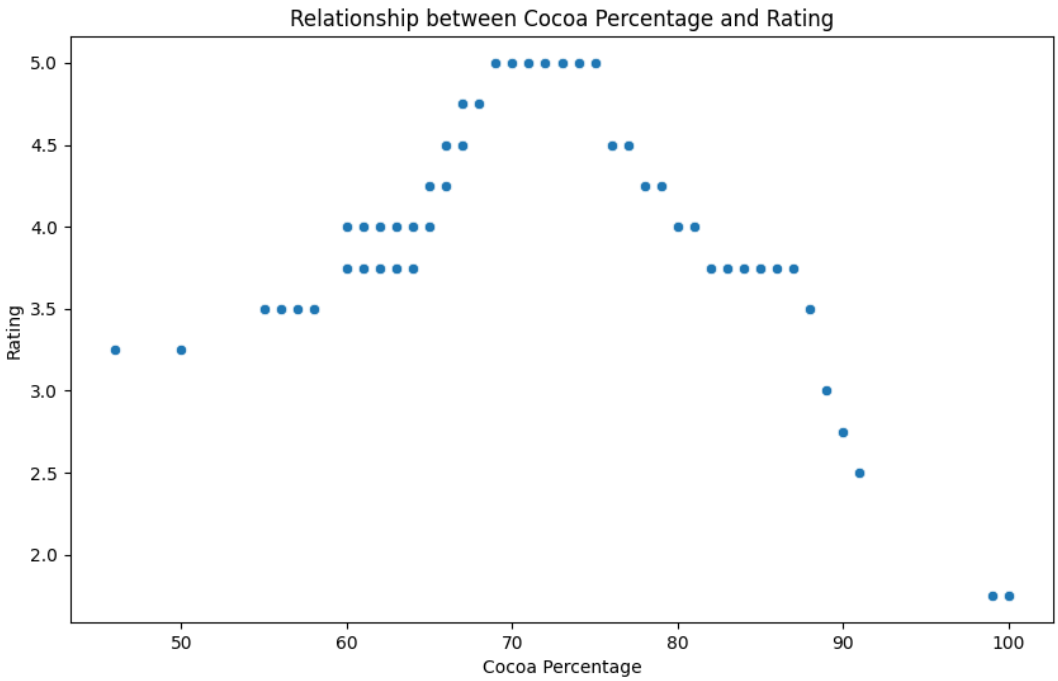
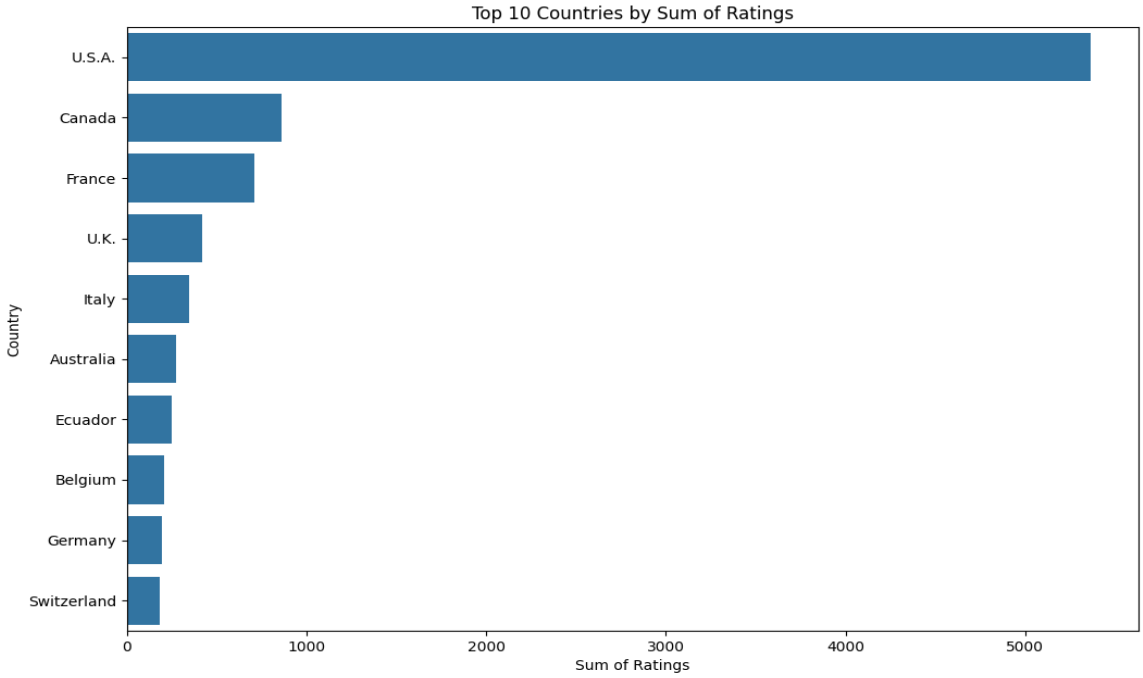
1. Study the relationship between cocoa percentage and rating.



