

# ON THE PROPERTY F CONJECTURE

A Dissertation

by

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## ABSTRACT

This is the first numbered page, lower case Roman numeral (ii). Page numbers are outside the prescribed margins, at the bottom of the page and centered; everything else is inside the margins. No bold on this page (Exception: heading ABSTRACT is bold if major headings are bold. *This L<sup>A</sup>T<sub>E</sub>X template applies to this exception*).

Text begins two double spaces below the major heading. Recommended length of text is no more than 350 words. Vertical spacing is double spaced or space-and-a-half. (*This L<sup>A</sup>T<sub>E</sub>X template applies double space for this ABSTRACT.*) The same margin settings and text alignment are followed else where in this thesis. There should be no numbered references or formal citations in ABSTRACT.

The content of this ABSTRACT provides a complete, succinct snapshot of the research, addressing the purpose, methods, results, and conclusions of the research. As a result, it should stand alone without any formal citations or references to chapters/sections of the work. To accomodate with a variety of online database, images or complex equations should also be avoided.

The next pages are Dedication, Acknowledgments, Contributors and Funding Sources, and Nomenclature. Of these, Contributors and Funding Sources is required. The rest are optional.

## DEDICATION

To my mother, my father, my grandfather, and my grandmother. To see what happens with multiple lines, I extend this next part into a second line.

## ACKNOWLEDGMENTS

This section is also optional, limited to four pages. It must follow the Dedication Page (or Abstract, if no Dedication). If listing preliminary pages in Table of Contents, include Acknowledgments. Heading (ACKNOWLEDGMENTS) is bold if major headings are bold. It should be in same type size and style as text. So does vertical spacing, paragraph style, and margins. Also, ensure that the spelling of “acknowledgments” matches throughout the text and the table of contents.

I would like to thank the Texas A&M University Office of Graduate and Professional Studies to allow me to construct this L<sup>A</sup>T<sub>E</sub>X thesis template. Special thanks to JaeCee Crawford, Amy Motquin, Ashley Schmitt, Rachel Krolczyk, and Roberta Caton for carefully reviewing this material.

## CONTRIBUTORS AND FUNDING SOURCES

### **Contributors**

This work was supported by a thesis (or) dissertation committee consisting of Professor XXXX [advisor – also note if co-advisor] and XXX of the Department of [Home Department] and Professor(s) XXXX of the Department of [Outside Department].

The data analyzed for Chapter X was provided by Professor XXXX. The analyses depicted in Chapter X were conducted in part by Rebecca Jones of the Department of Biostatistics and were published in (year) in an article listed in the Biographical Sketch.

All other work conducted for the thesis (or) dissertation was completed by the student independently.

### **Funding Sources**

Graduate study was supported by a fellowship from Texas A&M University and a dissertation research fellowship from XXX Foundation.

## NOMENCLATURE

OGAPS	Office of Graduate and Professional Studies at Texas A&M University
B/CS	Bryan and College Station
TAMU	Texas A&M University
SDCC	San Diego Comic-Con
EVIL	Every Villain is Lemons
EPCC	Educator Preparation and Certification Center at Texas A&M University - San Antonio
FFT	Fast Fourier Transform
ARIMA	Autoregressive Integrated Moving Average
SSD	Solid State Drive
HDD	Hard Disk Drive
O&M	Eller Oceanography and Meteorology Building
DOS	Disk Operating System
HDMI	High Definition Multimedia Interface
$L^1$	Space of absolutely Lebesgue integrable functions; i.e., $\int  f  < \infty$
$L^2$	Space of square-Lebesgue-integrable functions, i.e., $\int  f ^2 < \infty$
$PC(S)$	Space of piecewise-continuous functions on $S$
GNU	GNU is Not Unix
GUI	Graphical User Interface
PID	Principal Integral Domain
MIP	Mixed Integer Program

LP

Linear Program

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## INTRODUCTION AND LITERATURE REVIEW

### **Author's Message to the Student Using This Template For Their Thesis or Dissertation**

Howdy! This is the template for theses and dissertations written using  $\text{\LaTeX}$  for submission at Texas A&M University. The Office of Graduate and Professional Studies (OGAPS) is here to guide you in submitting your thesis or dissertation. This template shows the many features of  $\text{\LaTeX}$ , with many more available to the user.

