The LyX Tutorial

Contents

Chapter 1

Introduction

1.1 Welcome to LyX!

This file is designed for all of you who have never heard of LaTeX, or don't know it very well. Now, don't panic - you won't need to learn LaTeX to use LyX. That is, after all, the whole point of LyX: to provide an almost-WYSIWYG frontend to LaTeX. There are some things you will need to learn, however, in order to use LyX effectively.

Many of you probably found your way to this document because you tried to put two spaces after a "." or tried to put 3 blank lines between paragraphs. After much frustration, you found you couldn't. In fact, you'll find that most of the little tricks you're used to using in other word processors just won't work in LyX. That's because LyX isn't entirely a word processor, but a *document preparer*. You're probably saying, "So? What's the difference, besides semantics?" There's quite a big difference, actually. Word processors are a tool for document preparation, just as food processors are a tool for food preparation. Just as a food processor can be helpful in cooking, a word processor can be helpful in document preparation. However, like a food processor, a word processor has limitations, limitations which will sometimes take what you're doing, mash it all up, and hand you some grey goo instead of what you wanted.

So, bear with us, and read on. Reading this tutorial is definitely worth the time.

1.2 About this Document

Before we get started with this section, we want to emphasize something about this document. Unlike other manuals, we assume that you, the user, are ***NOT*** stupid. We assume that you know what all of the keys on your keyboard are, that you know how to use a mouse, that you know how to operate a windowed interface, etc. We also assume that you know absolutely no LaTeX whatsoever.

As with all of the documentation files for LyX, we begin with a brief explanation of the format of this manual. Some of you may have printed out the manual. Others may be reading it online, within LyX as a file. For those reading online, there are some differences from the printed version. First, there is no title page [*Editor's Note: Some of these comments anticipate features to be added in the future. -jw*] visible, nor are any of the footnotes or the Table of Contents visible. For now, title pages are generated by LaTeX using information provided in a popup dialog box. There is a popup for viewing the Table of Contents. To open it, select *Table of Contents* from the *Edit* menu. To open a footnote, which looks like this,[1] click on it with the middle mouse button.

Now that we've cleared up some of the differences between the printed and online versions of this file, we can start looking at the format of this document. You'll occasionally notice things in different fonts:

- *Italics* is used for menu, button, or command names.
- `Typewriter` is used for program and file names.
- Sans Serif is used for references to sections of other manuals.
- NOUN STYLE is used for people's names.

For keys and keybindings, you'll probably get referred to the Key Bindings section of `Reference.lyx`. When we do need to reference keys, we'll use the following prefixing convention:

- "C-" indicates the Control- key.
- "S-" indicates the Shift- key.

[1] Hi!

- "M-" indicates the Meta- key, which on some keyboards will be the Alt- key.
- "F1" ... "F12" are the function keys.
- "Esc" is the escape key.
- "Insert" "Delete" "Home" "End" "PageUp" "PageDown": these are the 6 keys that appear above the cursor keys on many PC keyboards.

Don't worry about this too much, though. Since you're just getting started, we'll refer primarily to the menus and buttons. For the impatient, we'll refer to the appropriate section of `UserGuide.lyx` where you can find more information.

You will also find footnotes with commentary from various members of the LyX team. Each one begins with "Note from Xxxx:" There's one at the beginning of the document from Matthias Ettrich, creator of LyX. There will also be some from David Johnson, who maintains the LyX homepage and maintained an earlier version of this document. When there's a note from them, you'll probably only see their first names, since there'll be several such notes.[2] A full list of credits appears at the end of this file.

[2] *Editor's Note: When the current maintainer of these documents wants to make a comment, it will appear just like this, followed by a "-" and his initials. -jw*

Chapter 2

Getting Started with LyX

2.1 The Concept of Document Preparation

2.1.1 Overview

Part of the initial challenge of using LyX comes from the change in thinking that you, the user, must make. You see, most word processors are simply glorified typewriters. At one time, all we had for creating documents were typewriters, so we all learned certain tricks to get around their limitations. Underlining, which is little more than overstriking with the "_" character, became a way to emphasize text. To create a table, you figured out beforehand how big each column was to be and set the appropriate tab stops. The same applied for letters and other right justified text. Hyphenation at the end of a line required a careful eye and a lot of foresight.