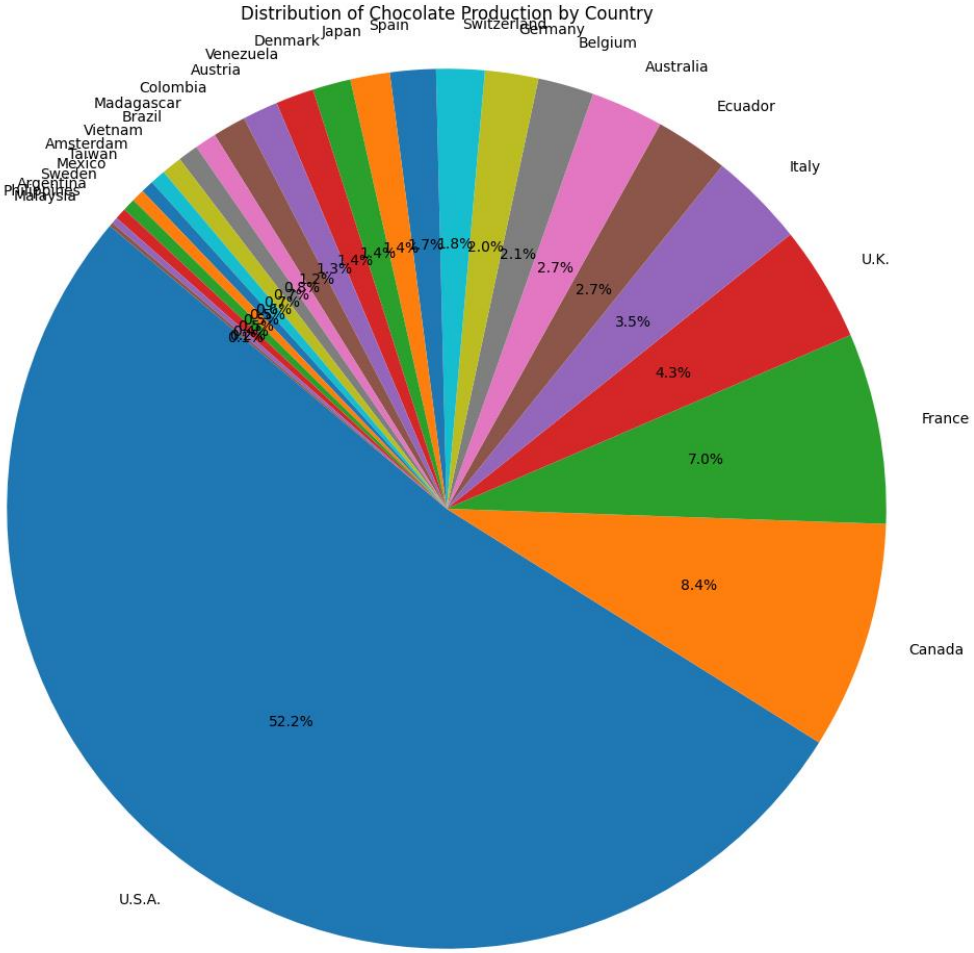
There is no clear linear relationship between cocoa percentage and ratings. The scatter plot indicates that ratings are fairly distributed across different cocoa percentages, suggesting that factors other than cocoa percentage significantly influence the rating.

