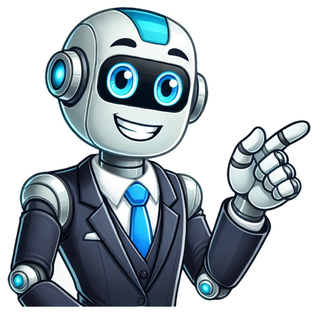
Click to prove you're human



Appendices in LaTeX provide a structured way to include supplementary material that doesn't fit within the main body of your document. They're particularly useful for adding detailed information, raw data, or extended discussions without disrupting the flow of your primary content. Creating Appendices To begin your appendix section in LaTeX, use the \appendix command. This signals the start of the appendices and resets the chapter or section numbering to use letters instead of numbers. \appendix \section{Additional Data} \section{Detailed Calculations} After the \appendix command, each \section (in articles) or \chapter (in books) will be treated as a new appendix. Customizing Appendix Appearance You can customize how appendices appear in your document. For instance, to prefix each appendix with "Appendix", use the appendix package: \usepackage[toc,page]{appendix} \begin{document} % Your main content here \begin{appendices} \chapter{Supplementary Tables} \chapter{Proofs of Theorems} \end{appendices} This approach not only prefixes each appendix with "Appendix" but also adds them to the table of contents and creates a separate page for the appendices title. Best Practices for Appendices Keep appendices focused and relevant to your main document. Use clear, descriptive titles for each appendix. Consider using the LaTeX Cross-References system to link between your main text and appendices. If you have many appendices, consider creating a separate table of contents for them. Integrating Appendices with Document Structure Appendices should complement your main content without overshadowing it. They're typically placed after the main body of text but before the bibliography. In larger documents, you might want to create a separate appendix file and include it using the \include command: \documentclass{book} \usepackage{appendix} \begin{document} % Main content here \appendix \include{appendices} \bibliography{references} \end{document} This approach helps maintain a clean and organized document structure, especially in complex projects. Conclusion Mastering the use of appendices in LaTeX enhances your ability to present comprehensive, well-structured documents. By leveraging LaTeX's powerful features and packages, you can create professional-looking appendices that add value to your academic papers, reports, or books. Remember to use LaTeX Cross-References and consider the overall structure of your document when incorporating appendices. With practice, you'll find that appendices in LaTeX offer a flexible and powerful way to include supplementary material in your work. In this tutorial, we will deal with topics related to appendices in LaTeX. We will start discussing what is an appendix, when you should add it to your document and what is supposed to be included in it.Then we will explain the basics on how to insert appendices in LaTeX using the \appendix command, and what differences the behaviour of this command in diffrent document classes. We will also deal with how to reference an appendix inside your document, and how to change the numbering of the sections inside the appendix. By default, they are numbered using capital letters, but other kinds of numbering are also available (although less recommended).We will also deal with page numbering inside the appendix. First, we will see the basics of page numbering: how to reset it for the appendix and how to change its appearance (for instance, changing from arabic to roman numbers).Finally, we will see how to landscape the appendix pages, so that big images and tables do not span several pages, improving thus their readability. With the same purpose, we will see how to make the appendix single column when working in a two column article. When writing the main body of an article, dissertation, thesis, etc. it is important to keep it concise, and not distract the reader with technical and maybe repetitive details. However, it is usually important to leave the reader the ability to access these details. This is where appendices come in. An appendix is a section at the end of your main document that contains supplementary information such as figures, tables, raw data, code, etc. The appendix can also be structured in chapters (which are often considered to be multiple appendices), which are usually numbered with capital letters, instead of Arabic numbers. Although it is pretty clear what kind of content is expected inside an appendix, it is a controversial matter where this appendix should be placed. Seems like in most cases appendices appear after the references of the document, but some style guides recommend the opposite. In case you are writing for some institution, you should check their standards and style guide. Adding an appendix to your document in LaTeX is as easy as invoking the macro \appendix. From the moment you call this command, the new chapters will be numbered using capital letters, and instead of `Chapter' they will be called `Appendix'. Here is a minimal working example of how to use it: % Create an appendix in LaTeX \documentclass{book} \begin{document} \tableofcontents \chapter{A normal chapter} \appendix \chapter{First} This is my first Appendix . \chapter{Second} \end{document} As you can see, we created a book document, inside of which was inserted a single usual chapter. However, after the \appendix command, two more chapters were created, that stand as appendices. You can see in the following illustration how the title of an appendix looks. How the title of an appendix looks by default in LaTeX. In this example, we also inserted the table of contents with \tableofcontents command; you can see in the following figure how the entries corresponding to appendices are written by default. How do the entries corresponding to appendices look by default. This default procedure that LaTeX offers to create our appendices