In other words, we've all been trained to worry about the little details of which character goes where.

Consequently, almost all word processors have this mentality. They still use tab stops for adding whitespace. You still need to worry about exactly where on the page something will appear. Emphasizing text means changing a font, similar to changing the typewriter wheel. You get the idea.

This is where LyX differs from a word processor. You don't concern yourself with what character goes where. You tell LyX *what you're doing* and LyX takes care of the rest, following a set of rules called a *style*. Let's look at a little example:

Suppose you're writing a report. To begin your report, you want a section called "Introduction." So, you go into whatever menu it is in your word processor that changes font sizes and decide on a new font size. Then you turn on bold face. Then you type, "1.__Introduction". Of course, if you later decide that this section belongs someplace else in the document, or if you insert a new section before it, you need to change the numbering as well as any entry in the table of contents.

In LYX, you go to the pull-down on the far left of the button bar and select *Section*.

Yes, that's all. If you cut and paste the section, it will automatically be renumbered - everywhere. There's even a way to make LYX automatically update any references to the section inside the file.

Here's another example. Suppose you're making a list. In a word processor, a list is just a bunch of tab stops and newlines. You need to figure out where to put the label for each list item, what that label should be, how many blank lines to put between each item, and so on. Under LYX, you have only two concerns: what kind of list is this, and what do I want to put in it. That's it.

So, the basic idea behind document preparation is specify what you're doing, not how to do it.

2.1.2 Differences between LYX and Word Processors

There are a variety of little tricks that you're used to which don't exist under the document preparation concept. So, you won't find them in LYX. This is going to drive you up the wall at first. That's ok. It takes time to let go of our old crutches.

Here's a little list of things you won't find in LYX:

- The infamous document ruler now present in many commercial word processors
- Line spacing [i.e. single spaced, double spaced, etc.]
- Tab stops
- Extra blank lines [i.e. hitting *Enter* two or more times]

Tab stops, along with a ruler showing you the position of things on the page, are utterly useless in a document preparation system. The program worries about where things go on the page, not you. Extra blank lines are similar;

LyX adds them where necessary, depending on context. As for line spacing, it's totally obsolete under LyX. The space between lines is *variable*, just like the space between words.[1]

Here are some things that exist in LyX, but aren't used as you might think:

- Indenting controls
- Page breaks
- Whitespace, horizontal and vertical
- Fonts and font sizes
- Typefaces [bold, italic, underline, etc.]

Although they exist in LyX, you generally don't need them. LyX will take care these things for you, depending on what you're doing. Different parts of the document are automatically set in a different typeface and font size. Paragraph indenting is context dependent; different types of paragraphs get indented differently. Page breaks get handled automatically, as well.

Lastly, there are a few areas where LyX and LaTeX surpass word processors:

- Hyphenation
- Lists of any type
- Mathematics
- Tables
- Cross-referencing

Granted, many modern word processors can handle mathematical symbols, tables, and hyphenation. However, they've only recently been able to do so, whereas LyX is built upon the LaTeX document preparation system. LaTeX has been around for over 10 years, and *works*. All of the bugs have been long since ironed out. Furthermore, not a single modern word processor can

[1] There are ways to adjust the minimum and maximum space, but that requires some knowledge of LaTeX. No need to worry about such things for now.

handle cross-referencing, which, like math formulae, have been part of LaTeX from day 1. Some of these features we'll talk about in later sections. Others are a bit more advanced, and are introduced at the end of this document.

2.1.3 What the heck *is* LaTeX?

LaTeX is a document preparation system designed by Leslie Lamport in 1985. It, in turn, was built up from a typesetting language called TeX, created by Donald Knuth in 1984.