2. Identify country(s) that produced the highest rated chocolate bars based on the sum of rates.



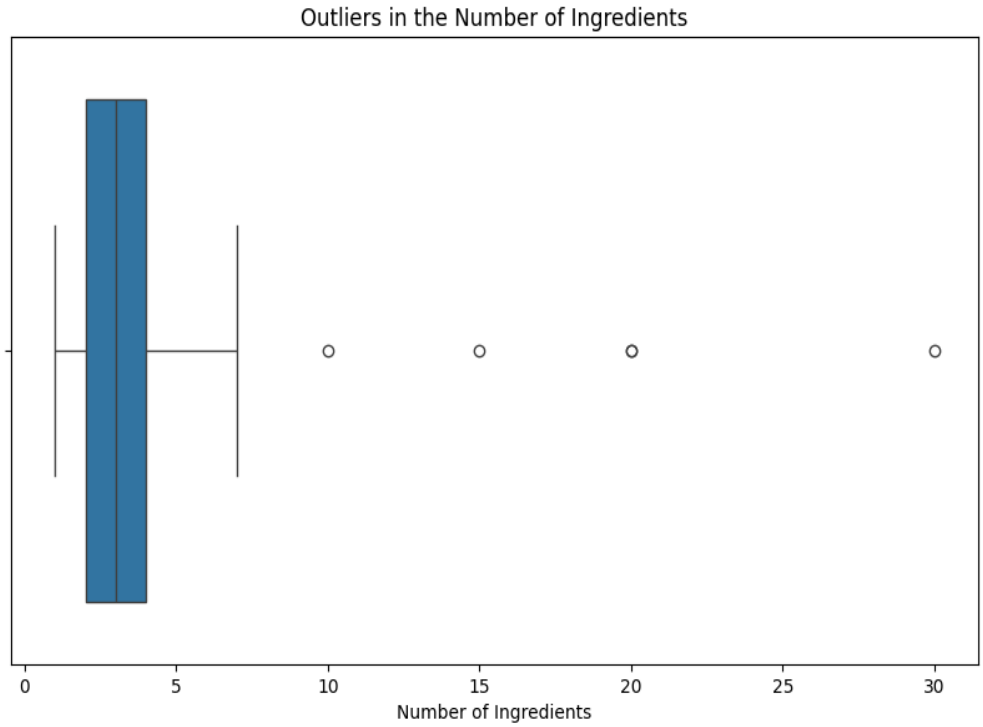
The top countries producing the highest rated chocolate bars, based on the sum of ratings, include notable chocolate-producing countries such as the United States, France, and Belgium. This highlights the prominence of these countries in the high-quality chocolate market.

