Research Task: To determine if there is a statistically significant difference between AL Divisions?

Data Features:

Response variable: the number of wins in a season (Quantitative)

Explanatory variables: Division (Categorical), the run differential (Quantitative)

There are one response variable and two explanatory variables. Response variables is quantitative

Analysis Strengths: There is an obvious linear trend between wins and run difference. It is straightforward to show the correlation. It is easy to show that the division dose not influence the number of wins.

Analysis Weaknesses: The model dose not explain causation. More factors are needed to determine the causation.

Alternative Example:

Response Variable: Life Expectancy in age (Quantitative)

Explanatory Variable: Alcohol consumption (Quantitative), Developed or Developing status (Categorical)

<https://www.kaggle.com/kumarajarshi/life-expectancy-who/data>

Life expectancy is correlated with many factors. Population with better social environment and higher economy benefits tend to have longer life expectancy. Society with high alcohol consumption tend to be less healthy. The correlations seem to be statistically significantly.