Editor's Note: I intend to provide a bit more history here, but later on. - jw

2.2 Creating a Document

2.2.1 Document Classes and Organization

On a word processor, a document is nothing more than a file of ASCII characters and control codes. Except perhaps for paper or margin size, there's really no difference between one word processors document and the next. On a document preparation system, this is not the case. Remember what we said about styles? Different types of documents will have different rules for putting things on the page. Under the document preparation paradigm, documents are divided into groups, or *classes*, which have certain common characteristics. There are 5 such classes in LaTeX: *Article, Report, Book, Letter,* and *Slides*. LyX supports all of these except *Slides*, the class used to prepare presentation slides or overhead projector transparencies. Additionally, LyX has an extra class that LaTeX does not, *Linuxdoc.* The two primary features of each class are page layout and organization.

Yes, that's right: organization. That's another difference between word processors and document preparers. On a word processor, you must decide how to subdivide your document into different pieces, what headings, if any, those pieces will have, what those headings will look like, and so on. This can be very confusing and create inconsistencies in large documents if you forget what form your subsections had 126 pages ago. A document preparer solves this problem by providing a standard format for subdividing your work. Once again, that set of rules called a *style* determines how. For example, this document is in the class *Book* and is organized into *Chapters,* *Sections, Subsections,* and so on. Right now, you're reading *Subsection* 2.2.1 in *Section* 2.2 of *Chapter* 2 of this *Book*.

This concept is so important, that we'll highlight it with the following list:

- Classes of Document
  1. Article
  2. Report
  3. Book
  4. Letter
- Organization of a Document
  1. Chapter[2]
  2. Section
  3. Subsection
  4. Subsubsection
  5. Paragraph
  6. Subparagraph

The main differences between classes are organization [see footnote for *Chapter* above] and layout. You can adjust some of the default parameters for the layout of the document, however, as described in the next subsection.

2.2.2 Adjusting the Layout

The different document classes all have a default layout. [*Editor's Note: I'd like to put in a table of said defaults ... someday .... - jw*] However, you can adjust some of these properties easily from within LYX. Select *Document...* from the *Layout* menu. In the popup, you should see the selection button for *Class*. There are other options here, too. *Editor's Note: I'll get around to describing these in the next round of editing. -jw*

[2] Only available in document classes *Report* and *Book*.

2.2.3 Editing and simple formatting

Editor's Note: Needs to be cut up and put in the appropriate sections of this chapter. -jw

Ok, imagine you have opened a buffer (maybe a new one). Now it's time to insert some text. Maybe you type the sentence:

> This is my first LYX document.

The important fact in this statement is, that it is your first document. Therefore you like to emphasize the "first". For that reason you have to select this word. This can be done by dragging over it with the left mouse button pressed or just by a click with the right mouse button on the word. If the word is selected it will be highlighted. Then click on the *icon* with the exclamation mark, which is called *Emphasize icon.* After clicking, the sentence should appear like this immediately:

> This is my *first* LYX document.

The icon at the right of the *Emphasize icon* is called the *Noun icon.* It can be used to mark personal names. For example like this:

> I like ARTHUR SCHOPENHAUER's books.

Of course you can also choose fonts on a lower level. This can be done with the *Character* popup from the *Layout menu.* A style that you have specified in this popup can also be set with the *User icon.* Now write the following text:

> This is a headline.
> This is the following text.

Now you will certainly want to typeset the "headline" like a headline. *This is not done by choosing a larger and bold font in the Character popup!* With LYX it is much easier. Just move the cursor into the headline and click on the *Layout choice* on the very left of the *icon bar.* Then choose *Section* from the menu that popped up and the paragraph will be typeset like a section-headline. If you had selected several paragraphs the chosen layout would be set for all paragraphs that took part in this selection. You can also scroll through the layout menu choices, and see how each one would affect the paragraph where the cursor is located, by clicking with the *right* mouse button on the Layout menu.

