SAT & ACT Score Year 2017 - 2018
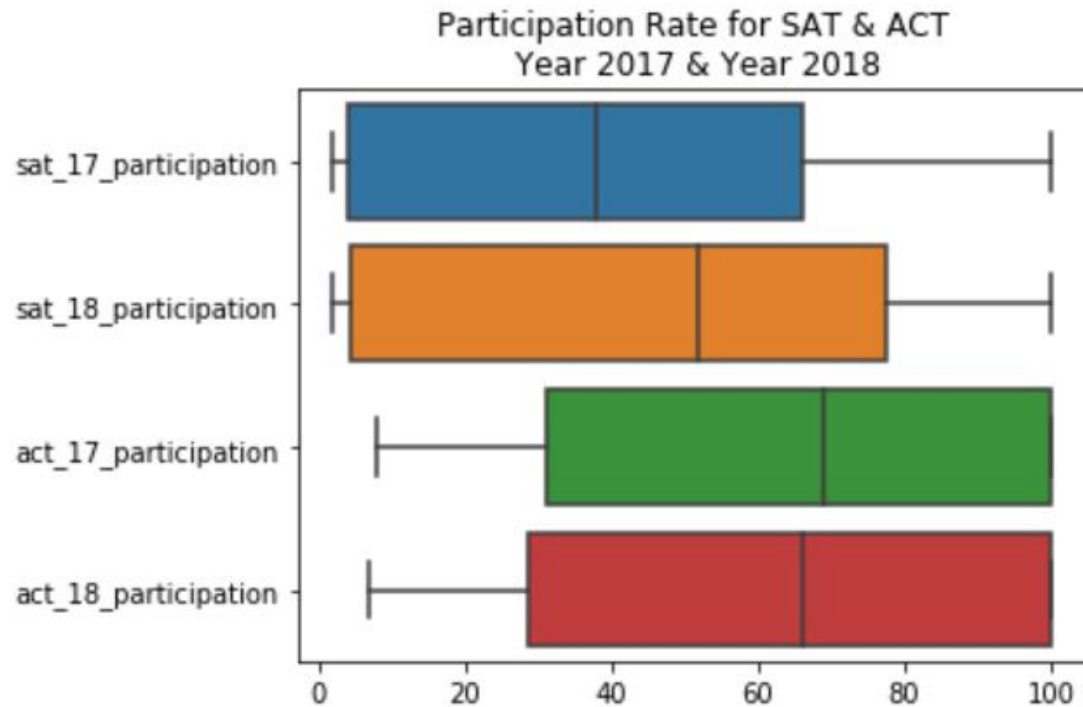
in US

Ivy Chan

Problem Statement

- To increase Participation Rate of SAT for States like:
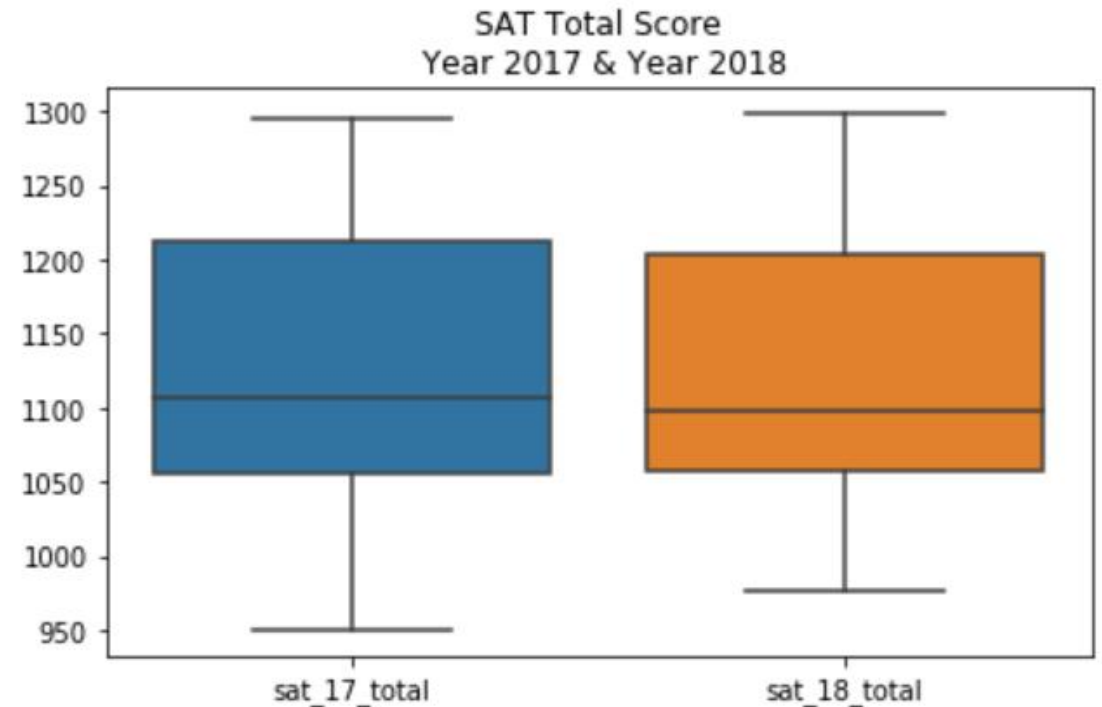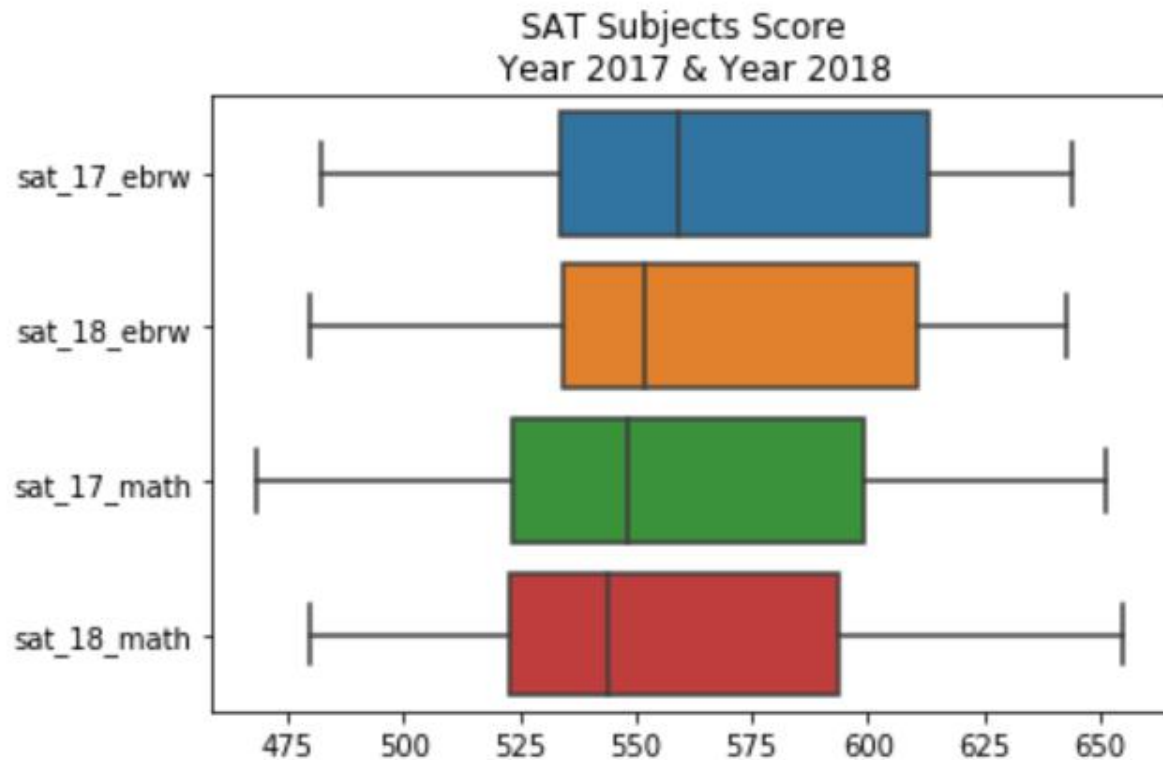
    Ohio

Process

- Import & Read Data

- Data Cleaning
  - df.info()
    - numbers of rows
    - list of columns
    - null values => update/ drop/remain
    - data type => convert to appropriate data type
  - Understand each variable of the data columns
    - minimum & maximum possible value for each test/subtest
    - define ways to detect possible errors ie. df.describe(), create functions.etc
    - fix the error and update with the correct information
  - Rename column name & Create a Data Dictionary
  - Drop unnecessary row/ column
  - Merge cleaned DataFrame and save