is very useful since once we call the macro \appendix we can keep writing the document as usual, and include \chapter, \section, \subsection commands, and also figure and table environments, all of which will be numbered according to the convention for appendices (that is, the appendix part referenced as a capital letter). For example, in the following illustration, you can see how a more complex appendix organization would look in the table of contents: How sections and subsections inside appendices look in the table of contents by default. Although in the previous and following examples we will mostly use the book document class (since it is the usual situation in which an appendix is needed) you can also insert appendices inside article and other document classes inessentially the same way. However, you should be aware that chapters do not exist inside the article document class, so only sections appear in the appendix (as in the rest of the document). The output differences between the article and book classes are the same as for the rest of the document, mainly that there is only one kind of page and that sections don't start at a new page (as chapters do). If you want the appendix to start on a new page inside an article, simply use the command \clearpage just before \appendix. It is important that you reference each one of your appendices, at least once, inside your main document. In other cases, you should ask yourself whether the appendix is truly needed or not. Referencing an appendix in LaTeX is as easy as any other chapter or object. You just have to put an anchor to it using \label{name} and then you can reference the appendix using \ref{name}. Here is a minimal working example of how you could implement this: % Reference an appendix in LaTeX \documentclass{book} \begin{document} You can find the raw data used to calculate this metrics in Appendix \ref{appendix:raw}. \appendix \chapter{Raw data}\label{appendix:raw} Here goes the raw data of the experiment. \end{document} In this case, the command \ref{appendix:raw} simply produces the letter `A', corresponding to the numbering of the appendix referenced. Even more precise and easy to follow for the reader is referencing both, the exact content we want to make the reader aware of, and the appendix where he can find it. This would mean, in the previous case, referencing the concrete table inside the appendix where the raw data is, and also referencing the appendix where the table is printed. For this purpose we also have to label the table; here is a possible way of doing this: % Reference an element in an appendix in LaTeX \documentclass{book} \begin{document} You can find the raw data used to calculate this metrics in Table \ref{tab:rawdata} of Appendix \ref{appendix:raw}. \appendix \chapter{Raw data}\label{appendix:raw} Here goes the raw data of the experiment. \begin{table}[htpb] \centering \caption{The table with the raw data.} \label{tab:rawdata} \begin{tabular}{ccc} 1 & 2 & 3 \\ \end{tabular} \end{table} \end{document} You can see the first page produced by this code in the following figure. Observe how the numbering of the table is coherent with the appendix alphabetical numbering, as was mentioned earlier: How to reference a floating object from the appendix inside the main document. Although the default numbering system for appendices and their sections is a standard one, you can also customize it. To do so, we will have to redefine the commands: \thechapter,\thesection,\thesubsection just after we call \appendix. These commands are responsible for the identifier of every chapter, section, and subsection, respectively. They can be set to any number, letter, or symbol, but the idea is to identify them with a representation of the number of the chapter, section, and subsection they are in, since setting any of them to a fixed value would be pointless. For this purpose, we have the following macros which can be passed any LaTeX counter and they will represent it in a certain way: CommandDescription\alphprints the counter as a lowercase letter\Alphprints the counter as a capital letter \arabicprints the counter in arabic numbers\romanprints the number in lowercase roman numbers\Romanprints it in uppercase roman numbers\fnsymbolprints the value of the counter using a sequence of nine symbols* * The nine symbols are traditionally used for labeling footnotes (especially inside mathematical texts, where numbers and letters can easily be confused with notation). In this latter case, the value of the counter should be between 1 and 9 inclusive, otherwise, we will get an error. In case you are wondering, the mentioned symbols are: ∗ , † , ‡ , § , ¶ , ‖ , ∗∗ , †† , ‡‡ Knowing all of this, and using \renewcommand to change the values of \thechapter, \thesection and \thesubsection, we can make our appendix look as we want. For instance, in the following example we create a very strange appendix numbering system, not recommended in any book of style: % Change appendix numbering \documentclass{book} \begin{document} \tableofcontents \chapter{Normal chapter} \section{Normal section} \subsection{Normal subsection} \appendix \renewcommand{\thechapter}{\alph{chapter}} \renewcommand{\thesection}{\Roman{section}} \renewcommand{\thesubsection}{\fnsymbol{subsection}} \chapter{First} \section{One section} \section{Another section} \section{Yet another section} \subsection{And a subsection!} \subsection{And another subsection} \subsection{What's wrong with these numbers?