There are numerous guides, references, and tutorials available on the Internet to help you. If you are stuck, don't be afraid to conduct a Google search for your issue, or you can contact me at [szroberson@exchange.tamu.edu](mailto:szroberson@exchange.tamu.edu) or [ogaps-latex@tamu.edu](mailto:ogaps-latex@tamu.edu).

### **Brief Usage of the Template**

This template is intended for use by STEM<sup>1</sup> students. If you are not a STEM student, this template is likely not for you.

The advantage of using this template over the Microsoft Word templates are numerous. First, there is a lot of control granted to the user in how the document looks. Of course, you are expected to still follow the guidelines set forth in the TAMU Thesis Manual. This template takes care of the margins, heading requirements, and front matter ordering for you.

### **Software to Install**

**MikTeX** or **ProTeXt** is the free software recommended for Windows PC users to compile your  $\text{\LaTeX}$  document. To compile for this document, XeLaTeX compiling engine is used. There is currently an issue in which the package xetex-def does not install; see the file README.txt for a solution. Another software called **JabRef** is also recommended for bibliography/reference management; its usage is similar with EndNote.

---

<sup>1</sup>Science, Technology, Engineering, and Mathematics. This is an example of a footnote. You can see that it is numbered and appended at the end of the page. Also, you can see the effect of having a multiline footnote.

## Procedure to Compile $\text{\LaTeX}$ Document

This template (and consequently, your document) will be compiled using XeLaTeX. To compile your document, do the following<sup>2</sup>:

- In TeXstudio, go to the Tools menu, then select Commands, and click XeLaTeX.
- In Texmaker, go to the Tools menu and select XeLaTeX.
- For other editors, consult the help files included with the editor.

To view the output after the program is done compiling, press F7 in TeXstudio and Texmaker or the appropriate hotkey for other editors. Be sure that the document is not open in another PDF reader, for your editor will not display it.

## How to Fill This Document

The document structure is organized in the main .tex file, TAMUTemplate.tex, which has the same name as the output PDF file. Content in each section is in the data folder. You can open the .tex files under the data folder to modify. Four sections are added initially. To add in more sections into the  $\text{\LaTeX}$ document, open the TAMUTemplate.tex file and go to **line 130** you can just delete the content in the data folder and fill your documents and then compile under TAMUTemplate.tex.)

## Reference Usage and Example

This subsection tests the usage of references. The book[2] is referred in this way. Actually, the option is available for you to change the default way how reference appears. The default and most commonly used option [3] is displayed here [4].

Unrelated citations are referred here for the test of reference section only[?]. If you find that the reference [?] has more items than you need [5], question marks will show up in place of a reference handle, like these [?].

---

<sup>2</sup>Notice here that I also show off the itemize environment for unordered lists. Ordered lists use the enumerate environment.

## Equations, Formulas, and Other Really Cool Math Things That L<sup>A</sup>T<sub>E</sub>X Can Do

Equations can be written in L<sup>A</sup>T<sub>E</sub>X in one of two ways. First, you can have material displayed inline by enclosing the desired statement in dollar signs. For example,  $e^{i\pi} + 1 = 0$  is an inline math expression. Some longer expressions, especially those including sums, integrals, or large operators and objects can be displayed centered on their own line. In this **math mode**, you enclose the desired material in square brackets. For example,

$$\sum_{j=1}^n \int f_j \, dx = \int \sum_{j=1}^n f_j \, dx$$

is a math mode expression. We can also have a series of expressions aligned at a symbol. This is particularly useful when you are showing details in solving an equation or evaluating an integral. The next block shows off the *align\** environment. We use it here to show a distributive property of set intersections over unions. Observe how each line is aligned to the biconditional symbol. This makes reading steps easier, since a reader can go line by line and determine why each step is justified.

$$\begin{aligned} x \in A \cap \bigcup_j B_j &\iff x \in A \wedge x \in \bigcup_j B_j \\ &\iff x \in A \wedge x \in B_k \text{ for some } k \\ &\iff x \in \bigcup_j A \cap B_j \end{aligned}$$

There are many more commands and features available, but this document is too small to contain them.<sup>3</sup> Many guides are available on the Internet for your use.