You can now invoke *Table of Contents* from the *Edit menu*. You headline should appear in there. If you select it in the table of contents the cursor in the document will jump to the beginning of this headline in the document. Especially with larger documents this feature will help you not to go lost inside your work.

2.3 The Paragraph - the Basic Document Unit

Editor's Note: Describes the basic unit of a document: the paragraph. Discusses concepts necessary to remain sane while creating a document, such as spaces, newlines, and protected versions thereof. -jw

2.4 Fonts and Stuff

Editor's Note: Will cover - briefly - the options selectable from the Character... *popup as well as other things, such as floats and hfills. -jw*

2.5 From LyX to the Printer

Editor's Note: Needs a bit of cleaning for language, but not much else. -jw

After writing and formatting your first document with LyX you will certainly want to print it. This is not so easy for LyX, but very easy for you. Since you might be wondering about the various files that were generated when printing, I give a short explanation here what will happen behind the mask of LyX. I will also describe how this can be configured for your own purposes.

1. When you save (write) a document with LyX it will be saved as a lyx-file (`*.lyx`)

2. When invoking *Print* or *Preview* LyX will generate a latex-file (`*.tex`). This process is straightforward and will not need much time or memory.

3. Then LyX will run LaTeX. LaTeX will go over the tex-file and will hopefully create a device-independent file (`*.dvi`). This dvi-file contains

your document in an almost printable version. It can be previewed with xdvi, which will be called by LYX if you have chosen *Preview.*

4. For printing this dvi-file has to be converted into postscript.[3] LYX will call dvips, which can either pipe the postscript to a printer or store it in a file.

5. To print postscript you need a postscript-printer or a ghostscript-installation. If ghostscript is installed correctly it turns your printer into a true postscript printer.[4] So LYX will also call, indirectly, ghostscript to translate the postscript into the language of your printer.

NOTE: The dvi-file only contains the LaTeX-stuff. If you have included postscript-pictures in your document, there will only be a link to these files. So don't forget this files if you move your document in dvi-format to other computers. The postscript file will certainly include all pictures.

The previewer of choice is xdvi, since the output quality is much better than with ghostview. This is a matter of the free postscript fonts that have a very poor quality. Xdvi can also display included postscript-files by invoking ghostscript in the background, so using ghostview doesn't have any advantage. Of course this won't be true if you use only postscript fonts instead of computer modern fonts. Therefore both previewers are supported from LYX. If you like to preview with ghostview LYX will run dvips over the generated dvi-file and create a postscript-file `*.ps_tmp`. Then ghostview will be called with this file as argument.

As you have seen, a lot of things happen until you get a hardcopy or a preview of your document. So don't worry if printing needs a bit little more time than with other word processors. The printed result is worth waiting a little bit. Quality has always its price.

[3] Postscript is a registered trademark of Adobe Systems Incorporated, that is the main page description language in the UN*X world.

[4] This is done by calling ghostscript as a filter in `/etc/printcap`. Packages like "apsfilter", that come with some of the Linux-distributions, will do this for you automatically. You can configure your printer to automatically run ghostscript when a postscript file is sent to the printer. See the Printing-HOWTO for details on how to do this in Linux.

Chapter 3

Paragraph Types

3.1 Description of the available Layouts

Editor's Note: This chapter needs to be reworked to be usable. Provide examples, not descriptions of use in LyX. -jw

3.1.1 Headings (Chapter, Section, ... and derivatives)

3.1.1.1 Basic usage

To typeset headings the layouts *Chapter, Section, Subsection, Subsubsection, Paragraph* and *Subparagraph* are used. They mark the various degrees of headings. *Chapter* is the highest level of a report or a book, where article starts with *section*. A *Chapter* will always start with a new page, if you typeset a two-side *book*, it will automatically start with a new *right* page. So don't care with pagebreaks, this is the job of the computer! All heading layouts are available in two styles, for example section:

Section: The usual headline. Can be enumerated automatically and appears in the table of contents. Appears also in the headings of the page, if you have chosen the *headings pagestyle* for the document layout.

