EN.605.256.8VL.SU25 Modern Software Concepts in Python

Module 3: Database Queries - SQL Data Analysis

Analyzing anonymously submitted data from platforms like Grad Café introduces several inherent limitations that impact the reliability and generalizability of findings. Since submissions are user-generated, there is no mechanism to verify the accuracy or completeness of reported information such as GPA, test scores, or admission outcomes. This opens the data to errors, misinterpretations, and inconsistencies in formatting or terminology (e.g., inconsistent labeling of "international" status). Moreover, the dataset is inherently self-selecting — individuals who choose to share their results are often those who are either particularly successful or highly motivated, leading to selection bias. As Roderick and Engel (2015) emphasize, crowdsourced admissions data frequently over-represent accepted applicants and high academic performers, limiting the applicability of any statistical conclusions to the general population of applicants.

Some of the analytic outcomes from this dataset underscore these concerns. The reported acceptance rate of 36.13% is likely inflated compared to official program statistics, which often report acceptance rates well below 20% for competitive graduate programs (Council of Graduate Schools, 2023). Similarly, the average GPA of 3.77 and GRE Verbal score of 161.0 exceed national applicant averages reported by ETS, where mean scores for GRE Verbal and Analytical Writing are typically around 150 and 3.6, respectively (Educational Testing Service [ETS], 2023). The complete absence of data for commonly applied programs, such as Johns Hopkins University's Master's in Computer Science, may reflect issues with inconsistent naming conventions or missing submissions. These discrepancies highlight the limitations of using unverified, self-submitted data for serious analytic purposes and underscore the importance of standardized, institutionally verified datasets in educational research.

References

Council of Graduate Schools. (2023). *Graduate enrollment and degrees: 2013 to 2023*.
https://cgsnet.org/publications/graduate-enrollment-and-degrees-2013-to-2023

Educational Testing Service. (2023). *A snapshot of the individuals who took the GRE General Test*.
https://www.ets.org/gre/research

<u>Running website screenshot</u>