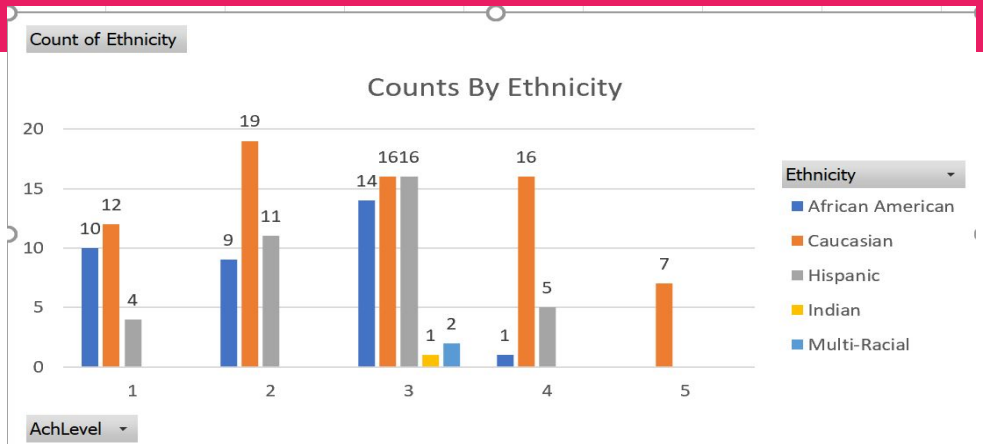
Data (Gender)


Count of Gender2
Counts by Gender
Counts per Score
30
25
20
15
10
5
0
11
15
20
19
23
26
12
10
2
5
1
2
3
4
5
FSA ELA Scores
Gender2
F
M

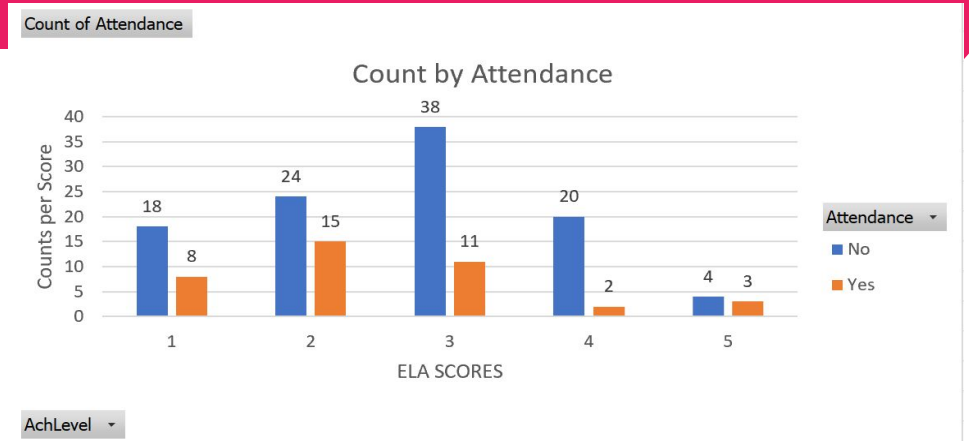

Count of Gender2
Count by Gender
Counts per score
30
25
20
15
10
5
0
8
26
23
14
18
15
17
14
5
6
1
2
3
4
5
FSA Math scores
Gender2
F
M
FSA Score

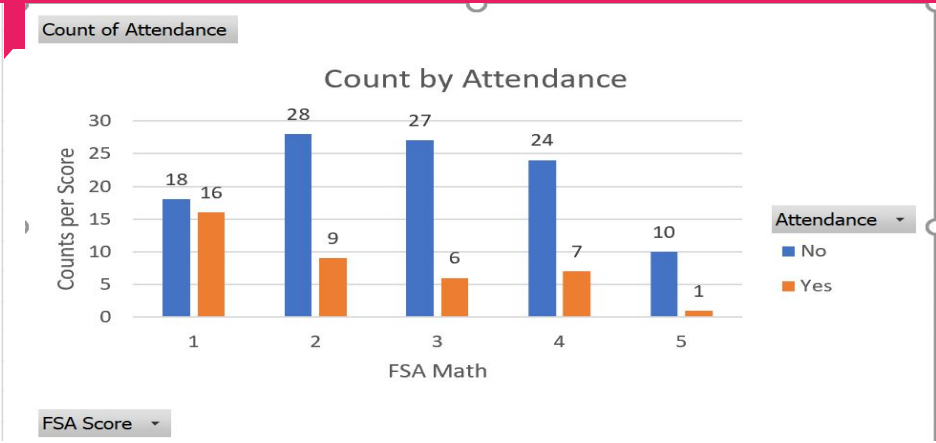
Data (Ethnicity)



