THE UMALAYATHESIS LATEX DOCUMENT CLASS

LIM LIAN TZE

INSTITUTE OF POSTGRADUATE STUDIES
UNIVERSITY OF MALAYA
KUALA LUMPUR

2018

THE UMALAYATHESIS LaTeX DOCUMENT CLASS

LIM LIAN TZE

THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

INSTITUTE OF POSTGRADUATE STUDIES
UNIVERSITY OF MALAYA
KUALA LUMPUR

2018

UNIVERSITI MALAYA

ORIGINAL LITERARY WORK DECLARATION

Name of Candidate: (I.C./Passport No.:   )

Registration/Matric No.:

Name of Degree:

Title of Project Paper/Research Report/Dissertation/Thesis ("this Work"):

Field of Study:

I do solemnly and sincerely declare that:

(1) I am the sole author/writer of this Work;
(2) This work is original;
(3) Any use of any work in which copyright exists was done by way of fair dealing and for permitted purposes and any excerpt or extract from, or reference to or reproduction of any copyright work has been disclosed expressly and sufficiently and the title of the Work and its authorship have been acknowledged in this Work;
(4) I do not have any actual knowledge nor do I ought reasonably to know that the making of this work constitutes an infringement of any copyright work;
(5) I hereby assign all and every rights in the copyright to this Work to the University of Malaya ("UM"), who henceforth shall be owner of the copyright in this Work and that any reproduction or use in any form or by any means whatsoever is prohibited without the written consent of UM having been first had and obtained;
(6) I am fully aware that if in the course of making this Work I have infringed any copyright whether intentionally or otherwise, I may be subject to legal action or any other action as may be determined by UM.

Candidate's Signature   Date:

Subscribed and solemnly declared before,

Witness's Signature   Date:

Name:
Designation:

THE UMALAYATHESIS LaTeX DOCUMENT CLASS

ABSTRACT

An abstract must not exceed 500 words, typed in a single paragraph with double- spacing, and written in Bahasa Malaysia and English language. A maximum of five (5) keywords should also be listed below the abstract.

Keywords: Keyword, keyword, keyword, keyword.

TAJUK DALAM BAHASA LAIN UNTUK ABSTRAK KEDUA

ABSTRAK

Ini merupakan abstrak dalam Bahasa Melayu (satu perenggan).

ACKNOWLEDGEMENTS

Thanks guys. I owe you many.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF SYMBOLS AND ABBREVIATIONS

θ :   temperature degree.

LI   :   lexical item.

NLP :   Natural Language Processing.

POS :   part of speech.

LIST OF APPENDICES

CHAPTER 1: HOW TO USE UMALAYATHESIS TO WRITE YOUR THESIS, AND THEN SOME

umalayathesis is a LaTeX class for authoring theses that fulfil formatting specifications required by Universiti Malaya (UM), Malaysia. The thesis preparation guide can be accessed at `http://bit.ly/2xaYpzN`.

1.1 Files

Here's a quick list of the files required when writing your thesis with the umalayathesis class. Easiest way to go about things is to put all the files in the same directory. (See 1.4 for more details.)

- **`umalayathesis.cls`**, the LaTeX class file implementing the UM thesis formatting requirements.

- A "main driver" `.tex` file of your thesis, analogous to `int main()`. You can name this file anything you like; it is known as `thesis.tex` in this guide. (See 1.4.) **This is the *only* file that you should run the processing tools on!**

- Two `.tex` files containing your thesis abstract, in English and Bahasa Malaysia. (See 1.4.6.)

- `.tex` files containing your thesis chapters and appendices, one chapter per file. (See 1.4.8 and 1.4.9.)

- A `.bib` file containing your references and publications. (See 1.4.10).

- A `.tex` file containing your glossary. (See 1.4.12).

1.1.1 LaTeX IDE Configuration

This section is unnecesary if you are using Overleaf, arara or latexmk, as these build tools would automatically run the necessary processors.

Assuming TeXworks is your LATEX editor of choice on Windows, you will probably want to configure it so that you can process your glossary and list of own publications from within TeXworks.

(You can always, of course, opt to run the relevant commands from the command line prompt, or adapt these configurations for other editors and operating systems: I have tested on Windows XP/7, Ubuntu and Mac OS X.)