} \chapter{Second} \section{A new section} \subsection{This is just spam} \end{document} And you can find how the table of contents produced by this insane numbering system looks in the following illustration: An insane numbering system for the chapters inside the appendix. The procedure used here to change the numbering system is general: you can use it at any point in the document, and the chapters and so will be numbered as you determine from that point on. In case you want it to affect your document, the same instructions could be given in the preamble. Using the technique of the previous section, we can also change the page numbering system inside the appendix and customize it. The command \pagenumbering{style} comes at hand in this case, since it resets the page numbering and also changes it to style. This style can be any of the general ways that LaTeX has to print a counter, that is: arabic, roman,Roman, alph, and Alph; we already know what they mean. There is also the option gobble, which prevents LaTeX from printing a page number, although the counter gets reset anyway. So the easiest way to implement a different numbering system in the appendix is using this command, as it is done in the following example: % Change appendix page numbering \documentclass{book} \begin{document} \tableofcontents \chapter{Normal chapter} \clearpage \pagenumbering{roman} \appendix \chapter{First} \chapter{Second} \end{document} The table of contents produced in this case is shown below. Observe that we used \clearpage to prevent the \pagenumbering{roman} from affecting the last page that was written so that it will only affect the following pages. An appendix with its own roman numbering Since in the appendix we write complementary content, it is common to have figures and tables inside it. These may be very big, and thus one may want to use a landscape page layout to include them in one single page. We can easily achieve this using the lscape package. This package provides the landscape environment, which is used to landscape the contents on individual pages. However, this package doesn't rotate the pages in the pdf document, so they still are shown vertically. This is not a problem if we want to print the document, but it is annoying if we want to read it digitally. In this case, it is more convenient to use the pdflscape package, which works with the same environment as lscape but actually rotates the page in the pdf. Here is a small example of how you can use this package: % Landscape page in appendix \documentclass{book} \usepackage{pdflscape} \usepackage{lipsum} % for dummy text \begin{document} \begin{landscape} \appendix \chapter{Lipsum} \lipsum % just dummy text \end{landscape} \end{document} And the resulting appendix page is shown below. Again, this may not look very useful when working with text, but can drastically increase the readability of the document when working with diagrams, figures, and tables. An appendix with landscape pages to increase its readability We can also insert a single column appendix inside a two-column document using the command \onecolumn just before the appendix. For example, % Wide appendix two columns \documentclass[twocolumn]{article} \usepackage{lipsum} % for dummy text \begin{document} \section{First section} \lipsum[1] \onecolumn \appendix \section{First appendix} \lipsum[2] \end{document} Produces the First section with two-column content, while the First appendix has single-column content. This also forces the appendix to appear on a new page. In this tutorial we have shown what is an appendix, what should you add to it, but mainly how you can customize it in LaTeX. With all of this, you should be able to create all kinds of appendices, from a simple one for a small dissertation, to an appendix for a thesis or book. Information and discussion about page layout specific issues (e.g. header and footer lines, page formats, page numbers). latex101 Posts: 3 Joined: Wed May 19, 2010 12:05 pm Post by latex101 » Wed May 19, 2010 12:31 pm Hi, I am using the article class and want to name my appendices Appendix A Theory A.1 One theory A.2 Another theory etc. I want this to be displayed both in the table of contents and in the text itself. I found this code on the web Code: Select all\appendix \makeatletter \def\@seccntformat#1{\csname Pref@#1\endcsname \csname the#1\endcsname\quad} \def\Pref@section{Appendix~} \makeatother \include{appendix_a} which displays my appendix titles the way I want them in the text, but the table of contents still say A Theory A.1 One theory How do I get the word "Appendix" to be displayed before "A Theory" in the table of contents? gmedina Posts: 2313 Joined: Wed Jul 11, 2007 11:45 pm Post by gmedina » Wed May 19, 2010 2:12 pm Hi, you can use the features implemented by the appendix package; a little example: Code: Select all\documentclass{article} \usepackage{appendix} \begin{document} \tableofcontents \appendixtitleon \appendixtitletocon \begin{appendices} \section{First appendix} \subsection{First} \subsection{Second} \section{Second appendix} \subsection{First} \subsection{Second} \end{appendices} \end{document} 1,1,2,3,5,8,13,21,34,55,89,144,233,... latex101 Posts: 3 Joined: Wed May 19, 2010 12:05 pm Post by latex101 » Wed May 19, 2010 2:29 pm Thank you, that fixed it! While we're at it.. is it possible to get the words "Figure" and "Table" to be displayed in the table of contents, in the article class? Now it says: List of figures 1.1 A figure 1.2 Another figure and I want it to say List of figures Figure 1.1 A figure Figure 1.2 Another figure The same goes for tables. gmedina Posts: 2313 Joined: Wed Jul 11, 2007 11:45 pm Post by gmedina » Wed May 19, 2010 2:41 pm Add the following lines to the preamble (change the lengths according to your needs): Code: Select all\usepackage{tocloft} \addtolength{\cftfignumwidth}{1cm} \renewcommand{\cftfigpresnum}{Figure } \addtolength{\cfttabnumwidth}{1cm} \renewcommand{\cfttabpresnum}{Table } 1,1,2,3,5,8,13,21,34,55,89,144,233,... latex101 Posts: 3 Joined: Wed May 19, 2010 12:05 pm Post by latex101 » Wed May 19, 2010 3:18 pm Thanks again, you're a genious! Just wondering: Why does it only work if Code: Select all\usepackage{tocloft} is placed directly under Code: Select all\documentclass[a4paper, english, 12pt]{article}. If I have declare my other packages first Code: Select all\documentclass[a4paper, english, 12pt]{article} \usepackage{babel, fancyhdr, amsmath, amsfonts, amssymb, graphicx, float, enumerate, hyperref, subfig, pdfpages, appendix} \usepackage{tocloft} I get an error message that says "Package tocloft Note: The document has section divisions. ! Latex Error: Command \c@lofdepth already defined." gmedina Posts: 2313 Joined: Wed Jul 11, 2007 11:45 pm Post by gmedina » Wed May 19, 2010 3:29 pm The problem is due to the fact that the subfig package defines the lofdepth and lotdepth counters so you must either load tocloft before subfig or load tocloft with the subfigure option (i.e., \usepackage[subfigure]{tocloft})to avoid conflicts. 