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Who-is-who of food.docx

Assignment

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It is essential to understand the limitations of AI detection before making decisions about a student's work. We encourage you to learn more about Turnitin's AI detection capabilities before using the tool.

Frequently Asked Questions

What does the percentage mean?
The percentage shown in the AI writing detection indicator and in the AI writing report is the amount of qualifying text within the submission that Turnitin's AI writing detection model determines was generated by AI.

Our testing has found that there is a higher incidence of false positives when the percentage is less than 20. In order to reduce the likelihood of misinterpretation, the AI indicator will display an asterisk for percentages less than 20 to call attention to the fact that the score is less reliable.

However, the final decision on whether any misconduct has occurred rests with the reviewer/instructor. They should use the percentage as a means to start a formative conversation with their student and/or use it to examine the submitted assignment in greater detail according to their school's policies.

How does Turnitin's indicator address false positives?
Our model only processes qualifying text in the form of long-form writing. Long-form writing means individual sentences contained in paragraphs that make up a longer piece of written work, such as an essay, a dissertation, or an article, etc. Qualifying text that has been determined to be AI-generated will be highlighted blue on the submission text.

Non-qualifying text, such as bullet points, annotated bibliographies, etc., will not be processed and can create disparity between the submission highlights and the percentage shown.

What does 'qualifying text' mean?
Sometimes false positives (incorrectly flagging human-written text as AI-generated), can include lists without a lot of structural variation, text that literally repeats itself, or text that has been paraphrased without developing new ideas. If our indicator shows a higher amount of AI writing in such text, we advise you to take that into consideration when looking at the percentage indicated.

In a longer document with a mix of authentic writing and AI generated text, it can be difficult to exactly determine where the AI writing begins and original writing ends, but our model should give you a reliable guide to start conversations with the submitting student.

Who-is-who of food

Question one

a) To explain the underlying association between brand and category, statistical frequency distribution tables and statistical bar charts. The frequency distribution table have provided count of each sandwich category within each brand. The numbers obtained from the frequency table, indicate the frequency of each category within each brand. The rightmost column shows the total number of products for each brand while the bottom row shows number of products for each category across brands.

The analysis shows that products in brand A are distributed among the different categories. The frequency table also highlights the brands with limited categories (Brand B, Brand D and Brand F). Dominant categories in some of the brands are also noted (Brand E and Brand L). Sparse categories include Ham and Tuna, offered by few brands (Brand A and Brand G for Ham and Tuna, respectively), and Veggie, offered only by Brands G and H, with Brand G having more variety.

Table 1.0

Frequency distribution between Brand and Category

The FREQ Procedure

Frequency	Table of Brand by Category								
	Category								
Brand	Beef	Chicken	Fish	Frozen	Ham	Tuna	Turkey	Veggie	Total
A	5	4	1	0	1	1	3	0	15
B	0	2	0	0	0	0	0	0	2
C	1	3	1	0	0	0	1	0	6
D	1	1	0	0	0	0	0	0	2
E	0	7	1	0	0	0	0	0	8
F	0	1	0	0	0	0	0	0	1
G	0	2	0	0	1	1	2	2	8
H	0	3	0	0	0	0	0	0	3
I	0	0	2	0	0	0	0	0	2
J	0	0	0	3	0	0	0	0	3
K	0	0	0	4	0	0	0	0	4
L	0	0	0	11	0	0	0	0	11
Total	7	23	5	18	2	2	6	2	65

Chi square value of <.0001 indicated that there is statistical difference between sandwich brand and category