1.1.1.1 Tool Configuration for Generating the Glossary

Access the TeXworks menu Edit ▹ Preferences... ▹ Typesetting. Add a new processing tool called "MakeGlossaries". Configure it as shown below:
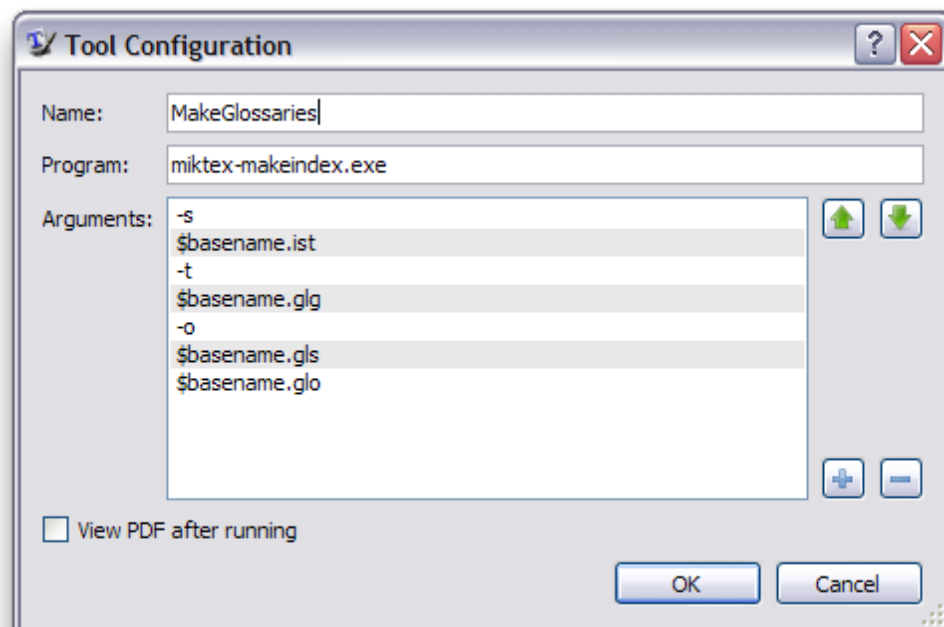
Now **repeat the above step** for another similar tool called "MakeAcronyms", but replace `thesis.glg` with `thesis.alg`; `thesis.gls` with `thesis.acr`; `thesis.glo` with `thesis.acn`.

On Linux and Mac systems, these are equivalent to the command lines

```
makeindex -s <base>.ist -t <base>.glg -o <base>.gls <base>.glo
```

If you have Perl installed (likely if you're using Linux or Mac), you can just run

```
makeglossaries <base>
```

and it'll process both the acronyms and the glossaries.

1.1.1.2   Tool Configuration for Generating the List of Publications

Now add a new processing tool called "Create Own Publication List" (or some other name). Configure it as shown below:
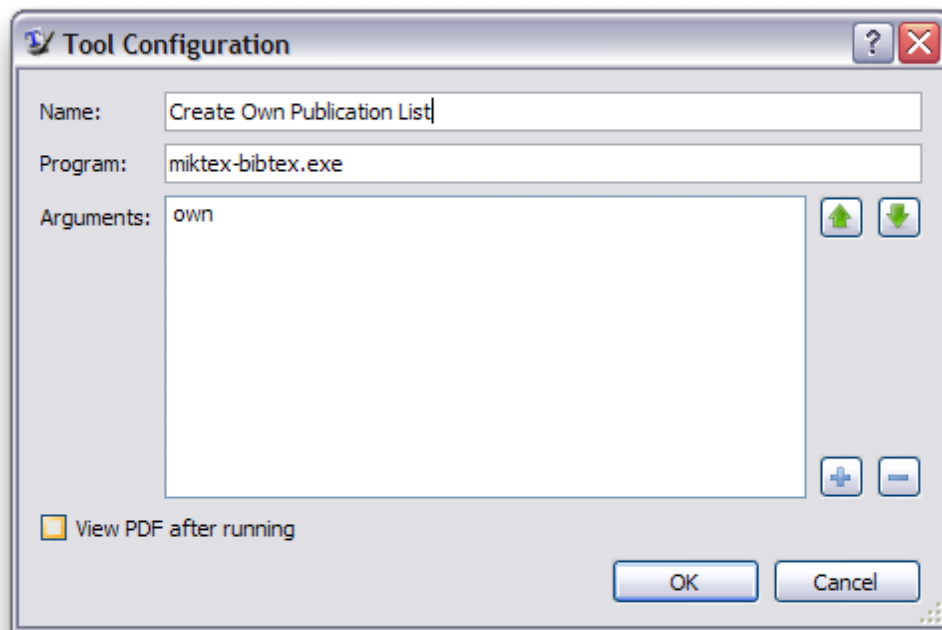
On Linux and Mac systems, these are equivalent to the command lines

```
bibtex own
```