1,1,2,3,5,8,13,21,34,55,89,144,233,... LaTeX specific issues not fitting into one of the other forums of this category. Skiron Posts: 4 Joined: Fri Jul 25, 2008 1:28 pm Post by Skiron » Fri Jul 25, 2008 1:52 pm Hello, I'm writing a document with appendices, I use the "appendix" package. I'd like to have a table of content in the begining of my document with all the section of the document and only the "Appendix" title section (providing the page number where appendix starts) and not the details of the sections in the appendix. Then, when appendix starts, I'd like another table of content, but this time with only the sections appearing in the appendix. Here is a MWE: Code: Select all\documentclass[a4paper]{article} \usepackage[toc,page,header]{appendix} \begin{document} \tableofcontents % How to limit this TOC to main document sections ???? ewpage \section{First} First content. \section{Second} Second content. ewpage \appendix \appendixpage % How to insert here a TOC concerning only the appendix sections ???? \section{Appendix First} Appendix first content. \section{Appendix Second} Appendix second content. \end{document} In this MWE, I don't want the TOC to display "A Appendix First" and "B Appendix Second", but I want them and their page numbers to be displayed in another TOC, after the "Appendices" keyword. I searched in the minitoc, tocloft, appendix packages (and even some homemade TeX code) but they don't provide me what I want. I was thinking about modifying the \tableofcontents command so that I can pass as argument the ".toc" file to use to generate the TOC, and I could separate by hand from the original ".toc" file lines for document or for appendix TOCs. \tableofcontents command could also be changed to automatically stop reading the ".toc" file after the "Appendix" keyword for the Document TOC, and start from there for the Appendix TOC. Does anybody knows a way to not have to modify this command (because, I'm not sure to have sufficient knowledge to do so) ? If not, can anybody tell me where I can find the sources of the \tableofcontents command ? (I can have a try to adapt it to my needs...) Thanks for your help. Last edited by Skiron on Sat Jul 26, 2008 11:30 am, edited 2 times in total. Skiron Posts: 4 Joined: Fri Jul 25, 2008 1:28 pm Post by Skiron » Fri Jul 25, 2008 5:03 pm Well... I tried to solve my problems, and, in a sense, I did. I used the minitoc package and I put my document's content in a \part and my appendixes in another. With minitoc I can generate one TOC per part, just as I wanted. But, the part name are displayed in my document and it doesn't make sense in my case. So, I just don't name them (i.e. "\part{}") and I add in the hearder some command to note show the "Part I" text (see the MWE). Two problems are left (plus one extra which does not concern me): There is still a blank line instead of the "Part I Partname" text. I'm using hyperref package to have hyperlink in the PDF file, and the parts have a bookmark, but no text, it doesn't look professional (I'm writing a Master Thesis) (not shown in the MWE). (the extra problem) This solution doesn't suit people who want use the \part command. Anyway, despite this problems, it is a good solution and I'm going to keep it if nobody has a better idea. Comments for solving my two last problems are welcome !!Code: Select all\documentclass[a4paper]{article} \usepackage[toc,page,header]{appendix} \usepackage{minitoc} % Make the "Part I" text invisible \renewcommand \thepart{} \renewcommand \partname{} \begin{document} \doparttoc % Tell to minitoc to generate a toc for the parts \faketableofcontents % Run a fake tableofcontents command for the partocs \part{} % Start the document part \parttoc % Insert the document TOC \section{First} First content. \section{Second} Second content. ewpage \appendix \addcontentsline{toc}{section}{Appendix} % Add the appendix text to the document TOC \part{Appendix} % Start the appendix part \parttoc % Insert the appendix TOC \section{Appendix First} Appendix first content. \section{Appendix Second} Appendix second content. \end{document} Note that 3 compilations are needed to the minitoc package. gmedina Posts: 2313 Joined: Wed Jul 11, 2007 11:45 pm Post by gmedina » Fri Jul 25, 2008 5:10 pm Hi, I would suggest you to use the titletoc package instead. I will use your initial code to give an example: Code: Select all\documentclass[a4paper]{article} \usepackage[page,header]{appendix} \usepackage{titletoc} \usepackage{lipsum} \begin{document} \startcontents[sections] \printcontents[sections]{l}{1}{\setcounter{tocdepth}{2}} ewpage \section{First} \lipsum[1-6] \subsection{One one} \lipsum[1-6] \section{Second} \lipsum[1-6] \subsection{Two one} \lipsum[1-6] ewpage \appendix \appendixpage \startcontents[sections] \printcontents[sections]{l}{1}{\setcounter{tocdepth}{2}} \section{Appendix First} \lipsum[1-6] \section{Appendix Second} \lipsum[1-6] \end{document} 1,1,2,3,5,8,13,21,34,55,89,144,233,... Skiron Posts: 4 Joined: Fri Jul 25, 2008 1:28 pm Post by Skiron » Fri Jul 25, 2008 6:39 pm Thank you a lot gmedina, that solve the remaining problems and that's perfect... ...on the MWE only unfortunately. As I said, I'm using the hyperref package, and all is working well when I use it