Section*: Similar to Section concerning the font and spaces. But will *not* be enumerated automatically and will *neither* appear in the table of contents *nor* in the headings. These forms can be used to do little visual text design, for example designing a title or things like that. They should *not* be used to typeset headings!

NOTE: You can't use footnote or other floats within a heading layout (BTW this doesn't make sense anymore).

3.1.1.2 Changing the enumeration

If you don't like the numbered headings, you can very easy change it. LaTeX uses a counter called `secnumdepth` to determine, which heading levels are enumerated. The default is 3, that means from *Chapter* (Level 0, if it exists) to *Subsubsection* (Level 3) will be enumerated. If you set `secnumdepth` to 5, also the subpararagraphs will be enumerated, if you choose -1, nothing will be enumerated. You can set this counter in the *Document Layout* popup from the *Layout menu.* If a headline layout isn't enumerated anymore, it doesn't different from the form with the star anymore on the screen, since neither headings nor the table of contents is yet displayed. The only way to discern them is the *Layout Choice* on the very left of the *icon bar.* So don't confuse these kind of headings!

If you want another kind of enumeration (for example I.A.a).1.) you can do this quite easy with LaTeX. Just add the LaTeX commands in the preamble. Since this is described in every LaTeX book, I will not repeat this here. Maybe you will also have to change the definitions for the table of contents, since the default one fits exactly the width of the 1.1.1.1-labels.

3.1.1.3 Creating an appendix

If you want to have an Appendix in your document, you use the same layouts to mark the various degrees. The top level appendix in a book or a report has to be *Chapter*, too, where the top level appendix of an article is also *Section*.

LyX cannot display an appendix correctly now. So you have to use LaTeX for that reason. Simply insert a paragraph (with *Standard layout*) *before* the appendix, with the following LaTeX-Command:

\appendix

Don't forget to mark the command as LaTeX. Then the following headings will appear in the previewed or printed document as an appendix. Unfortunately, as said before, LyX cannot display that yet.

3.1.2 Quotation / Quote

Quotation is used to typeset longer quotations, *Quote* is used for very short ones. Here is an example for *Quotation* from Matthew Tindal's *Christianity as old as creation*, 1730:

> "What Reason has a *Papist*, for Instance, to laugh at an *Indian*, who thinks it contributes to his future Happiness to dye with a Cow's Tail in his Hands, while he lays as great a Stress on rubbing a dying Man with Oil. Has not the *Indian* as much Right to moralize this Action of his, and shew its Significancy; as the *Papist* any of his mystick Rites, or *Hocus Pocus* Tricks; which have as little Foundation in the Nature of Things."

As you can see, the *Quotation*-paragraphs are typeset like usual ones except the narrower borders. Here is an example for *Quote:*

Mrs. Thatcher, Mr. Bush and Helmut Kohl had a car crash in the United States. They drove behind each other into the car of an outstanding person, who was quite shocked.

> "I'm sorry", said Mrs. Thatcher to the poor man,
>
> "I'm sorry, too", said Mr. Bush.

Kohl, who drove the third car, came to the others with the words:

> "I'm sorry, three!"

As you can see, *Quote*-paragraphs are typeset without the indent of the first line (*parindent)*

3.1.3 Verses

Verse is a layout that can be used to typeset verses. Note that the lines in one verse have to be separated with *Newline* (C-enter) not with *enter.* See a little example from the "Kraniche des Ibikus":

> Zum Kampf der Wagen und Gesänge,
> der auf Korinthus Landesenge
> der Griechen Stämme froh vereint,

zog Ibikus, der Götterfreund.

Ihm schenkte des Gesanges Gabe
der liedersüße Mund Apoll,
so wandert er an leichtem Stabe
aus Regium, des Gottes voll.