If you are using the `splitpubs` environment for separating your published journal articles and conference proceedings, then you would need to set up similar processors for `ownjour` and `ownconf` instead:

```
bibtex ownjour
bibtex ownconf
```

1.2 Compiling `thesis.tex`

The following processing tools/commands are triggered automatically on Overleaf as you edit your file, but you must execute them manually if compiling on your own machine. (The $ is the terminal command prompt; don't type that!)

```
$ pdflatex thesis
$ bibtex thesis
$ makeglossaries thesis <-- if you have acronyms and glossaries
$ makeindex thesis <-- if you have indices
$ pdflatex thesis
$ pdflatex thesis
```

You will need to run `makeglossaries` again if you add and use a *new glossary or acronym entry*.

If you do not have Perl installed on your system (Mac and GNU/Linux systems are likely to already have Perl installed), then you should execute the following commands to replace `makeglossaries`:

```
$ makeindex -s thesis.ist -t thesis.glg -o thesis.gls thesis.glo
$ makeindex -s thesis.ist -t thesis.alg -o thesis.acr thesis.acn
```

1.3 Printing from Acrobat Reader

Remember to set the **paper size** to **A4** and **page scaling** to **None** in the Print dialog, otherwise the margins would be incorrect.

1.4 Using the umalayathesis Class

1.4.1 Activation

To 'activate' the class, make sure your main document file (e.g. `thesis.tex`) starts off with \documentclass{umalayathesis}:

```
\documentclass{umalayathesis}
\usepackage{graphicx}
```

```
\usepackage{... other packages you need}
```

This will set up the page margins, paragraph spacing, indents, page numbers, font face and size, citation and bibliography format, amongst other things.

1.4.2   Document Class Options

Some faculties or departments may have varying, and sometimes conflicting, requirements on various formatting details, which may not have been explicitly described in the official thesis style guidelines. The following document class options may be used to address some of the more commonly requested changes: please also read the commented code in the sample `thesis.tex` carefully for examples and tips.

english (default) English thesis.

bahasam Malay thesis. At present `apacite` and `newapa` has not yet been localised to Bahasa Malaysia.

apacite (default) Loads the `apacite` package, which implements the APA citation and referencing styles strictly, including expansion of of 3–5 authors on first citation.

newapa Loads the `natbib` and `apalike` package for a APA-like reference list but *does not fully implement* all APA citation styles. In particular, this option will not expand references with 3–5 authors on first citation. **Not recommended unless explicitly requested by examiner**.

custombib Does not pre-load any bibliography style or packages; you will need to specify \bibliographystyle, \bibliographystyleown etc yourself, or load `natbib` yourself if necessary. See 2.2.1 for an example.

appendixhead Add 'APPENDICES' before the first Appendix.

altcaption Caption in smaller fonts; only Figure X, Table Y bold.

singlespacedlisttitles Long titles in the ToC, LoT, LoF, LoA are single-spaced.

listpageheader If your faculty requires a "header row" at the top of the List of Figures/Tables. You can re-define `\lofpageheader` and `\lotpageheader` if necessary, e.g. `\renewcommand{\lofpageheader}{\hfill Page}`

boldfrontmattertoc If your faculty wants front matter "chapters" to be bold in the ToC.

boldbackmattertoc If the backmatter "chapters" are to be bolded as well.

uppercasetoc If all "chapters" level headings must be upper-cased in the ToC.

If further minor modifications are required, it is recommended to do so with re-issuing commands to change settings or `\renewcommand`, `\patchcmd` etc in the *preamble of* `thesis.tex`. Modifying `umalayathesis.cls` directly is discouraged, as far as possible, since this may complicate debugging and future maintenance.

1.4.3 Author Information

You need to provide some author information in the preamble. Example lines from `thesis.tex`:

```
\author{Lim Lian Tze}
\title{My Ground-breaking Research}
\othertitle{Hasil Penyelidikan yang Menggegarkan}
\faculty{Faculty of Amazing Research}
\submissionyear{2012}
\degree{Doctor of Philosophy}
```

These information are needed to generate the preliminary pages.