### A Test Section

This is just a test. Below is a figure displaying some Haskell code in a compiler.

---

<sup>3</sup>Yes, I pulled a Fermat. But really, a Google search will likely help you find what you need to do.

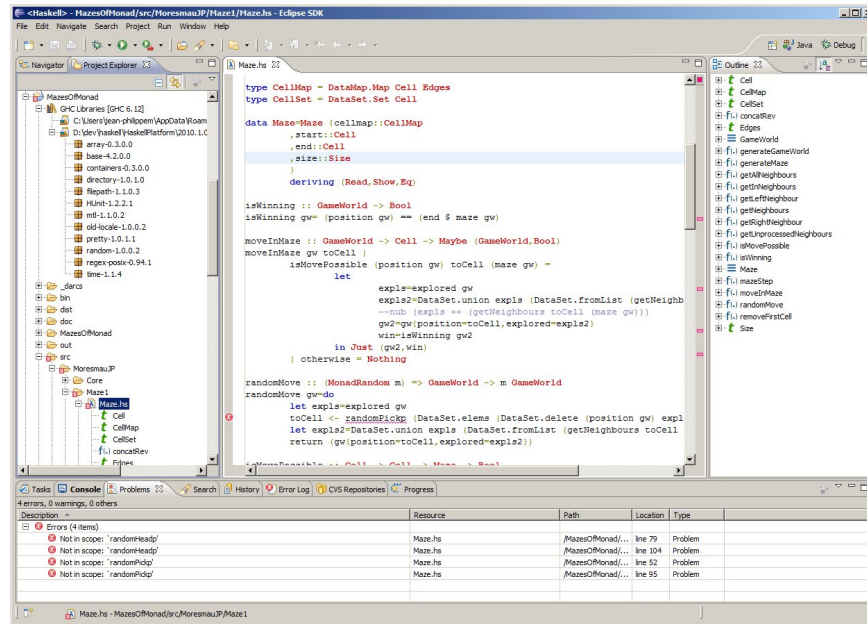


Figure 1.1: Some Haskell code in a compiler.

This template has been designed for use in modern systems, but can perhaps be adapted to work on older systems, such as Windows 95. Below is a screenshot of a DOSBox console, an MS-DOS emulator designed to work on several platforms. Windows 95 can be installed into DOSBox, but it is not suggested.

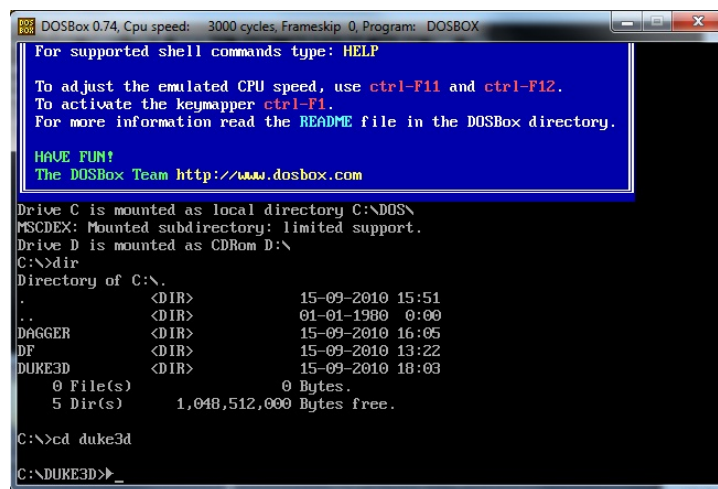


Figure 1.2: The DOSBox console running in Windows 7. The contents of the mounted directory C: are displayed, with the active subdirectory DUKE3D.