3.1.4 Address / Right Address

These layouts can be used to typeset letters. They are also useful to create title pages in an European academic manner. Note that, as you've seen with the *verses* layout, the single lines in one address have to be separated with *Newlines* not with normal *enter*. See these two examples:
Mr. Left
Left Road 1
1111 Lefttown

Mr. Right
Right Road 2
2222 Righttown

I'm a bit proud about this right address layout. Try to reach the same typesetting effect with usual word processors. You will have to create a frame and position it manually with the mouse and all those funny things.

3.1.5 Itemize / Enumerate

Itemize and Enumerate are layouts you will need very often. The differ only in the kind of label. Where Enumerate has enumerated labels, Itemize has simple Bullets. I will describe the features of these layouts with the example of Enumerate, but all is the same with Itemize.

The most simple enumeration will will look like this:

1. one

2. two

3. three

This can be done by simple creating three paragraphs that contain "one", "two" and "three". Then select these paragraphs and choose *Itemize* from the *layout chooser*. LyX will enumerate these paragraphs automatically as 1,2, and 3. The enumeration would start again with 1 if the sequel of paragraphs with *Itemize*-layout is interrupted with another layout. But this will not fit all needs. Sometimes it is necessary that one *item* contains more than only one paragraph, maybe like this:

1. one

2. two

3. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three. This paragraph is item three.
   This is the second paragraph in item three. This is the second paragraph in item three. This is the second paragraph in item three. This is the second paragraph in item three. This is the second paragraph in item three. This is the second paragraph in item three.

4. four

This can be done very easy by typing a *newline* (*C-Enter*) at the end of the first paragraph instead of normal *Enter*. But even that will not fit all needs. Often it is necessary to combine all layouts. That means for example an enumeration in a enumeration or quotations in enumerations and all these possibilities. For example like this:

1. one

   (a) one from one

   (b) two from one

      i. one from two from one

         A. one from one from two from one

         B. two from one from two from one

ii. two from two from one

(c) three from one. I quote:

> "This is a quotation in three from one. This is a quotation in three from one. This is a quotation in three from one. This is a quotation in three from one. This is a quotation in three from one. This is a quotation in three from one. This is a quotation in three from one."

Well this is standard layout again, wasn't it a nice quotation?

2. two

3. three

This can be done very easy with LyX and is one of the greater features that makes LyX superior to usual word processors. Just set every paragraph in the upper sequel to the mentioned layout. That means for the itemize-paragraph simply *choose Itemize*, the quotation simply *Quotation* and the little standard paragraph *Standard*. Then you can start to create the hierarchical structure. This is done with the menu item *Change Environment Depth* from the *Layout menu* or with the icon that shows a document where one paragraph can be moved with two red arrows in both directions. Just try it out! You can use every layout that describes an environment as parent. These are *Enumerate*, *Itemize*, *Quote*, *Quotation*, *Description*, *Bibliography*, *Verse* and *LyX-Code*. You may use every layout as child, although it is completely useless to use for example a *Section* in an inner position.

3.1.6 Description

Description layout can be used to typeset, well, descriptions. The first word well be typeset in bold font, following lines will be indented a little bit. If you need to describe more than one word, you have to separate them with a *protected blank (M-space)* instead of a normal blank. See this example:

Doors are something where you can go through if you want to enter something, for example a house, a castle or the technological future.

Windows are something that you shouldn't use if there are doors, except you want to have a look at who is waiting outside and wants your money.

More than one word can be described using *protected blanks* instead of normal ones.

3.1.7 Lists

Lists are another LyX-special that is defined in the LyX LaTeX Extensions. It is a simple definition-list, where the label size depends on a given argument. This argument, called "labelwidthstring" can be defined in the *Paragraph Layout* popup window. A few examples:

Monday: Arriving

Tuesday: Staying. We will visit the wonderful town and meet a lot of interesting people. There is also a wonderful meal included in a nice restaurant.