If `\othertitle` is given, then the second abstract will display it (i.e. if your thesis is 'english' then this is printed on top of the Malay abstract. and if your thesis is 'bahasam' then this is printed on top of the English abstract). If no `\othertitle` is given, then the second abstract will not have any translated thesis title.

If you need to specify your department as well, you may write

```
\faculty{Department of Hyperboles\\Faculty of Amazing Research}
```

1.4.4 Preliminary Pages

Once in the main document body, \frontmatter sets up the, well, front matter. This include setting the page numbers to lower-case Roman numerals.

umalayathesis can generate the cover page, title page and original literary work declaration page with the following lines (included in `thesis.tex`):

```
% \makecoverandtitlepage{\mastercoursework}
% \makecoverandtitlepage{\mastermixedmode}
% \makecoverandtitlepage{\masterresearch}
\makecoverandtitlepage{\doctoralresearch}
% \makecoverandtitlepage{\doctoralmixedmode}
\declarationpage
```

Please *uncomment* the correct \makecoverandtitle line to generate the correct statement on the title page.

1.4.5 Acknowledgements

This is provided using \acknowledgements:

```
\acknowledgements{I would like to thank my parents, my family, my
    supervisor...}
```

1.4.6 Abstract

Write your abstracts in separate files (`sample-abstract.tex` for the English abstract and `sample-msabstract.tex` for the Malay abstract in this example), and include them in `thesis.tex` like this:

```
\abstractfromfile{sample-abstract}
\msabstractfromfile{sample-msabstract}
```

1.4.7 Table of contents, List of figures and tables

These are auto-generated by the following lines (included in `thesis.tex`):

```
{\clearpage
\tableofcontents\clearpage
\listoffigures\clearpage
\listoftables\clearpage}
```

1.4.8   Main Chapters

I highly recommend that each chapter be written in a separate file. For example,
`chap-intro.tex` has the contents

```
\chapter{Introduction}
This is the introduction chapter.

\section{Problem Background}
We study the...
```

And `chap-litreview.tex`:

```
\chapter{Literature Review}
We review the state of the art in...

\section{Early Approach}
Researchers first attempted to...
```

In `thesis.tex`, these chapter files are included with the following lines:

```
\mainmatter              % signal start of main chapters
\input{chap-intro}       % no .tex extension!
\input{chap-litreview}
\input{...}
```

1.4.9   Appendices

Again, I recommend keeping each appendix chapter in its own file e.g. `app-umldiagram.tex`:

```
\chapter{UML Diagrams}
...
```

And in `thesis.tex`:

```
\begin{appendices}
\input{app-umldiagram}
\input{...}
\end{appendices}
```

1.4.10 Citations and Bibliography

umalayathesis uses the apacite package with the natbibapa option to format citations and bibliography in the APA style. Here are some useful variants of the \cite command; see the apacite manual for full list.

- \citep{Lim:2009}   → (Lim, 2009)

- \citet{Lim:2009}   → Lim (2009)

- \citealp{Lim:2009}   → Lim, 2009 (no parenthesis)

- \citep[see][p.~7]{Lim:2009} → (see Lim, 2009, p. 7)

- \citeauthor{Lim:2009}   → Lim

- \citeyearpar{Lim:2009}   → (2009)

In thesis.tex, these lines will print the bibliography list:

```
\backmatter            % signal start of back matter
\bibliography{bibfile} % bibliography file name without .bib
    extension
```

1.4.11 List of Publications

First, make sure that you enter details about your own publications in your .bib file. Then in thesis.tex, search for the following line:

```
\nociteown{Lim:2009}
```

Replace the BibTeX key between the curly braces with that of your own publication. If you have more than one publications, simply separate them with commas inside the curly braces, like this:

```
\nociteown{lim:tang:2004,Lim:2009}
```

If you need your publications to be categorised by types (journal articles and conference proceedings), use the splitpubs environment with \...jour and ...conf instead:

```
\begin{splitpubs}
\nociteownjour{lim:tang:2004}  % journal articles
\nociteownconf{Lim:2009}       % conference proceedings
\bibliographyownjour{myrefs}
\bibliographyownconf{myrefs}
\end{splitpubs}
```

1.4.12   Glossary

You can maintain a consistent glossary and acronym list using the glossaries package. It also supports acronym expansion on first mention!

