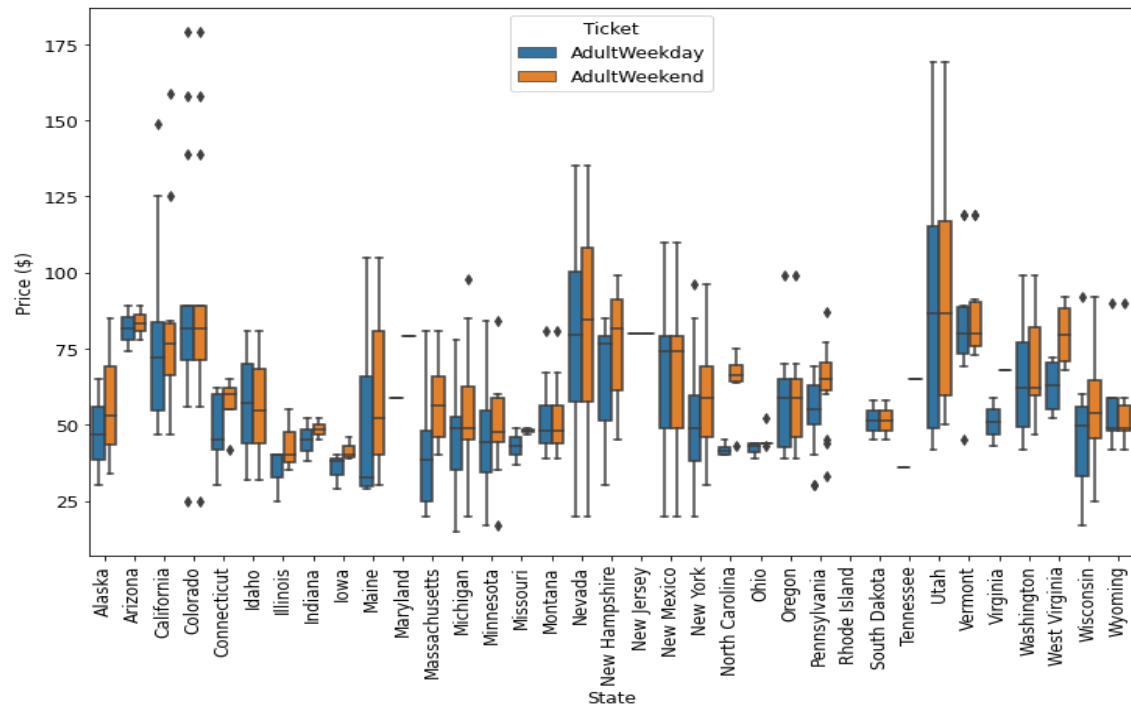


## Goal:

The Purpose of this report is to find the best price to set tickets at Big Mountain Resort. The ticket should be price based on other resorts similar to it in the United States and ensure no value is left unpaid for.

## Starting Statistics:



From this chart, it can be said that the general price range for any ticket is going to be somewhere between \$50-100.

## Preprocessing:

To get the highest quality prediction possible, this report is using the Random Forest Model which has a lower mean absolute error and less variability.

## Modeling:

Big Mountain Resort modelled price is \$95.48, actual price is \$81.00.

Even with the expected mean absolute error of \$10.33, this suggests there is room for an increase.

Finally, there were four scenarios modeled:

1. Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.
  - a. There are no increases in ticket prices or revenues with this scenario.
2. Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage
  - a. This scenario increases support for ticket price by \$15.15
  - b. Over the season, this could be expected to amount to \$26509259
3. Same as number 2, but adding 2 acres of snow making cover
  - a. This scenario increases support for ticket price by \$18.00
  - b. Over the season, this could be expected to amount to \$31500000
4. Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres
  - a. No difference whatsoever. Although the longest run feature was used in the linear model, the random forest model (the one we chose because of its better performance) only has longest run way down in the feature importance list.