as follows: Code: Select all\documentclass[a4paper]{article} \usepackage{hyperref} \usepackage[page,header]{appendix} \usepackage{titletoc} \usepackage{lipsum} ... But, I made my own class which than call the "article" one, let's call it here "sample.cls", with the following WME sample.cls file: Code: Select all\NeedsTeXFormat{LaTeX2e} \ProvidesPackage{sample}[2008/07/25] \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}} \ProcessOptions \LoadClass{article} \RequirePackage{hyperref} \endinput Then, the only thing changed on the MWE you gave me is the first line: Code: Select all\documentclass[a4paper]{sample} ... And, in this case, there is an error while compiling: Code: Select all! LaTeX Error: Something's wrong--perhaps a missing \item. See the LaTeX manual or LaTeX Companion for explanation. Type H for immediate help. ... l.8 ...umberline {A}Appendix First}{7}{appendix.A} And, in the final document, the TOCs are displayed, but all the remaining sections which should not appears are listed in normal text style. I tried to pass the "a4paper" option the the hyperref package, (since I think that it is a problem of passing options), but it is still not working. I don't know what else I can do since the same code is working when I am not using my own "sample.cls" class. This solution was the easiest and cleanest one ! I'd like to use it !! Any idea ? gmedina Posts: 2313 Joined: Wed Jul 11, 2007 11:45 pm Post by gmedina » Fri Jul 25, 2008 9:28 pm It all comes down to the order in which titletoc and hyperref are loaded. Refering to your sample class (sample.cls), if you use: Code: Select all\NeedsTeXFormat{LaTeX2e} \ProvidesPackage{sample}[2008/07/25] \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}} \ProcessOptions \LoadClass{article} \RequirePackage{titletoc} \RequirePackage{hyperref} \endinput Then you will have no problems with Code: Select all\documentclass[a4paper]{sample} \usepackage[page,header]{appendix} \usepackage{lipsum} \begin{document} \startcontents[sections] \printcontents[sections]{l}{1}{\setcounter{tocdepth}{2}} ewpage \section{First} \lipsum[1-6] \subsection{One one} \lipsum[1-6] \section{Second} \lipsum[1-6] \subsection{Two one} \lipsum[1-6] ewpage \appendix \appendixpage \startcontents[sections] \printcontents[sections]{l}{1}{\setcounter{tocdepth}{2}} \section{Appendix First} \lipsum[1-6] \section{Appendix Second} \lipsum[1-6] \end{document} 1,1,2,3,5,8,13,21,34,55,89,144,233,... Skiron Posts: 4 Joined: Fri Jul 25, 2008 1:28 pm Post by Skiron » Sat Jul 26, 2008 11:29 am Wonderfull !!!! It's working perfectly !! (I don't have a large experience in LaTeX, I didn't think about package order...) Your solution suits me perfectly ! It is exactly what I was expecting ! Thank you a lot for your (fast) help !! karpathos2 Posts: 1 Joined: Tue Aug 23, 2016 12:46 am Post by karpathos2 » Tue Aug 23, 2016 10:05 am Hi guys, I have the same problem as skiron but with documentclass 'report' instead of 'article' with 'chapters' instead of 'sections'. When 'article' is substituted by 'report' in the solution by gmedina, a lot gets destroyed and i wasn't able to fix it. Can anyone adjust this solution so that it would yield the same results? Help greatly appreciated. Johannes_B Site Moderator Posts: 4182 Joined: Thu Nov 01, 2012 4:08 pm Post by Johannes_B » Sat Aug 27, 2016 10:39 am Code: Select all\documentclass[a4paper]{report} \usepackage{titletoc} \usepackage{hyperref} \usepackage[page,header]{appendix} \usepackage{lipsum} \begin{document} \startcontents[chapters] \printcontents[chapters]{l}{1}{\setcounter{tocdepth}{1}} ewpage \chapter{First} \lipsum[1-6] \section{One one} \lipsum[1-6] \chapter{Second} \lipsum[1-6] \section{Two one} \lipsum[1-6] ewpage \appendix \appendixpage \startcontents[chapter] \printcontents[chapter]{l}{0}{\setcounter{tocdepth}{1}} \chapter{Wombat} \lipsum[1-6] \chapter{Capybara} \lipsum[1-6] \end{document} The smart way: Calm down and take a deep breath, read posts and provided links attentively, try to understand and ask if necessary. hereilma Posts: 1 Joined: Mon Jun 27, 2022 10:31 pm Post by hereilma » Mon Jun 27, 2022 10:35 pm It's been a few years since this was posted but you honestly saved me today ! Thank you so much gmedina ! Code: Select all%2multibyte Version: 5.50.0.2953 CodePage: 1252 \documentclass[12pt]{article}
%%%
\usepackage{amsfonts} \usepackage{amsmath} \usepackage{sw20elba} \usepackage{harvard} \usepackage{amsbsy} \usepackage{portland} \usepackage[pdftex]{hyperref} \setcounter{MaxMatrixCols}{10} %TCIDATA{OutputFilter=LATEX.DLL} %TCIDATA{Version=5.50.0.2953} %TCIDATA{Codepage=1252} %TCIDATA{} %TCIDATA{BibliographyScheme=BibTeX} %TCIDATA{Created=Tuesday, December 03, 2002 15:46:39} %TCIDATA{LastRevised=Sunday, April 03, 2011 15:52:31} %TCIDATA{} %TCIDATA{} %TCIDATA{CSTFile=LaTeX article (bright).cst} ewtheorem{theorem}{Theorem} ewtheorem{acknowledgement}[theorem]{Acknowledgement} ewtheorem{algorithm}[theorem]{Algorithm} ewtheorem{axiom}[theorem]{Axiom} ewtheorem{case}[theorem]{Case} ewtheorem{claim}[theorem]{Claim} ewtheorem{conclusion}[theorem]{Conclusion} ewtheorem{condition}[theorem]{Condition} ewtheorem{conjecture}[theorem]{Conjecture} ewtheorem{corollary}[theorem]{Corollary} ewtheorem{criterion}[theorem]{Criterion} ewtheorem{definition}[theorem]{Definition} ewtheorem{example}[theorem]{Example} ewtheorem{exercise}[theorem]{Exercise} ewtheorem{lemma}[theorem]{Lemma} ewtheorem{notation}[theorem]{Notation} ewtheorem{problem}[theorem]{Problem} ewtheorem{proposition}[theorem]{Proposition} ewtheorem{remark}[theorem]{Remark} ewtheorem{solution}[theorem]{Solution} ewtheorem{summary}[theorem]{Summary} ewenvironment{proof}[1][Proof]{\textbf{#1.} }{\ \rule{0.5em}{0.5em}} \renewcommand{\cite}{\citeasnoun} \input{tcilatex} \begin{document} \title{Decomposing changes in the transmission mechanism of structural shocks since the 1970} \author{Luciano Campos, PhD in Economics programme, M\'{e}moire de recherche} \date{} \maketitle \begin{abstract} {\small Xxxxxxxxxxx.