First, define your acronyms and terms in a separate file e.g. myacronyms.tex:

```
% \newglossaryentry{label}{name={term},description={explanation}}
\newglossaryentry{lexicon}{
name={lexicon},
description={The vocabulary of a language, including its words
    and expressions. More formally, it is a language's inventory
    of lexemes}
}

% \newacronym[description={explanation}]{label}{abbrv}{full form}
\newacronym
[description={single word or words that are grouped in a
    language's lexicon}]
{LI}{LI}{lexical item}

\newacronym[description={The application of computational
    linguistics principles to problems}]
{NLP}{NLP}{Natural Language Processing}

% when the plural form is irregular, specify firstplural and
    plural
\newacronym
[firstplural={parts of speech}, plural={POS},
description={linguistic category of lexical items}]
{POS}{POS}{part of speech}
```

Loading the glossary and acronym list, and later printing the list of acronyms and glossary in `thesis.tex`:

```
% Must be loaded BEFORE \begin{document}!
\loadglsentries{myacronyms}
\begin{document}
...
% List of acronyms is between list of tables and list of
    appendices
\listofacronyms\clearpage
...
\bibliography{bibfile}
% Glossaries is placed AFTER the bibliography
% (only entries that are actually used in the text will be listed)
\printglossary
...
```

To mention them in the text (i.e. `chap-xxx.tex` etc):

```
Let's talk about \acp{LI} and \acp{POS} in \ac{NLP}. I mention
    again \acp{LI}. We will also talk about \glsplural{lexicon}.
```

Notice how the acronyms are expanded on first use, as well as the use of \glsplural and \acp for plurals:

```
Let's talk about lexical items (LIs) and parts of speech (POS) in Natural Language
Processing (NLP). I mention again LIs. We will also talk about lexicons.
```

You will need to run `pdflatex`, `makeglossaries`, then 2 more runs of `pdflatex` for the glossaries to appear properly.

Use \Gls, \Glsplural, \Ac, \Acp etc. if you need to capitalise the first letter of your terms at the beginning of sentences.

CHAPTER 2: INTRODUCTION

2.1   First Level Heading

You can use the usual LaTeX commands and environments: footnotes[1] too[2], certainly

with figures and tables as well.

Figure 2.1: First figure. OK?

Table 2.1: This is a table.

Hey	How's it	Going?
Fine!	Just great.	See ya!
Fine!	Just great.	See ya!

This is a quotation:

> Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi
> auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies
> et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet
> magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis.
> Suspendisse ut massa. Cras nec ante. Pellentesque a nulla.

You can create subfigures (and similarly subtables.)

---

[1] See here, how weird, how to fill out an entire line. See here, how weird, how to fill out an entire line. See here, how weird, how to fill out an entire line. See here, how weird, how to fill out an entire line. See here, how weird, how to fill out an entire line.

[2] don't you agree?

(a) This is a subfigure

(b) This is another subfigure

Figure 2.2: Second figure. If you have a citation in the caption, you might want to provide an optional caption that doesn't contain the citation so that it won't appear in the List of Tables or Captions. (Audibert, 2004)

Table 2.2: A trivial subtable example

(a) One Subtable	
One	Two
Three	Four
Five	Six

(b) Two Subtables	
α	β
γ	δ
ϵ	ζ

2.1.1 Suggestions about Tables

LaTeX tables can be notoriously. . . *interesting* to do. But whatever you do, **please don't nest tabulars** i.e. put tabulars within tabulars. They are hard to read and debug, and prone to errors.

`http://www.tablesgenerator.com` is a handy tool, where you can design your tables and then export the LaTeX code. You can even paste in some data you copied from Excel via the 'File > Paste table data' function.

For tables/columns that are too wide to fit nicely on the page, see this blog post for some suggestions: `http://tex.my/how-to-deal-with-wide-tables/`

For tables that are too long and must be broken up into multiple pages, use the `longtable` or `supertabular` packages: these have mechanisms for automatically breaking the tables, and repeating the table header/footer rows on each page. Click here for a `longtable` example, which is reproduced in Table 2.3. Table 2.4 shows a `supertabular` example.

2.1.2 Suggestion about Itemize and Enumerate Lists

umalayathesis v1.3 loads the enumitem package, which provides some mechanisms for customising lists.

If the space above the itemize and enumerate lists are too big for your liking:

- This is the first point and

- This is the second point

You can use the nosep option:

- This is the first point and

- This is the second point

To use a different bullet:

★ This is the first point and

★ This is the second point

And even different numbering scheme (you may need to change the list's left margin):

(i) This is the first point and

(ii) This is the second point

Other possible commands for changing the counter format are:

- \arabic: 1, 2, 3, . . .