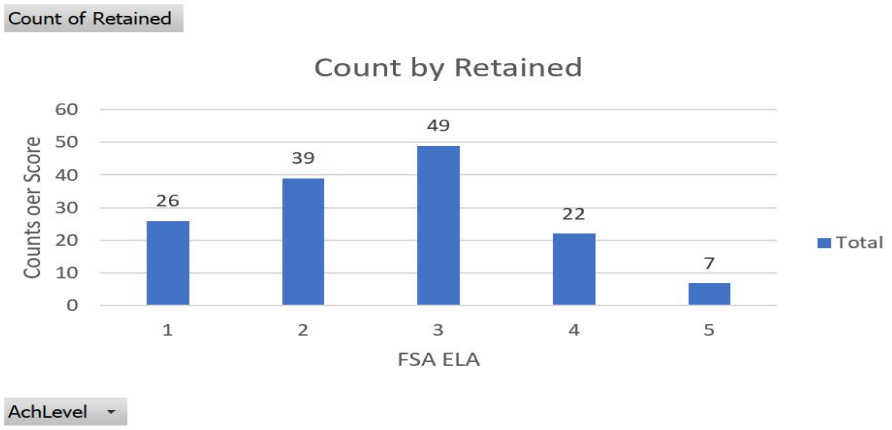


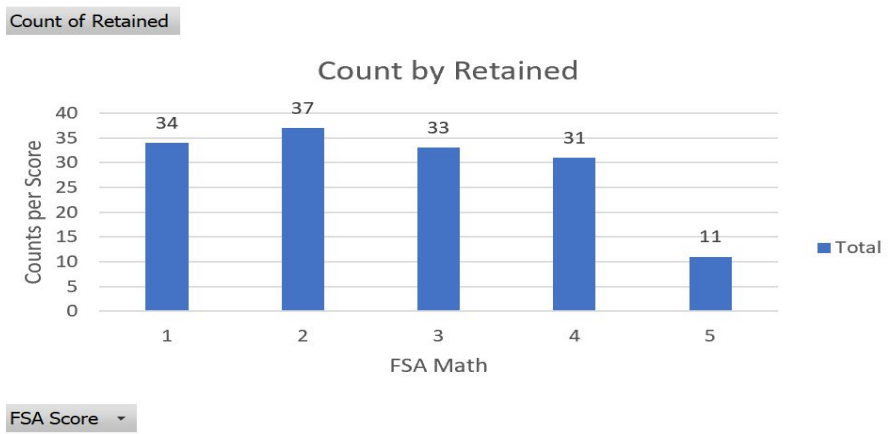
Data (Attendance)





Data (Retained)





Database

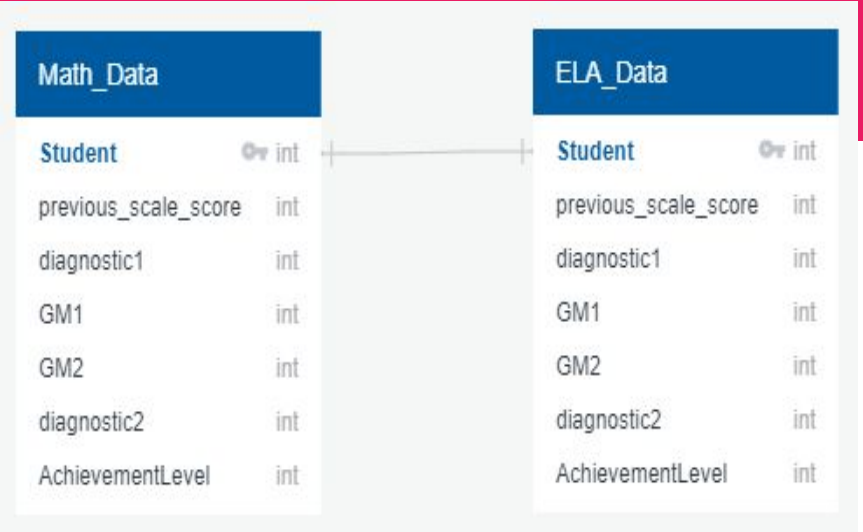
Database Storage

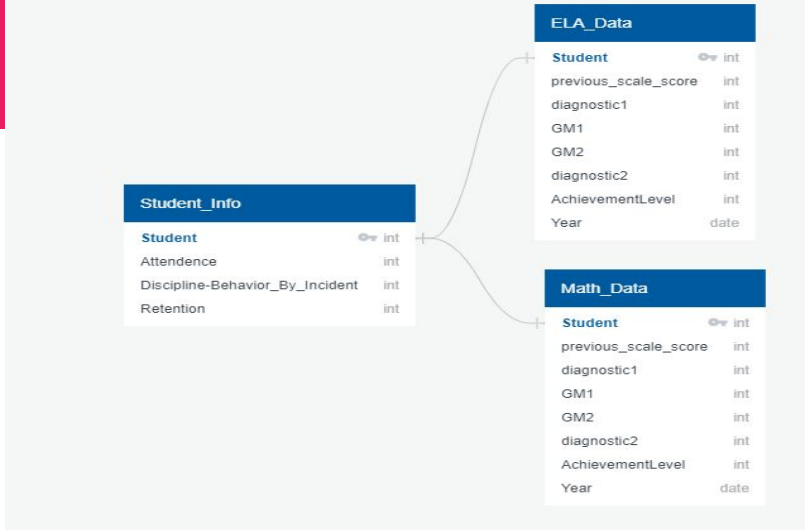
PostgreSQL is the database we intend to use. PostgreSQL is lightweight, easy to install, easy to move around and open

Dashboard

We will be using bootstrap and HTML/CSS to display a dashboard with visualizations.

Database Images





Machine Learning

We choose the Random Forest classifier for this project.This model is best suited for predicting scores. It is also easy to understand and explain outcomes with this model. Categorical feature columns (string datatype) will included race, gender, absence rate, behavior incidents, and past retentions. Numerical features (integer datatype) will include Diagnostic assessment scores and growth monitoring (GM) scores. The target column will the the FSA Achievement level. Separate models will be written for ELA and Math.