Math 327 – Data Analysis Project #1 – Proposal

* Team members:
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* Data set to analyze.
  + Description / background: This dataset analyzes the factors that can contribute to standardized test scores in institutions across the country. In my personal, anecdotal experience, colleges have flip-flopped between requiring or not considering standardized test scores. Are there alternative indicators of test score success that can be inferred from behavioral / academic choices? Then, does the choice translate to collegiate success? We are looking at a per institution of higher education basis.
  + Response variable(s) – Need 1. Must be a quantitative variable
    - ACT Composite 75th percentile score
  + Predictor variables – Need at least 5. Can be a mixture of quantitative and categorical
    - \_\_ Secondary school GPA (quant)
    - \_\_ Completion of college-preparatory program (category)
    - \_\_ TOEFL (Test of English as a Foreign Language (categorical)
    - \_\_ Enrolled total (quant)
    - \_\_ Percent of first-time degree/certificate-seeking students submitting ACT scores (quant)
    - \_\_ SAT Evidence-Based Reading and Writing 75th percentile score) (quant)
    - \_\_ SAT Math 75th percentile score (quant)
  + Number of cases (rows in the data set) (need at least 200): 1981
* Research questions related to this data set – need at least 2
  + \_\_\_ For a given set of colleges, does the high school GPA of the average admitted student somehow correlate with the number of students who choose to submit standardized test scores?
  + \_\_\_ Are secondary school GPAs correlated with standardized test scores? To what extent?
  + \_\_\_ Are TOEFL scores are exclusively submitted by international students. Some schools (like Luther) infer a student’s English proficiency from their standardized test scores, whereas some others demand an explicitly separate assessment of English proficiency. Can we tell apart a school’s requirements of English by looking at their SAT scores? (More international students take the SAT, because the SATs are more universally accepted, even in other countries outside the US)