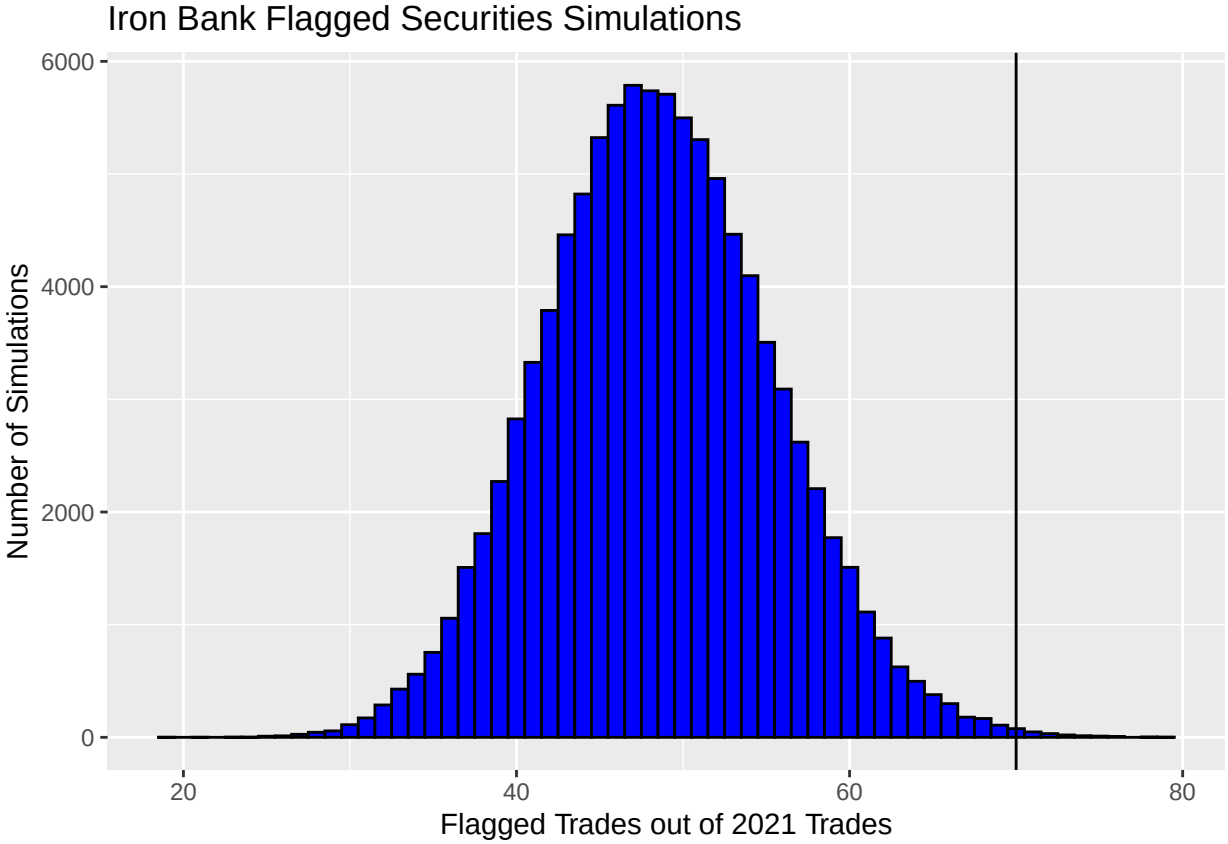
Homework5

Anish Ravindran

2024-02-25

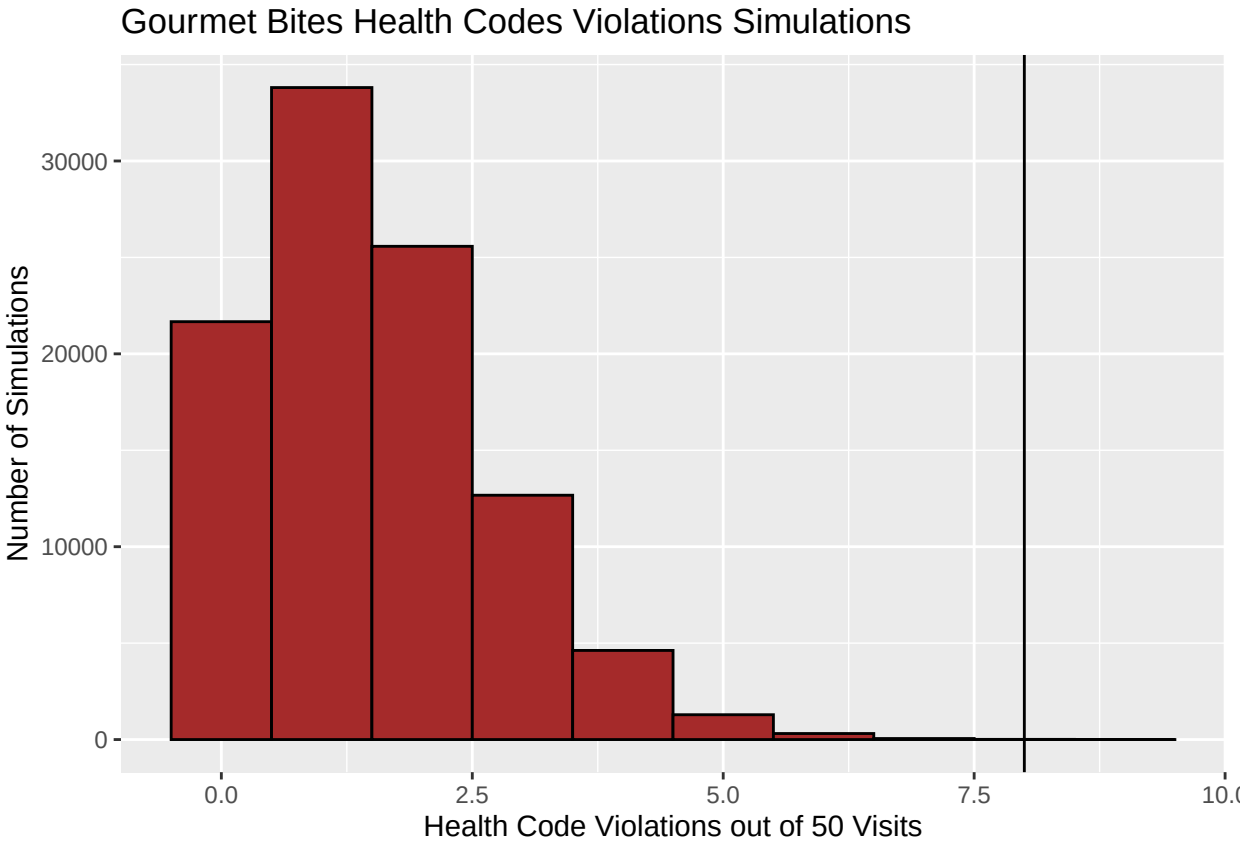
Name: Anish Ravindran
uteid: ar76454
github link: https://github.com/AnishRavi5/Homework5

Question 1



Null Hypothesis - Over the long run, securities trades from the Iron Bank are flagged at the same 2.4% baseline rate as that of other traders? Test Statistic - The test statistic used was the number of trades flagged for Iron Bank out of the 2021 trades, used to measure the evidence in the data against the null hypothesis. Conclusion - The p-value calculated is 0.00217 which shows us that the observed data is not consistent with the SEC's null hypothesis where they states a rate of 2.4 percent of trades getting flagged. This tells us that trades from Iron Bank are flagged at higher rates than trades from others.