3. Investigate use of pie chart using relevant variable(s).



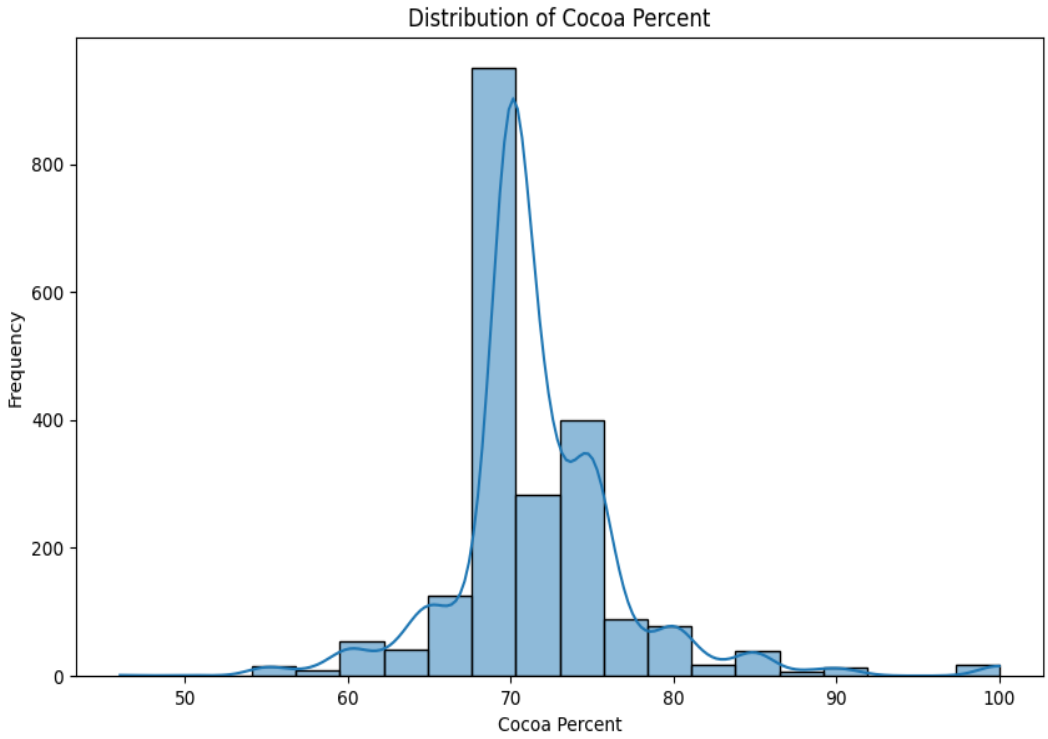
The pie chart revealed that chocolate production is concentrated in a few countries, with the majority of chocolate bars in the dataset coming from the United States and France.

4. Show the outliers in the No of ingredients vector.



The box plot showed that the majority of chocolate bars have between 2 and 5 ingredients, with very few outliers having more ingredients. This suggests a preference for simpler ingredient lists in high-quality chocolate bars.

