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Every baseball stadium is unique in its own way. One way that every stadium is different is elevation. Many people often think that Coors Field, the MLB stadium in Denver with the highest elevation, allows more home runs to be hit. This would also imply that stadiums with lower elevations allow fewer home runs. Our research topic was to determine whether or not elevations factors into how many home runs are hit. We want to find out if Coors Field, the stadium with highest elevation, gives up a significant amount of extra home runs.. While we are aware that dimensions and quality of teams can affect the number of home runs hit, using an alpha number of .01 can show that the results for a stadium are far more extreme then we would expect. The number of home runs hit in each stadium during the 2016 MLB season are being used for a t-test to determine if there really is a difference in the number of home runs hit at the stadiums with the highest and elevation. Our null hypothesis is that playing at the stadium with the highest elevation, Coors Field in Denver. The alternative hypothesis is that playing in Denver causes more home runs to be hit.

Code

data stadiums;

input homers city;

datalines;

187 Anaheim

208 Detroit

198 Boston

213 Arlington

155 Kansas City

171 Houston

149 Oakland

219 Baltimore

201 Cleveland

203 Toronto

234 Seattle

212 Minneapolis

199 Tampa

185 Chicago

230 New York City

119 San Francisco

182 St. Louis

221 Phoenix

193 New York City

200 Philadelphia

215 Denver

169 Los Angeles

228 Cincinnati

123 Miami

197 Milwaukee

181 Washington D.C.

176 San Diego

148 Pittsburgh

130 Atlanta

163 Chicago

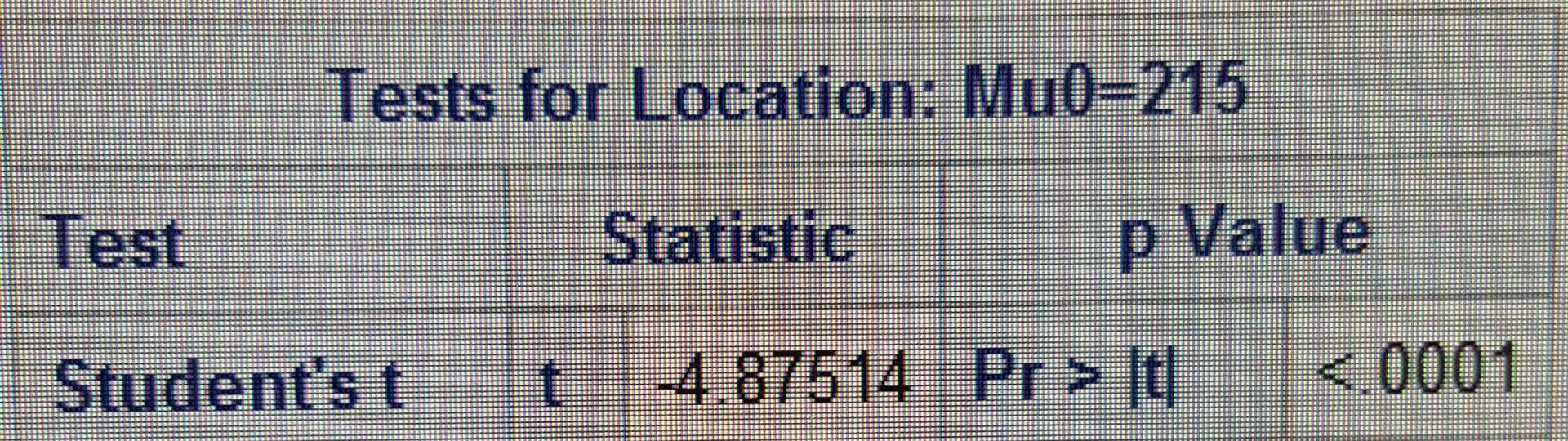
;

run;

proc univariate mu0=215 data=stadiums;

var homers;

Run;



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Summary

With a p-value under .001, we can reject the null hypothesis. There is evidence that playing in Denver causes more home runs to be hit. If it was true that playing in Denver does not cause more home runs, there would be less than a 0.1% chance to get this data. While it is true that the quality of teams affects the number of home runs hit, there is statistically significant data to support that more home runs are hit at the stadium with the highest elevation. The fact that Coors Field has fairly large dimensions also supports that the elevation helps the ball carry more.

Bryce and Paul did the SAS outputs.

Samir and Jordan did the conclusion.

We all came up with the idea to test if elevation is a factor for amount of homeruns hit in the MLB. We all revised the work after submitting the interim report.