Thursday: Leaving

This is the default list. As you can see at the item number two, the length of one item doesn't matter. This is a great advantage about solutions that use tabbing. You can also use other layouts inside a list, as you have seen before with the *Enumeration layout.* If you like to stay from Tuesday to Friday you may want to increase the label size:

Monday: Arriving

Tuesday to Friday: Staying. We will visit the wonderful town and meet a lot of interesting people. There is also a wonderful meal included in a nice restaurant.

Saturday: Leaving

This was done by selecting the three paragraphs and entering "Tuesday to Friday" as reference string for the label width in the *Paragraph Layout* popup. If you use *HFills* within the label, you can also typeset right aligned or centered labels. LaTeX itself inserts a hfill on the very right side of the label to make it left aligned. This is why right aligned can only be an approximation and might look a little strange:

Left: This is usual.

Right: This is done by typing many *HFills* before the “Right:”.

Center: This is done by typing a *HFill* before the “Center:”. The hfill after the “Center:” was already inserted (invisible) by LaTeX.

3.1.8 Title

This is also a LyX LaTeX Extensions special. It defines a very large, bold sans-serif-font that is centered and has little spaces above and below. It is created within LyX also with *VFills* above and below to force centering on the page. As a side effect, the *Title layout* will set the page style of the page, where it appears to “empty”. That means it suppresses the printing of the headings or the page number.

3.1.9 Formula

This is simply a LaTeX “eqnarray”-environment.

3.1.10 Caption

The *Caption Layout* is used to typeset the title of a figure or table float. It cannot be used outside floats. If you try it, you will get a lot of LaTeX errors.

3.1.11 LyX-Code

This is a special layout to typeset program code. It’s equivalent to *Quote* except that the monospaced typewriter font is used and flushleft is default. A little example:

```
#include <stdio.h>

int main(int argc, char* argv[]) {
   printf("Hello world");
   return 0;
}
```

The differences from a normal text editor are:

- the use of *protected blanks* instead of blanks to indent one line. Remember that the normal blank isn't really a character in LyX and LaTeX but only a sign that one word ends and another begins.
- you cannot get the typewriter double quotes by typing " since that will insert *real* quotes. You get the typewriter double quotes with *C*-" or *C*-q.
- You cannot create empty lines by typing enter twice since enter is just a sign that one paragraph ends and another begins. But you can leave a paragraph with just one protected blank in.

You can include programs very easy by choosing *LyX-Code* as layout for one paragraph and then *Insert ASCII File (lines)* from the *File menu.* With this, LyX will do the above mentioned things automatically for you. Tabulators in the ASCII file are also expanded to a width of eight characters. So including code shouldn't be a problem. This can even be important if you include output from other programs in your document, for example results of measurements.

3.1.12 LaTeX

The *LaTeX Layout* can be used to insert more complex LaTeX structures in LyX. It's main difference from *Standard Layout* is, that *Newlines* are not converted to the LaTeX newline "\\". See the section about "Using LaTeX within LyX" for details.

3.1.13 Bibliography

This Layout shouldn't be confused with LaTeX's "thebibliography", since it doesn't support citing at all. The bibliography in LyX is a very simple layout, where the first line starts at the beginning, but the following lines in one paragraph a little indented. There is also a heading generated.[1] This is how Bibliographies are usually typeset:

[1] If you use the headings-pagestyle this generated heading can also appear as header on the top of the page.

Bibliography

TINDAL, MATTHEW, Christianity as old as creation, 1730.

SACKMANN, PAUL, Denker der englischen Aufklärung, 1946.

TROELSCH, ERNST, Gesammelte Werke IV, Aufsätze zur Geistesgeschichte und Religionssoziologie. Philosophie des 17. Jahrhunderts [England], 1988.

HOFFMEISTER, Wörterbuch der philosophischen Begriffe, Hamburg 1955.

To mark the names of the authors, you can use the *noun style* as done here in this example.

Remainder of Document is Incomplete.