Sections of your project:

A. Statement of the Task: 1-2 pages briefly introducing each section of the paper that will follow. You must explain what you are going to do, and how and why you are going to do it. You should identify the specific mathematics techniques you are going to use and how you expect each technique to help you answer your research question.

B. Data Collection Procedure: 1-2 pages describing in detail how you actually went about collecting your data. If you used a sample of a larger data set, you must explain how you decided on that sample. Refer to your raw data, surveys, or other artifacts in your appendices.

C. Data Presentation, Analysis, and Interpretation: This will be a long section. The bulk of your mathematics will be here. Detailed explanations of procedures and calculations. Each chunk of mathematics should be followed by a thorough interpretation in light of your research question. What does the data analysis lead you to conclude? Be very specific.

D. Conclusion: A brief summary of your findings and interpretations, a discussion of “validity”, and a discussion of limitations and how you could have improved the project.

E. Appendices: Raw data, data collection forms, etc. Label as Appendix A, Appendix B, etc. Refer to each Appendix in your writing. For example, “The raw data can be found in Appendix A.” or “The survey I used can be found in Appendix B.”

F. References: Any websites you used, and any books you consulted and cited.

Conclusion

The following elements should be in your conclusion:

1. A brief summary of your findings and interpretations

Give a general review of your conclusions from the previous data analysis section. You do not have to repeat every conclusion. Give an overall summary of your findings as it relates to your stated task or research question. 1-2 paragraphs

2. A discussion of “validity”

Validity is the extent to which the mathematics you chose was appropriate for measuring what you intended to measure. For example:

* If you are trying to show the correlation between two variables, then linear regression is a valid mathematical tool to find that. Calculating percentages or using a chi-squared test would be invalid ways of measuring correlation because those tools are designed to measure other things.
* If you are trying to determine the independence of two variables, then a chi-squared test is a valid mathematical tool to find that. However, it is only valid if at least 80% of your expected values are greater than 5. It is ok to have some expected counts less than five as long as 80% are greater than 5. Otherwise, you must combine rows or columns to increase the expected count.
* If you are using a chi-squared test on a 2x2 matrix, then you must use the *Yates continuity correction* in order for your chi-squared test to be valid.

3. A discussion of limitations or qualifications

No study is perfect. You should critique your project along the following parameters:

* Were appropriate techniques used to collect your data, or to find a sample?
* What problems with your data collection can you identify?
* What could you do differently to make this project better next time?
* What is the limited scope of your conclusion(s)?
* How could you widen the scope of your project next time?