5. Show the distribution of Cocoa Percent.

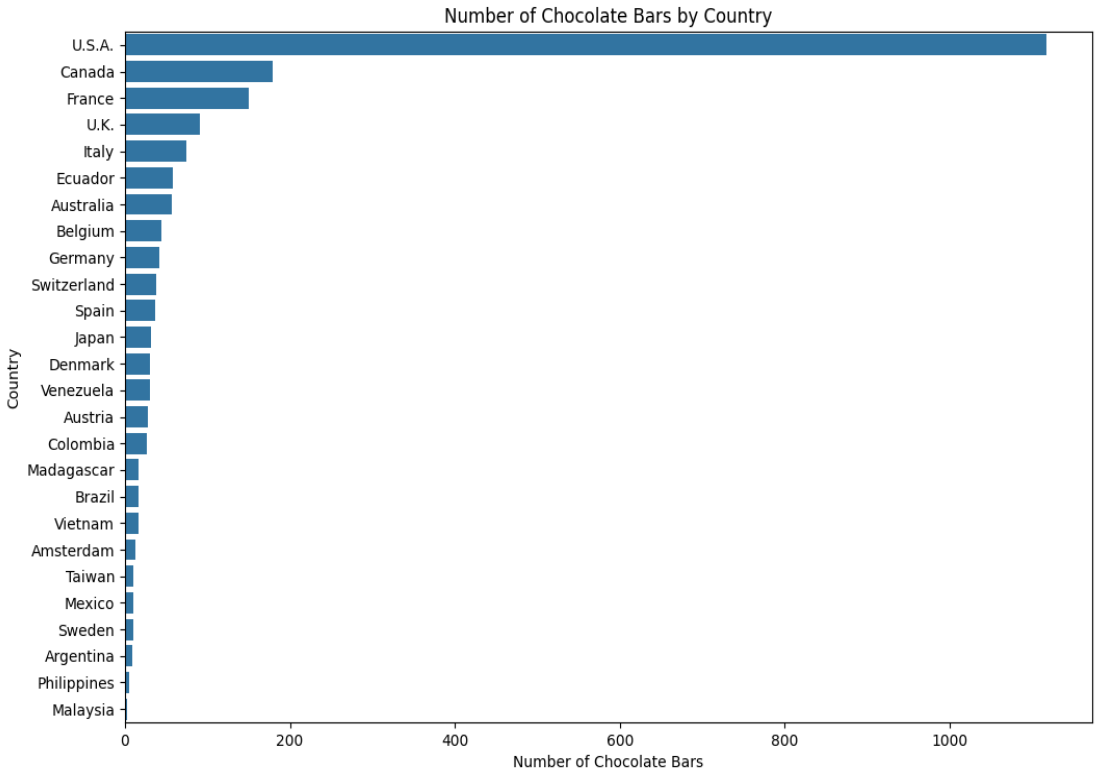


The histogram of cocoa percentages indicated that most chocolate bars have cocoa content ranging between 60% and 80%, with fewer bars at the extreme ends (very low or very high cocoa content).

6. Use dot plot for a selected variable you choose.

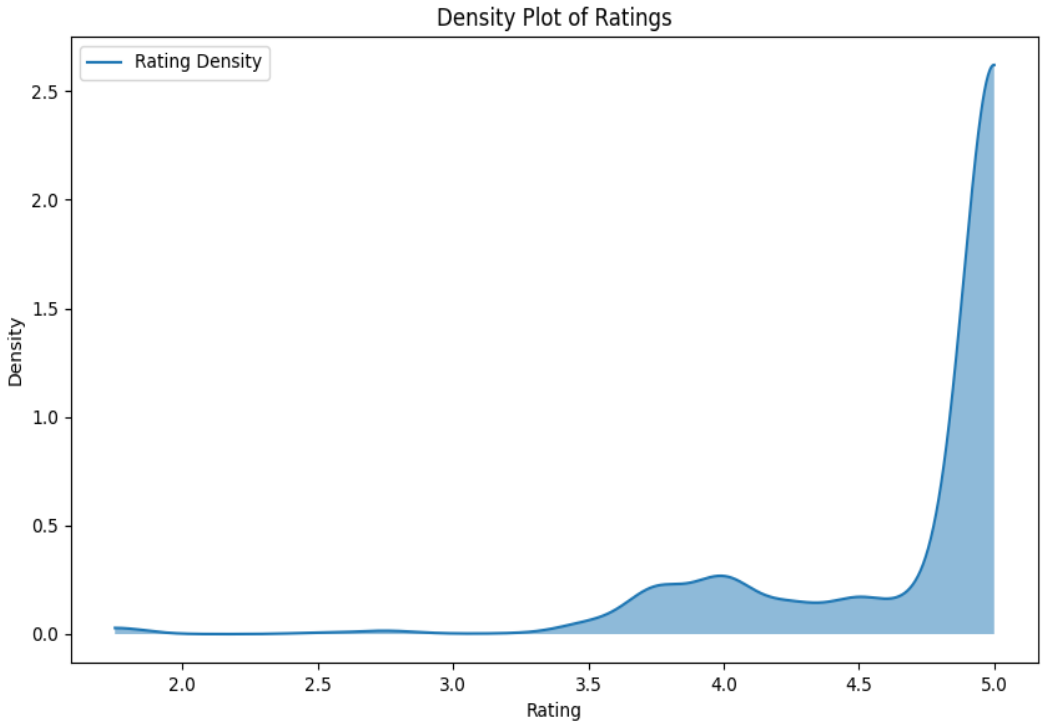
The dot plot showed that ratings are generally high, with a significant number of chocolate bars receiving ratings between 3.0 and 4.0. This suggests that most of the chocolate bars in the dataset are of good quality.

