Problem Identification:

Big Mountain Resort (BMR) installed a chair lift that would increase the number of visitors across the mountain but also increased their operating costs by ~$1,540,000 this season. The resort wanted to find a way to increase the revenue this year and remain competitive with other resorts across the country.

Data:

The data cleaning process was focused around the handling of Null and ‘NA’ values and removing duplicate rows (which none were identified). The missing values were handled using ffill, fillna, and mean value methods.

Modeling:

Linear regression was applied due to the strong correlation observed via a heatmap. The purpose of using the linear regression model was to determine which variable had the highest influence on the weekend ticket price so that revenue could be increased.

Findings:

By analyzing each variable, it was found that the variables with the greatest effect on weekend ticket price were vertical\_drop, snow making\_ac, total\_chairs, fast quads, runs, longestrun\_mi, trams, and skiableterrain\_ac.

Predictions:

The observed weekend ticket price for BMR is $81, with room to increase the ticket price by $1.99 to bring it up to $82.99. By increasing the ticket price from observed to the expected price, BMR should achieve their goal of making up the operating costs of the new chairlift.