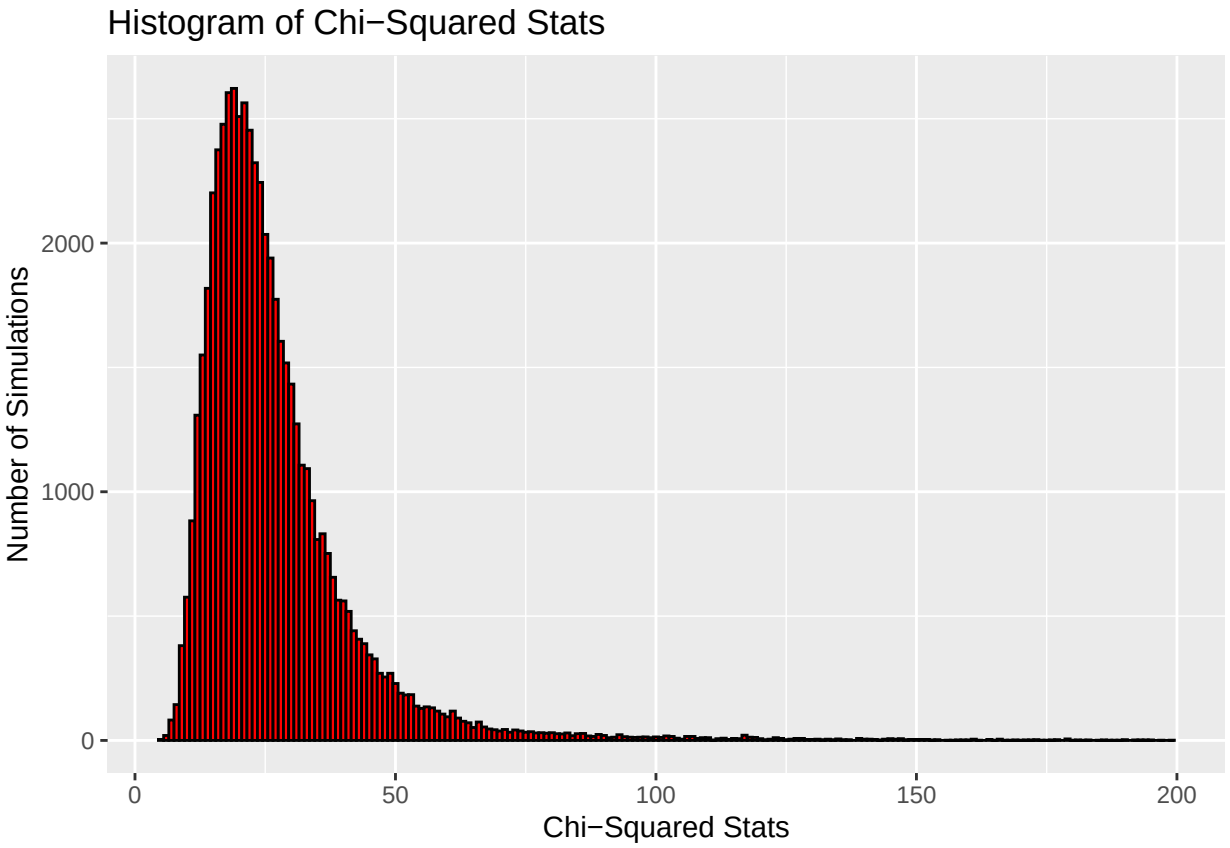
Question 2



Null Hypothesis - Restaurants in the city are cited for health code violations at the same 3% baseline rate? Test Statistic - The test statistic used was the number of restaurants with health code violations to measure the evidence in the data against the null hypothesis. Conclusion - The p-value calculated is 1.1×10^{-4} which shows us that the observed data for Gourmet Bites is not consistent with the locla health department's null hypothesis where they states a rate of 3 percent of inspections get health violations. This tells us that Gourmet Bites restaurants are likely violating health codes at higher rates than other restaurants in the city.

Question 3

Part A



Part B

Sentence	pvalue
1	0.000
2	0.000
3	0.001
4	0.000
5	0.000
6	0.002
7	0.000
8	0.000
9	0.001
10	0.001

Based on the data in the table we can assume that the sentence that was adjusted by the LLM was sentence 6. This is because it was the sentence with the p-value that differed from the other sentences and this p-value was this highest at 0.002. The other sentences had p-values of 0.000 or 0.001.