} \end{abstract} \section{Introduction} [Two questions explored\ with this memoire: \qquad (1)\ has the transmission mechanism of structural shocks (both policy and non-policy) changed since the Great Inflation period?\ \qquad (2)\ If the answer to (1)\ is Yes, what accounts for such changes? Changes in the structure of the private sector, in the systematic component of monetary policy, in the disturbances impacting upon the economy, or in the level of trend inflation?] [Within a DSGE\ context, such investigation has, so far, neglected the possible role of trend inflation, which, in the U.S., was around 7-8 per cent during those years (see the estimates from the work of Cogley and Sargent), so non negligible. (Here some references on previous work on this based on DSGE\ models).] [The work of Guido Ascari, however, has shown that New Keynesian models log-linearised around non-zero trend inflation have a more complex structure than the one you obtain when you log-linearised such models around zero trend inflation. This implies that the estimates which exist in the literature---which have been systematically obtained based on models log-linearised around zero trend inflaiton---may well be distorted, and may therefore provide a distorted picture.] [In this memoire I\ estimate the New Keynesian model of \cite{AscariRopele}, which generalises the standard New Keynesian model analysed by\ \cite% {cgg2000}\ and \cite{woodfordinterestprices}\ to the case of non-zero trend inflation, for the Great Inflation period and for the period between the end of the Volcker disinflation and the beginning of the financial crisis, and I analyse how several features of the model---the private sector parameters, the systematic component of monetary policy, the structural disturbances, and trend inflation---account for the changes in the response of the economy to structural shocks between the two periods.] [Here discuss the results] The memoire is structured as follows. [Here finish] \section{The Model} The\ model\ we use is\ the\ one proposed by\ \cite{AscariRopele}, which generalises the standard New Keynesian model analysed by\ \cite{cgg2000}\ and \cite{woodfordinterestprices}\ to the case of non-zero trend inflation, nesting it as a particular case. The Phillips curve block of the model is given by% \begin{equation} \Delta _{t}=\psi \Delta _{t+1|t}+\eta \phi _{t+1|t}+\kappa \frac{\sigma _{N}% }{1\text{+}\sigma _{N}}s_{t}+\kappa y_{t}+\epsilon _{\pi ,t} \label{Ascari1} \end{equation}% \begin{equation} \phi _{t}=\chi \phi _{t+1|t}+\chi (\theta \text{-1})\Delta _{t+1|t} \label{Ascari2} \end{equation}% \begin{equation} s_{t}=\xi \Delta _{t}+\alpha \bar{\pi}^{\theta (\text{1-}\epsilon)}s_{t-1} \label{Ascari3} \end{equation}% where $\Delta _{t}\equiv \pi _{t}$-$\tau \epsilon \pi _{t-1}$;\ $\pi _{t}$, $% y_{t}$, and s_{t}\ are\ the log-deviations of inflation, the output gap, and the dispersion of relative prices,\ respectively, from the non-stochastic\ steady-state;\ $\theta $\TEXTsymbol{>}1 is the elasticity parameter in the aggregator function turning intermediate inputs into the final good; $\alpha $ is the Calvo parameter;\ $\epsilon \in $[0,1]\ is the degree of indexation;\ $\tau \in $[0,1]\ parameterises\ the extent to which indexation is to past inflation as opposed to trend inflation\ (with $\tau $% =1 indexation is to past inflation, whereas with $\tau $=0 indexation is to trend inflation);\ $\Delta _{t}$\ and $\phi _{t}$\ are auxiliary variables; $% \sigma _{N}$ is the inverse of the elasticity of intertemporal substitution of labor, which, following \cite{AscariRopele},\ we calibrate to 1; and\ $% \psi \equiv \beta \bar{\pi}^{1-\epsilon }$+$\eta (\theta -1)$, $\chi \equiv \alpha \beta \bar{\pi}^{(\theta \text{-1})(\text{1-}\epsilon)}$, $% \xi \equiv (\bar{\pi}^{1-\epsilon }-1)\theta \alpha \bar{\pi}^{(\theta \text{-1})(\text{1-}\epsilon)}[$1-$\alpha \bar{\pi}^{(\theta \text{-1})(% \text{1-}\epsilon)}]^{-1}$, $\eta \equiv \beta (\bar{\pi}^{1-\epsilon }-1%)[$1-$\alpha \bar{\pi}^{(\theta \text{-1})(\text{1-}\epsilon)}]$, and $% \kappa \equiv $($1$+$\sigma _{N}$)$[\alpha \bar{\pi}^{(\theta \text{-1})(% \text{1-}\epsilon)}]^{-1}[$1-$\alpha \beta \bar{\pi}^{\theta (\text{1-}% \epsilon)}][$1-$\alpha \bar{\pi}^{(\theta \text{-1})(\text{1-}\epsilon)}]$% , where $\bar{\pi}$\ is gross trend inflation measured on a quarter-on-quarter basis.\footnote{% To be clear, this implies that\ (e.g.) a steady-state inflation rate of 4 per cent per year maps into a value of $\bar{\pi}$\ equal to 1.04$^{\text{1/4% }}$=1.00985.} In what follows we uniquely consider the case of indexation to \textit{past} inflation, and we therefore set $\tau $=1. We close the\ model with the intertemporal IS\ curve% \begin{equation} y_{t}=\gamma y_{t+1|t}+(1-\gamma)y_{t-1}-\sigma ^{-1}(R_{t}-\pi _{t+1|t})+\epsilon _{y,t} \label{Ascari4} \end{equation}% and the monetary policy rule% \begin{equation} R_{t}=\rho R_{t-1}+(1-\rho)[\phi _{\pi }\pi _{t}+\phi _{y}y_{t}]+\epsilon _{R,t} \label{Ascari5} \end{equation} \section{Bayesian Estimation} We\ estimate (\ref{Ascari1})-(\ref{Ascari5})\textit{\ via} Bayesian methods.\ The next two-sub-appendices describe the\ priors, and the Markov-Chain Monte Carlo algorithm we use to get draws from the posterior. \subsection{Priors} Following,\ e.g.,\ \cite{lubschorf2002}\ and \cite{anschorfheide},\ all structural parameters are assumed, for the sake of simplicity, to be\ \textit{a priori}\ independent from one another.\ Table 1\ reports the parameters'\ prior densities,\ together with two key objects\ characterising them, the mode and the standard deviation. \subsection{Numerical\ maximisation of\ the log posterior} We\ numerically\ maximise\ the log posterior---defined as ln L($\theta $% \TEXTsymbol{\vert}$Y$) + ln P($\theta $), where $\theta $ is the vector collecting\ the model's structural parameters,\ L($\theta $\TEXTsymbol{% \vert}$Y$) is the likelihood of $\theta $ conditional on the data, and P($% \theta $)\ is the prior---\textit{via}\ simulated\ annealing.