Table 2.0

Statistics from the frequency distribution table

Statistics for Table of Brand by Category

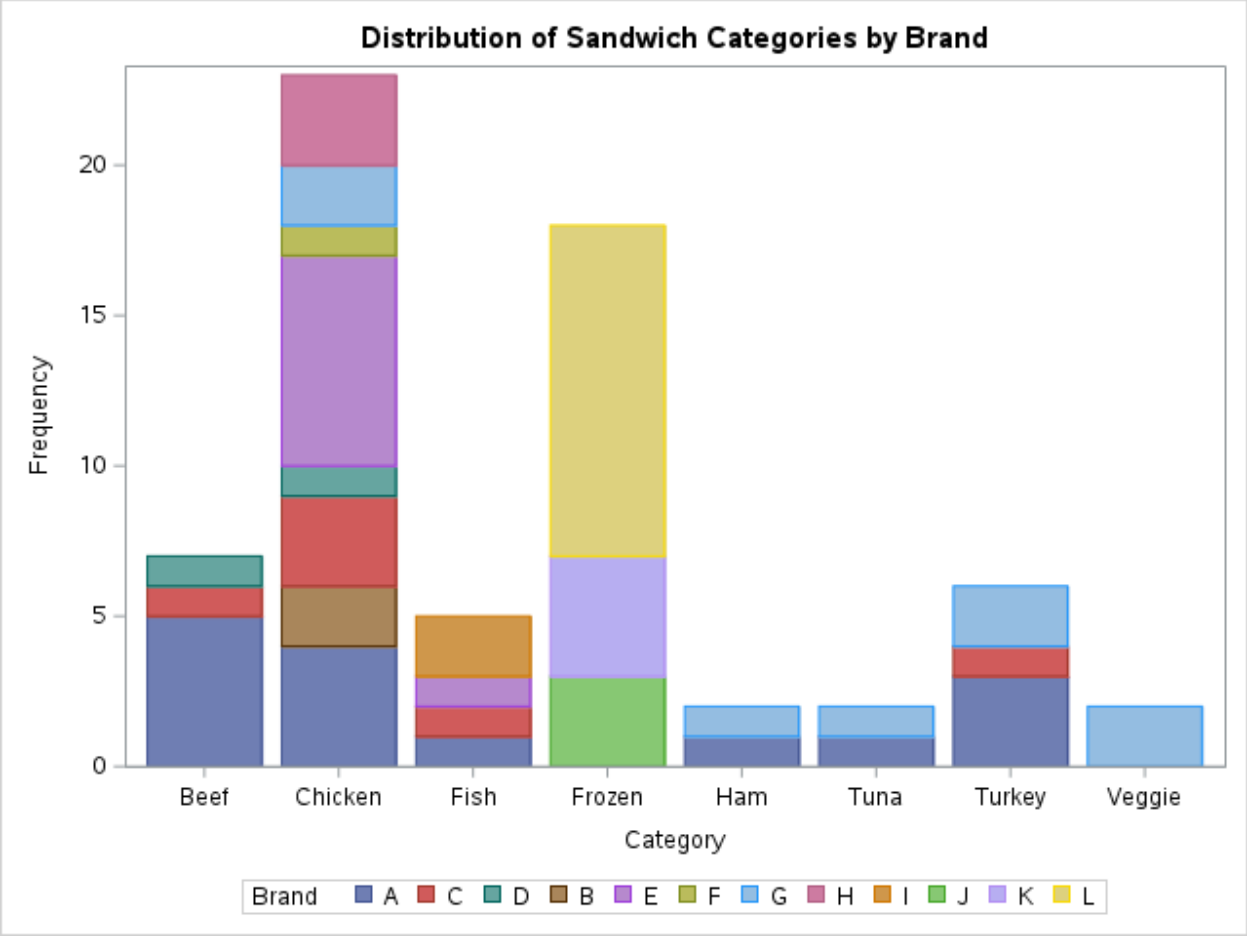
Statistic	DF	Value	Prob
WARNING: 99% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			
Chi-Square	77	139.1016	<.0001
Likelihood Ratio Chi-Square	77	125.0995	0.0004
Mantel-Haenszel Chi-Square	1	3.7673	0.0523
Phi Coefficient		1.4629	
Contingency Coefficient		0.8255	
Cramer's V		0.5529	

Sample Size = 65

A stacked bar chart was generated to investigate the association between brand and category. Stacked bar chart is more advance in data visualization than a simple bar chart. The use of a staked bar chart was necessitated by the structure of the variable brand (multiple brands).

Figure 1.0

Distribution of Sandwich Categories by Brand



a) To investigate the relationship between variable, a statistical regression model was adopted and fitted for the variables of interest. Additionally, correlation analysis also depicts the existing relationship between the variables. The use of statistical charts offers a visual representation of the relationship between the variables. Visual present data in graphical form making it easier for the consumers to comprehend. The existing relationship among the variables can easily be identified.