- \roman: i, ii, iii, . . .

- \Roman: I, II, III, . . .

- \alph: a, b, c, . . .

- \Alph: A, B, C, . . .

2.2 Citations

umalayathesis uses the `apacite` package (with `natbibapa` option) and bibliography style. Use `\citep` for parenthetical citations, such as this one (Audibert, 2004). To get text citations, use the `\citet` command and you'll get Audibert (2004).

Starting with umalayathesis v1.5.1, the APA7 guidelines is out, where first citations with many authors now *do not need to be expanded*. Therefore citations with $3 \leq$ authors ≤ 5 are always abbreviated now; e.g. (Azarova et al., 2002).

2.2.1 Using Another Bibliography Style

If your faculty allows/requires you to use an entirely different bibliography style, use the `custombib` document class option. You are then responsible for loading any packages (e.g. `natbib`) and setting up the necessary `\bibliographystyle`, etc.

For example, if your faculty requires you to use the `IEEEtran` bibliography style, you can write

```
\documentclass[custombib]{umalayathesis}
\bibliographystyle{IEEEtran}
\bibliographystyleown{IEEEtran} %% Style for List of Publications
\bibliographystyleownjour{IEEEtran}
\bibliographystyleownconf{IEEEtran}
```

2.2.1.1 Symbols and Abbreviations

If you're just starting to write your thesis, you may want to maintain a list of symbols and acronyms, and process it using the `makeglossaries` command, so that acronyms are automatically expanded/abbreviated, and listed in the List of Symbols and Abbreviations. See the `umalayathesis-manual.pdf` for further information. Great. Let's talk about lexical items (LIs) and parts of speech (POS) in Natural Language Processing (NLP). I

mention again LIs. Oh I have a symbol too, it's temperature degree (θ). And I talk a lot about lexicons.

Or if you've actually already nearly finished writing your thesis, it's probably much easier to forget about `glossaries` and the `myacronyms.tex` file, and just create a List of Symbols and Abbreviations manually yourself with a tabular:

```
\chapter{List of Symbols and Abbreviations}
\begin{tabular}{l @{ : } l}
UM & University Malaya\\
KL & Kuala Lumpur\\
\end{tabular}
```

(a)   *A Fifth Level Heading*

This will not be included in the Table of Contents.

Here's an example `longtable`. Beware: very large long tables can take a loooooong time to compile!

Table 2.3: A sample `longtable`.

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Table 2.3, continued

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Table 2.3, continued

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Table 2.3, continued

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Table 2.3, continued

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Here's a `supertabular` example too.

Table 2.4: A sample `supertabular`.

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Table 2.4, continued

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Table 2.4, continued

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

Table 2.4, continued

First column	Second column	Third column
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778
One	abcdef ghjijklmn	123.456778

CHAPTER 3: DUMMY CHAPTER

Hello!!

Test 3

Figure 3.1: Let's see. What have we got here?

REFERENCES

Audibert, L. (2004). Word sense disambiguation criteria: a systematic study. In *20th International Conference on Computational Linguistics (COLING 2004)* (pp. 910–916). Geneva, Switzerland: COLING.

Azarova, I., Mitrofanova, O., Sinopalnikova, A., Yavorskaya, M., & Oparin, I. (2002). RussNet: Building a lexical database for the Russian language. In *Proceedings of workshop on wordnet structures and standardisation and how this affect wordnet applications and evaluation* (p. 60-64). Las Palmas.

LIST OF PUBLICATIONS AND PAPERS PRESENTED

Bond, F., Lim, L. T., Tang, E. K., & Riza, H. (2014). The combined Wordnet Bahasa. *Nusa: Linguistic studies of languages in and around Indonesia*, *57*, 83–100. Retrieved from `http://hdl.handle.net/10108/79286`

Lim, L. T. (2009). Multilingual lexicons for machine translation. In *Proceedings of the 11th International Conference on Information Integration and Web-based Applications & Services (iiWAS2009) Master and Doctoral Colloquium (MDC)* (pp. 732–736). Kuala Lumpur, Malaysia.

APPENDIX A: MANUALS, TECHNICAL SPECIFICATIONS, DOCUMENTATIONS, EXAMPLE SCENARIOS

APPENDIX B: TRY

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.