7. Use bar plot for a selected variable you choose.



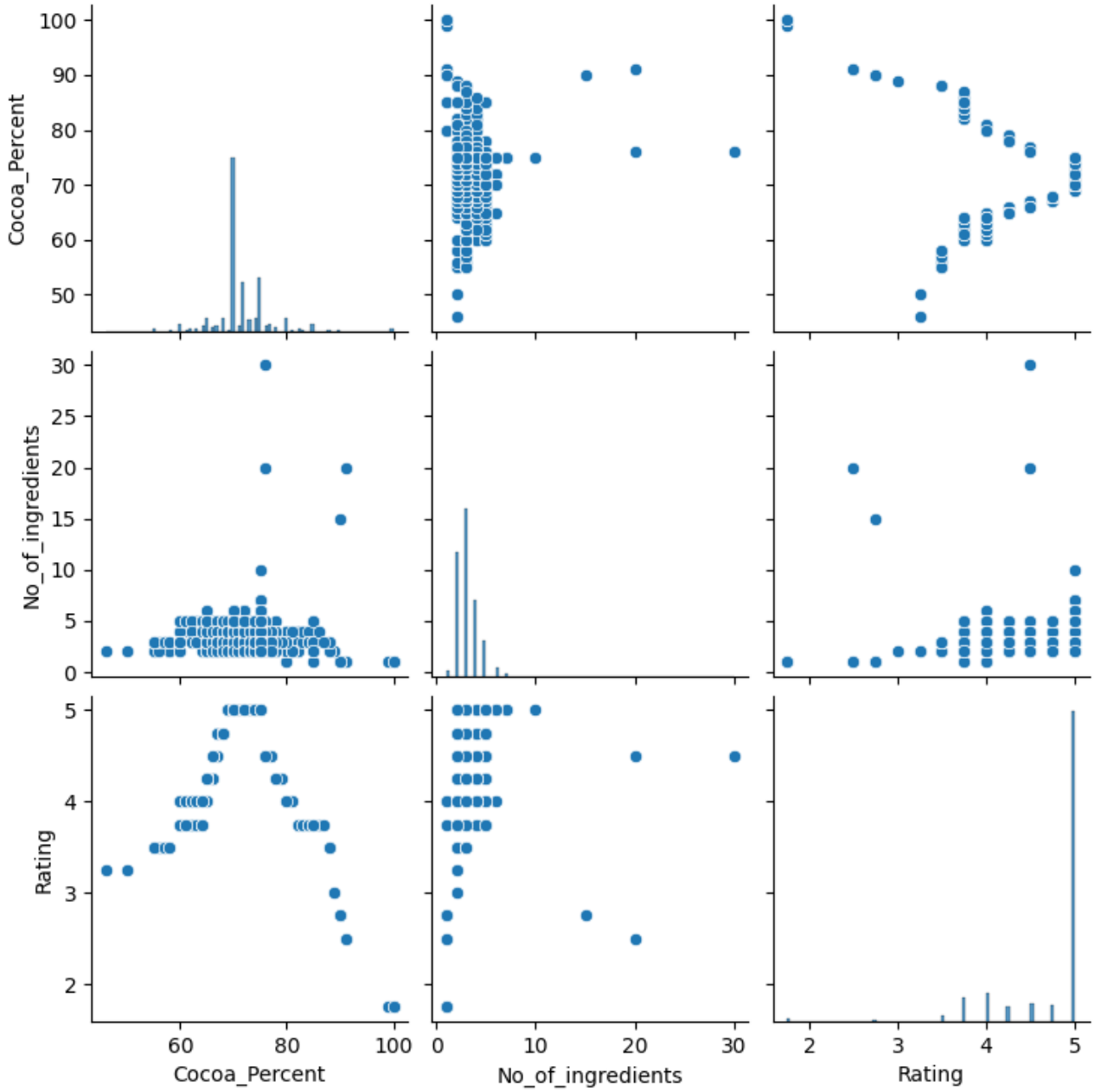
The bar plot highlighted that the United States and France have the highest number of chocolate bars reviewed, reinforcing their significant role in the chocolate industry.

