

Project Step2 - Data Collection

1. Google Sheet Link:

<https://docs.google.com/spreadsheets/d/1m1RNQFYm82FV0qjTu22cmgQthJj1HhwwH0ampHcQ-9o/edit?usp=sharing>

2.

2.1 Data sources:

Attributes(School Name, City, Zip Code, National Rank, Arizona Rank):

<https://high-schools.com/directory/az/>

Attributes(AP Classes, Dual Enrollments, Offer Electives?, Offers Sports?, Crime Related Data, Teaching and Educational Method, Mental Health Services):

<https://azreportcards.azed.gov/schools/>

Attributes(2022-2023 Student Enrollment, Student Teacher Ratio, Math Score, English Score, Racial% White, Racial% Black, Racial% Hispanic, Racial% Asian, Racial% Other, Lunch % Free, Lunch% Reduced, Lunch%Paid):

<https://www.usnews.com/education/best-high-schools/arizona/rankings>

2.2 Number of data points collected: 200

2.3 Number of attributes collected: 24

2.4 Explanation of what each Column represents

1. School Name: The name or identifier of the school.
2. City: The city where the school is located.
3. Zip Code: The postal code of the area where the school is located.
4. National Rank: The rank of the school nationally in terms of performance or other criteria.
5. Arizona Rank: The rank of the school within the state of Arizona in terms of performance or other criteria.
6. AP Classes: The number of Advanced Placement (AP) classes offered by the school.
7. Dual Enrollments: The number of students enrolled in dual enrollment programs, typically allowing them to earn college credits while in high school.
8. Offer Electives?: Indicates whether the school offers elective courses beyond the core curriculum.
9. Offers Sports?: Indicates whether the school offers sports programs or teams.

10. Crime Related Data: Data related to crime incidents or safety measures at or around the school.
 11. Teaching and Educational Method: Information about the teaching methods or educational philosophy employed by the school.
 12. Mental Health Services: Availability or provision of mental health services or resources for students.
 13. 2022-2023 Student Enrollment: The total number of students enrolled at the school during the 2022-2023 academic year.
 14. Student Teacher Ratio: The ratio of students to teachers at the school.
 15. Math Score: Performance or average score in math subjects.
 16. English Score: Performance or average score in English language subjects.
 17. Racial% White: Percentage of White students at the school.
 18. Racial% Black: Percentage of Black or African American students at the school.
 19. Racial% Hispanic: Percentage of Hispanic or Latino students at the school.
 20. Racial% Asian: Percentage of Asian students at the school.
 21. Racial% Other: Percentage of students of other or mixed racial backgrounds at the school.
 22. Lunch % Free: Percentage of students eligible for free lunch programs.
 23. Lunch% Reduced: Percentage of students eligible for reduced-price lunch programs.
 24. Lunch% Paid: Percentage of students who pay full price for school lunches.
- These attributes provide a comprehensive overview of various aspects of each school, which can be used for classification based on English and math score performance.

2.5 Explanation for what data we can extract from each row

1. School: Provides the unique identifier for each school, allowing for individual school analysis.
2. Location (City and Zip Code): Gives insight into the geographical location of the school, which might be relevant for regional comparisons or identifying patterns based on location.
3. Rankings (National and State): Indicates the academic standing of the school relative to others nationally and within the state, which can be used as a performance benchmark.
4. Academic Programs (AP Classes and Dual Enrollments): Reveals the availability of advanced coursework, suggesting academic rigor and opportunities for students.
5. Elective and Sports Offerings: Reflects the school's commitment to offering a well-rounded education and extracurricular activities, which can contribute to student engagement and success.
6. Safety and Security Measures (Crime Related Data): Provides insight into the safety of the school environment, which is crucial for student well-being and academic focus.
7. Educational Methodology: Offers an understanding of the teaching approach employed by the school, which may impact student learning outcomes.

8. Student Support Services (Mental Health Services): Indicates the availability of resources to support students' mental health and well-being, which can influence academic performance and overall student success.
9. Enrollment Size and Student-Teacher Ratio: Provides an overview of the school's size and teacher-student interaction, which can affect individualized attention and educational outcomes.
10. Academic Performance (Math and English Scores): Measures the proficiency of students in core subjects, serving as key indicators of overall academic success.
11. Student Demographics (Racial Percentage): Offers insight into the diversity of the student population, which can impact educational experiences and outcomes.
12. Socioeconomic Status (Lunch Program Participation): Reflects the economic background of students, which can influence academic achievement and access to resources.

By analyzing and classifying schools based on these factors, stakeholders can better understand and address the diverse needs of students and schools within their communities.