#Question 1: A university wants to understand the relationship between the SAT scores of its

applicants and their college GPA. They collect data on 500 students, including their SAT

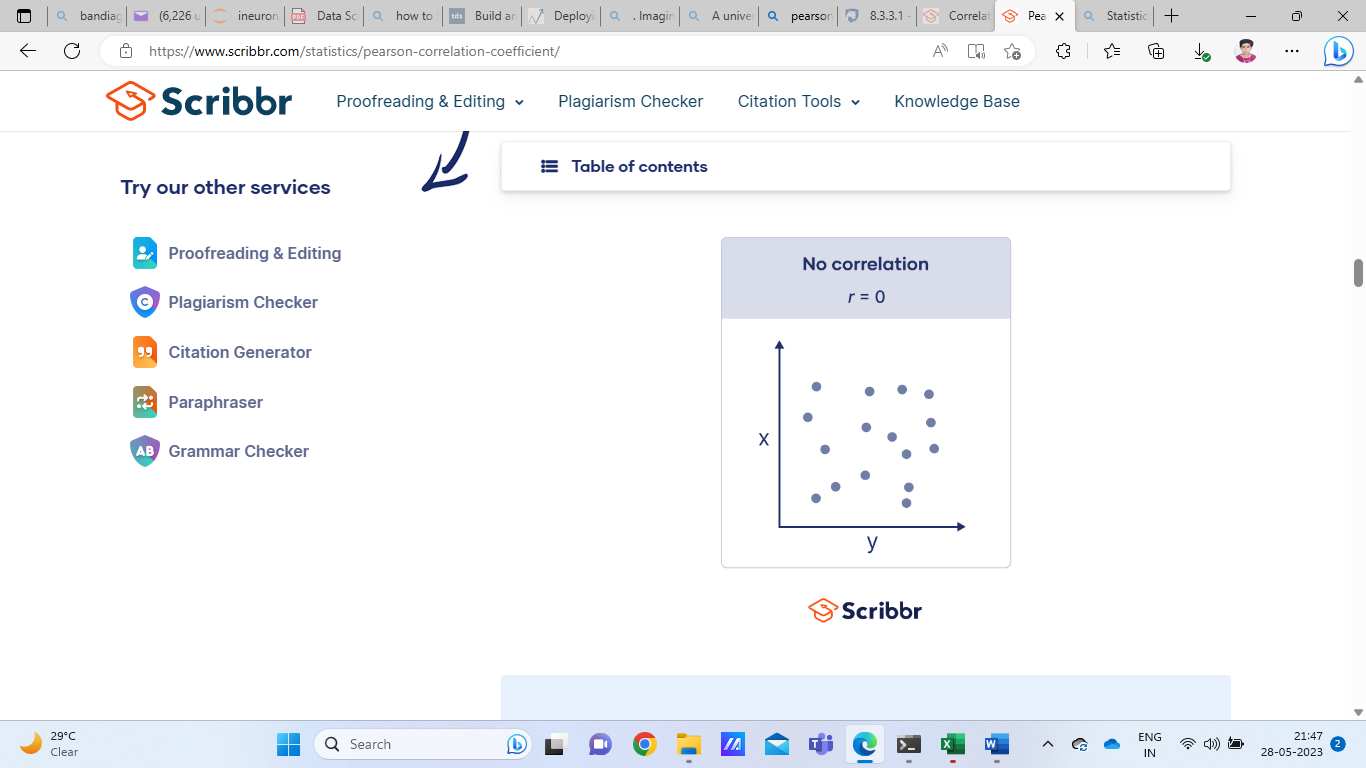
scores (out of 1600) and their college GPA (on a 4.0 scale). They find that the correlation

coefficient between SAT scores and college GPA is 0.7. What does this correlation

coefficient indicate about the relationship between SAT scores and college GPA?

Ans: A correlation value of 0.7 between SAT scores and college GPA indicates that

the two variables have a 'strong positive association'.

A screenshot of a computer

Description automatically generated

The correlation coefficient ranges from -1 to +1, (Pearson’s Correlation Coe. )where -1 represents a 'perfect negative correlation' (as one variable increases, the other decreases)

0 represents there is no relationship between the variables.+1 represents a 'perfect positive correlation' (as one variable increases, the other likewise increases)

Correlation coe of greater than 0.5 represents strong correlation between two variables.in give problem a correlation coefficient of 0.7 indicates that as SAT scores rise, so do college GPAs.

This suggests that students who perform well on the SAT have higher college GPAs, and vice versa.

However, it is not the only case as there are many factors for the rule of success and

this inference is completely based on the 'given numeric values' and 'correlation coefficient concept'.

The Pearson correlation coefficient is usee when (1) the relationship is linear and (2) both variables are quantitative and (3) normally distributed and (4) have no outliers.