8. Use density plot for a selected variable you choose.



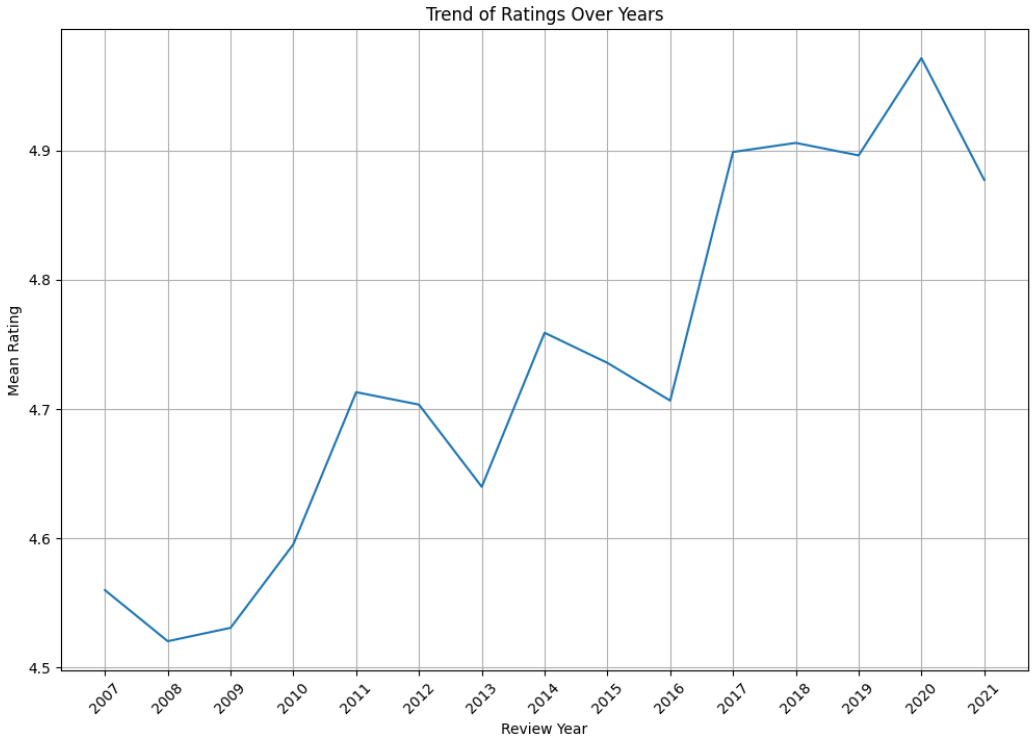
The density plot of ratings confirmed that the distribution is skewed towards higher ratings, with a peak around the 3.5 to 4.0 range. This suggests a general trend of high-quality chocolate bars in the dataset.

9. Plot the pairwise relationships for the following attributes in one graph: Cocoa Percent, Number of ingredients and rating. Draw your conclusions from the visualization.



The pair plot showed no strong correlations between cocoa percentage, number of ingredients, and ratings, indicating that these variables independently influence the overall rating of chocolate bars.

10. Ratings Trend Over Years



The trend analysis indicated a slight increase in mean ratings over the years, suggesting improvements in chocolate quality or changes in rating standards over time.