\ Following \cite{goffeferrierrogers} we implement simulated\ annealing \textit{via} the algorithm proposed by\ \cite{coranasimulatedannealing}, setting the key parameters to T_{0}=100,000, r_{T}=0.9, N_{t}=5, N_{s}=20, $\epsilon $=10^{-6}, $N_{\epsilon }$=4, where\ T_{0}\ is the initial temperature, $% r_{T}$ is the\ temperature reduction factor, N_{t}\ is the\ number of times the algorithm goes through the\ N_{s} loops\ before the temperature starts being reduced,\ N_{s}\ is the\ number of times the algorithm goes through the\ function before adjusting the stepsize, $\epsilon $\ is the convergence (tolerance) criterion,\ and $N_{\epsilon }$\ is number of times convergence\ is achieved before the algorithm stops. Finally, initial conditions were chosen stochastically by the algorithm itself, while the maximum number of functions evaluations,\ set\ to 1,000,000,\ was not achieved. \subsection{Getting\ draws\ from\ the posterior\ \textit{via} Random-Walk Metropolis} We generate\ draws from the posterior distribution of the model's structural parameters\ \textit{via} the Random Walk Metropolis (henceforth, RWM) algorithm as described in, e.g.,\ \cite{anschorfheide}. In implementing the RWM algorithm we exactly follow An and Schorfheide (2007, Section 4.1), with the single exception of the method\ we use to calibrate the covariance matrix's scale factor---the parameter \textit{c} below---for which we follow the\ methodology described\ in Appendix D.2 of \cite% {BenatiInflationPersistenceQJE} in order to get a fraction of accepted draws close to the ideal one (in high dimensions)\ of 0.23.\footnote{% See \cite{gelmancarlinsternrubin}.} Let then\ $\hat{\theta}$\ and $\hat{\Sigma}$\ be the mode of the maximised\ log\ posterior and its\ estimated Hessian, respectively.\footnote{% We compute $\hat{\Sigma}$ numerically as in \cite{anschorfheide}.} We start the Markov chain of the\ RWM algorithm by drawing\ $\theta ^{(0)}$\ from N(% $\hat{\theta}$, $c^{2}\hat{\Sigma}$).\ For s = 1, 2, ..., N we then draw $\tilde{\theta}$\ from the proposal distribution N($\theta ^{(s-1)}$, $% c^{2}\hat{\Sigma}$), accepting the jump (i.e., $\theta ^{(s)}$\ = $\tilde{% \theta}$) with probability min \{1, r($\theta ^{(s-1)}$, $\theta $% \TEXTsymbol{\vert}$Y$)\}, and rejecting it (i.e., $\theta ^{(s)}$\ = $\theta ^{(s-1)}$) otherwise, where% \begin{equation*} r(\theta ^{(s-1)},\theta |Y)=\frac{L(\theta |Y)\text{ }P(\theta)}{L(\theta ^{(s-1)}|Y)\text{ }P(\theta ^{(s-1)})} \end{equation*}% We\ run a burn-in sample of\ 200,000 draws which\ we then discard. After that,\ we run a sample of 500,000 draws, keeping every draw out of 100\ in order to decrease the draws' autocorrelation. \subsection{Handling the possibility of indeterminacy in estimation} An important issue in estimation concerns how to handle the possibility of indeterminacy. In a string of papers,\footnote{% See in particular \cite{AscariRED2004}\ and \cite{AscariRopele}.}\ Guido Ascari has indeed shown that, when standard New Keynesian models are\ log-linearised\ around a non-zero steady-state inflation\ rate, the size of the determinacy region is, for\ a given parameterisation,\ `shrinking'\ (i.e., decreasing)\ in the level of trend inflation.\footnote{% On this, see also\ \cite{KileyTrendInflation}.}\ \cite{AscariRopele} in particular\ show that, conditional on their calibration, it is very\ difficult to obtain a determinate equilibrium for values of trend inflation beyond 4 to 6 per cent. Given that, for all of the countries in our sample, inflation has been beyond this threshold\ for a significant portion of the sample period\ (first and foremost, during\ the Great Inflation episode),\ the imposition of determinacy in estimation over the entire sample\ would be very\ hard to justify.\ In what follows we therefore estimate the model given by (\ref{Ascari1})-(\ref{Ascari5}) by allowing for the possibility of \textit{one-dimensional} indeterminacy,\footnote{% This is in line with \cite{justinianoprimiceri}. As they stress (see Section 8.2.1), `[t]his means that we effectively truncate our prior at the boundary of a multi-dimensional indeterminacy region'.} and further imposing the constraint that, when trend inflation is lower than 3 per cent, the economy is within the determinacy region.\footnote{% The constraint that,\ below 3 per cent trend inflation, the economy is under determinacy was\ imposed in order to rule out a few highly implausible estimates we obtained when no such constraint was imposed. In particular, without imposing any constraint, in a few cases estimates would point towards the economy being under indeterminacy even within the current low-inflation environment, which we find \textit{a priori} hard to believe. These results originate from the fact that, as stressed e.g. by \cite% {lubschorf2002}, (in)determinacy is a \textit{system} property, crucially depending on the interaction between \textit{all} of the (policy or non-policy) structural parameters, so that parameters'\ configurations\ which, within the comparatively simple New Keynesian model used herein, produce the best fit to the data may produce such undesirable\ `side effects'.} \bigskip ewpage \section{Conclusions} [...]