- EDA

- Define Problem Statement based on EDA

- Conduct Statistical

Overview on Participation Rate for SAT & ACT Year 2017 vs Year 2018

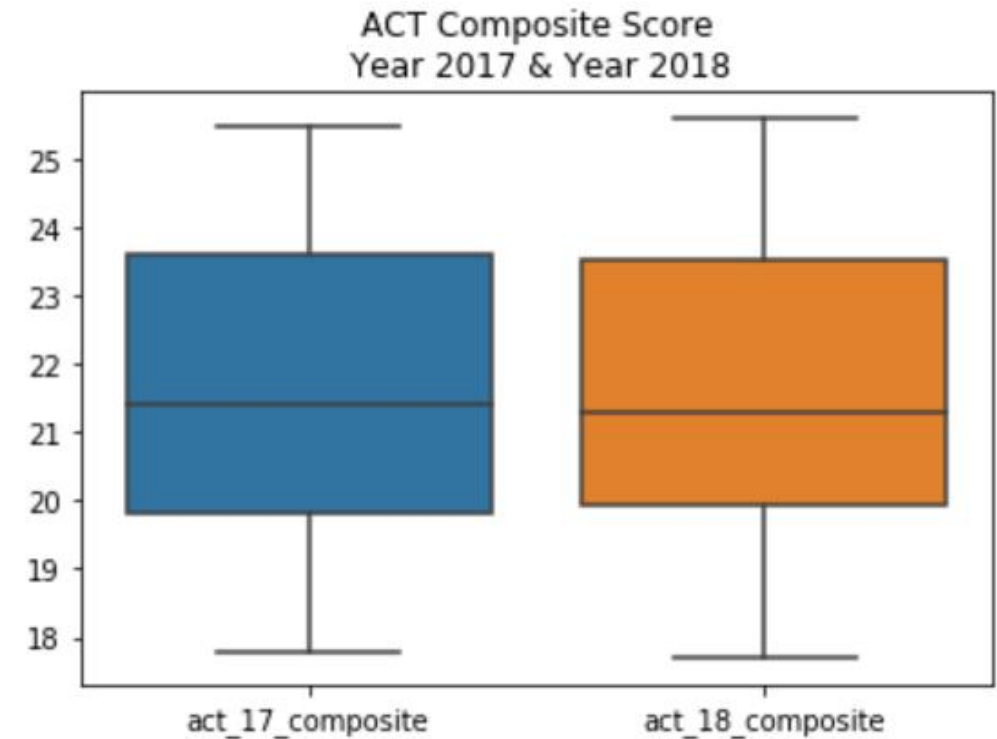Participation Rate for SAT & ACT
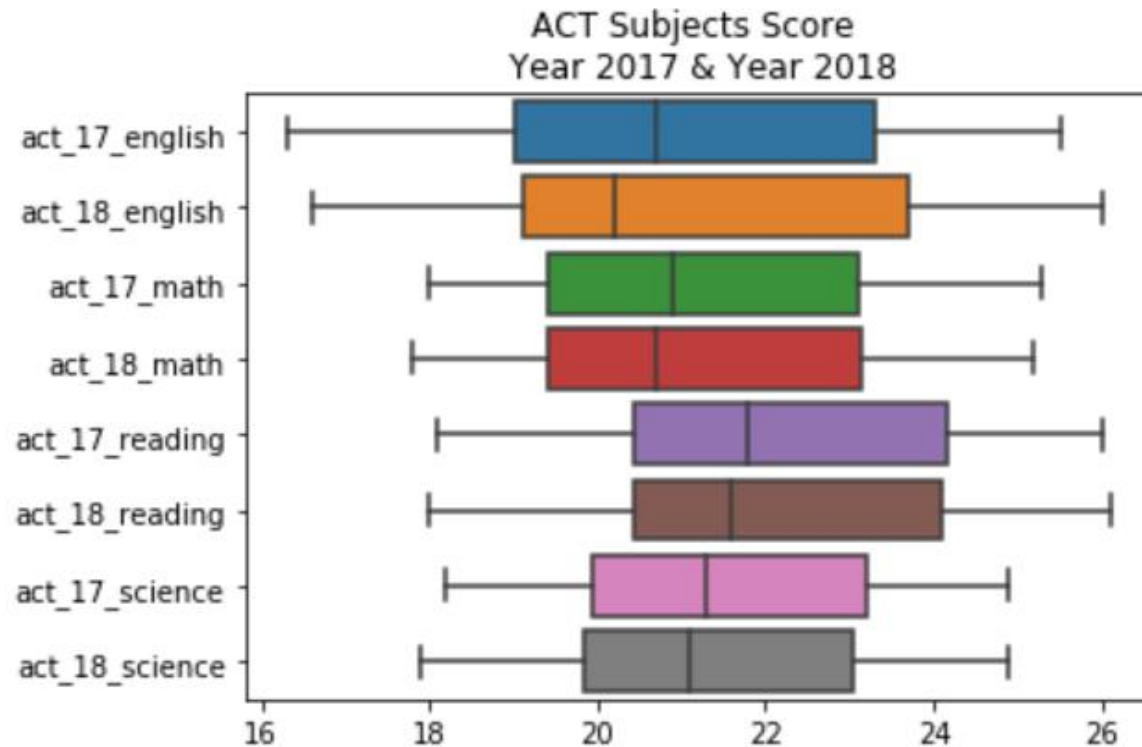Year 2017 & Year 2018

