Purpose of Getting Confidence Intervals
Confidence intervals (CIs) serve several important purposes in statistical analysis:

- **Estimate Precision:** CIs provide a range of values within which we can expect the true population parameter (such as the mean difference) to lie. A narrower interval suggests more precise estimates.

- **Assessing Significance:** If a confidence interval for a mean difference does not include zero, it indicates that the difference is statistically significant. This helps in confirming findings from hypothesis tests, like Dunn's test.

- **Understanding Variability:** CIs give insight into the variability of the estimates. Wider intervals suggest more uncertainty about the mean difference, while narrower intervals indicate more confidence in the estimate.

- **Contextualizing Results:** They allow for a more nuanced interpretation of the results by showing the range of plausible values for the effect size. This is particularly helpful in making data-driven decisions in business or policy contexts.

Coefficients in Our Code
In the context of our code, there are no explicit coefficients calculated. However, here's a breakdown of where coefficients might typically appear in statistical analyses:

- **Mean Difference:** The `meandiff` we calculated reflects the effect size or difference between groups, which can be considered a type of coefficient. It quantifies how much the log-transformed sales differ between categories.

- **Statistical Coefficients:** In regression analyses, coefficients represent the relationship between predictor variables and the response variable. For example, in a linear regression model, each coefficient indicates how much the dependent variable is expected to change when the corresponding independent variable increases by one unit.

- **Adjusted P-values:** The p-values we compute (e.g., `p-adj`) help assess the significance of the differences and can be thought of as coefficients in a broader sense of indicating the strength of the evidence against the null hypothesis.

Summary

- **Confidence Intervals:** They enhance the interpretation of our results by providing a range for mean differences and aiding in the assessment of significance.

- **Coefficients:** While our current analysis does not explicitly include regression coefficients, the mean difference we calculated can be viewed as a coefficient representing the effect size between groups.

In our analysis, if we choose to calculate confidence intervals for the mean differences, we can provide a more comprehensive view of the results, including their significance and precision.