Figure 2.0:

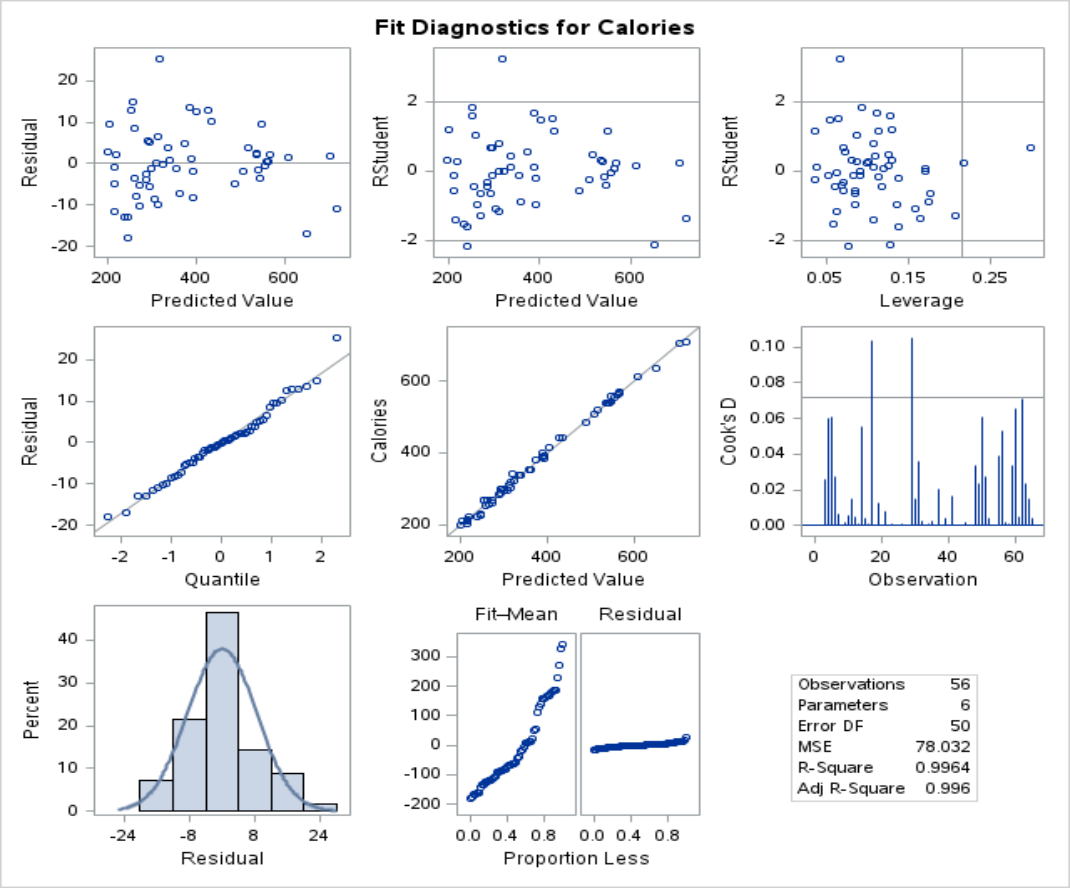
Scatter plot matrix

The figure above shows pairwise relationships between nutritional variables (Total Fat, Protein, Carbs, Fiber, Sodium) and physical variables (Calories, Weight). Positive correlations are evident between Calories, Weight, and several nutritional variables. Histograms on the diagonal provide the distribution of each variable. The relationships help identify which nutritional factors most strongly influence calories and weight.

Regression analysis is one of the methods used to investigate variable relationship in a data. R squared score measures the goodness of the model fitted. To investigate the exist relationship between nutritional variables physical variables, a regression model was fit on calories where the physical variables were treated as the response variable and the nutritional variables acted as he explanatory variables. The model on calories had an R squared score of 99.64%, suggesting that about 99.64% of variability in calories could be explained by the nutritional variables used.

Figure 2.0

Diagnostic fit for calories



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