- There is an **increase** in Participation Rate for SAT Test from Year 2017 to Year 2018
  - Year 2017- 4 States 100%
  - Year 2018- 5 States 100%
- There is a **slight drop** in Participation Rate for ACT Test from Year 2017 to Year 2018
  - **Year 2017- 17 States 100%**
  - **Year 2018- 17 States 100%**

Overview on SAT Subject Score & Total Score
Year 2017 vs Year 2018

SAT Subjects Score
Year 2017 & Year 2018

SAT Total Score
Year 2017 & Year 2018

Overview on ACT Subject Score & Composite Score
Year 2017 vs Year 2018

Highlights on States' SAT & ACT
Participant Rate
Year 2017 vs Year 2018

Colorado:

- There's a switch trend in test taken for state Colorado observed.(from ACT to SAT)

- In Year 2017, the participation rate is higher for ACT test (100%) compared to SAT test (11%)

- In Year 2018, the participation rate for ACT test has dropped to 30% while SAT test has drastically increased to 100%.

Illinois:

- There's a switch trend in test taken for state Illinois observed.(from ACT to SAT)

- In Year 2017, the participation rate is higher for ACT test (93%) compared to SAT test (9%)

- In Year 2018, the participation rate for ACT test has dropped to 43% while SAT test has drastically increased to 99%.

Ohio:

- **There is an increase in ACT test participation rate observed in Ohio from 75% in Year 2017 to 100% in Year 2018**

- **The participation rate for SAT test in Ohio also shows increase from 12% in Year 2017 to 18% in Year 2018.**

Nebraska:

- There is an increase in ACT test participation rate observed in Nebraska from 84% in Year 2017 to 100% in Year 2018

- The participation rate for SAT test in Nebraska however maintained at 3% for both Year 2017 & Year 2018.

Findings (1)

- Minnesota's high average SAT score likely means that only the most prepared, ambitious high schoolers take the SAT.

- In Colorado, Connecticut, Delaware, Idaho, and Michigan, every student took the SAT. This usually means that these states require all high school students to take the SAT as part of normal high school testing.

- In addition, four other states—Illinois, Maine, New Hampshire, and Rhode Island—as well as the District of Columbia offered the SAT statewide during the 2017-18 school year. But because the test wasn't mandatory for all students in these states for the entire school year, participation rates here are below 100%.

* Information above from prepscholar.com.

https://blog.prepscholar.com/average-sat-scores-by-state-most-recent

Findings (2)

- So far there's no compulsory in Ohio State to take either SAT or ACT test.

- Ohio State University requires that all applicants submit either SAT or ACT scores. During the 2017-18 admissions cycle, 35% of admitted students submitted SAT scores.

- 2017-18 admissions cycle, Ohio State University had an acceptance rate of 52%. This means that for every 100 students who applied, 52 were admitted, making OSU's admissions process competitive.

Information above from

https://www.thoughtco.com/ohio-state-university-gpa-sat-act-786573

Recommendations & Conclusion

- To encourage students to be more competitive, it's recommended for the state to make SAT as a compulsory test to be taken in state high school.