. ewpage \bibliographystyle{ECONOMETRICA} \bibliography{ACOMPAT,Multi} ewpage \bigskip \bigskip \bigskip \begin{tabular}{||c|c|c|cc||} \hline\hline \multicolumn{5}{||l||}{\textbf{Table 1\ \ Prior distributions for the New}} \\ \multicolumn{5}{||l||}{\textbf{Keynesian\ model's structural parameters}} \\ \hline & & & & {\small Standard} \\ {\small Parameter} & {\small Domain} & {\small Density} & {\small Mode} & {\small deviation} \\ \hline $\theta $-1 & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Gamma} & {\small 10} & {\small 5} \\ $\alpha $ & {\small [0, 1)} & {\small Beta} & {\small 0.588} & {\small 0.02} \\ $\epsilon $ & {\small [0, 1]} & {\small Uniform} & {\small --} & {\small % 0.2887} \\ $\sigma $ & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Gamma} & {\small 2} & {\small 1} \\ $\delta $ & {\small [0, 1]} & {\small Uniform} & {\small --} & {\small 0.2887% } \\ $\sigma _{R}^{2}$ & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Inverse Gamma} & {\small 0.5} & {\small 5} \\ $\sigma _{\pi }^{2}$ & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Inverse Gamma} & {\small 0.5} & {\small 5} \\ $\sigma _{y}^{2}$ & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Inverse Gamma} & {\small 0.5} & {\small 5} \\ $\sigma _{s}^{2}$ & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Inverse Gamma} & {\small 0.1} & {\small 0.1} \\ $\rho $ & {\small [0, 1)} & {\small Beta} & {\small 0.8} & {\small 0.1} \\ $\phi _{\pi }$ & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Gamma} & {\small 1} & {\small 0.5} \\ $\phi _{y}$ & $% %TCIMACRO{\U{211d} }% %BeginExpansion \mathbb{R} %EndExpansion ^{+}$ & {\small Gamma} & {\small 0.1} & {\small 0.25} \\ $\rho _{R}$ & {\small [0, 1)} & {\small Beta} & {\small 0.25} & {\small 0.1} \\ $\rho _{y}$ & {\small [0, 1)} & {\small Beta} & {\small 0.25} & {\small 0.1} \\ \hline\hline \end{tabular} \bigskip \bigskip \bigskip \begin{tabular}{||c|c|c||} \hline\hline \multicolumn{3}{||l||}{\textbf{Table 2\ \ Bayesian estimates the New Keynesian\ model's }} \\ \multicolumn{3}{||l||}{\textbf{structural parameters: median and 90\% coverage percentiles}} \\ \hline & & After the Volcker \\ {\small Parameter} & Great Inflation & stabilisation \\ \hline $\sigma _{R}^{2}$ & 2.2349 [1.6334 3.1215] & 0.2931 [0.2217 0.3998] \\ $\sigma _{\pi }^{2}$ & 2.1693 [1.6085 3.0791] & 1.0515 [0.8039 1.3877] \\ $\sigma _{y}^{2}$ & 0.3925 [0.2649 0.6265] & 0.2054 [0.1321 0.3054] \\ $\sigma _{s}^{2}$ & 0.1413 [0.0666 0.3925] & --- \\ $\theta $-1 & 25.3491 [14.4340 36.1992] & 16.7009 [9.8853 25.0545] \\ $\alpha $ & 0.6314 [0.6009 0.6579] & 0.6281 [0.5979 0.6561] \\ $\epsilon $ & 0.5955 [0.4982 0.6770] & 0.0922 [0.0136 0.2054] \\ $\sigma $ & 6.9248 [4.7527 9.7772] & 2.7398 [1.9696 3.8269] \\ $\delta $ & 0.6050 [0.4678 0.7634] & 0.1220 [0.0153 0.3059] \\ $\rho $ & 0.6772 [0.5966 0.7459] & 0.8054 [0.7595 0.8405] \\ $\phi _{\pi }$ & 1.9782 [1.4931 2.4390] & 2.1690 [1.7494 2.7049] \\ $\phi _{y}$ & 1.2221 [0.7075 1.8749] & 0.6813 [0.0552 1.4674] \\ $\rho _{R}$ & 0.3232 [0.1742 0.4595] & 0.4451 [0.3349 0.5415] \\ $\rho _{y}$ & 0.5115 [0.3732 0.6217] & 0.7799 [0.7178 0.8268] \\ \hline\hline \end{tabular}% \bigskip \bigskip \bigskip \bigskip \bigskip \end{document} \documentclass{article} \title{Sections and Chapters} \author{Gubert Farnsworth} \date{ } \renewcommand*\contentsname{Summary} \begin{document} \maketitle \tableofcontents \section{Introduction} This is the first section. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortisfacilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdietmi nec ante. Donec ullamcorper, felis non sodales... \addcontentsline{toc}{section}{Unnumbered Section} \section*{Unnumbered Section} Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi necante... \section{Second Section} Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi necante... \end{document} 2025-05-27 What it doesOptional Title You can optionally provide a title for the appendix section using the \chapter or \section commands as usual, but it will be prepended with "Appendix" by default. Renumbers Sections It automatically re-numbers the subsequent sections using letters (e.g., Appendix A, Appendix B, etc.) instead of the standard Arabic numerals (e.g., Section 1, Section 2, etc.). Creates an Appendix Section The \appendix command signals to LaTeX that the following sections should be treated as appendices.Example\documentclass{article} \begin{document} \section{Introduction} This is the main body of the document. \appendix \section{Proof of Theorem 1} Here is the proof of Theorem 1. \section{Data Sources} This section lists the data sources used in the analysis. \end{document} In this example: The \section{Introduction} is part of the main body. The \appendix command marks the beginning of the appendix section. The subsequent \section commands will be automatically numbered as "Appendix A", "Appendix B", and so on. The appearance of the appendix section can be customized using the document class options and by modifying the document's style files. You can use any sectioning commands (e.g., \chapter, \section, \subsection) within the appendix environment. The \appendix command should typically be placed after the main body of the document. Common Errors and Troubleshooting for \appendix in LaTeX Solution The \appendix command should always appear after the main body of your document and before any appendix sections. Conflicting with Document Class or Packages Issue Certain document classes or packages might interfere with the default behavior of \appendix. Troubleshooting Check Documentation Refer to the documentation of your specific document class or any custom packages you're using. Minimal Working Example (MWE) Create a simplified document with only the \appendix command and the problematic elements to isolate the conflict. Search Online Look for solutions on platforms like LaTeX Stack Exchange or Overleaf forums, where you might find others who have encountered similar issues. Numbering Issues Incorrect Section Numbers If sections within the appendix are not numbered correctly (e.g., not using letters), double-check the placement of \appendix and ensure you're using appropriate sectioning commands (e.g., \section, \subsection). Conflicting Counters If you're using custom counters or modifying counter definitions, they might interfere with the appendix numbering. Table of Contents (TOC) Problems Appendix Entries Missing or Incorrect Check Package Options If you're using packages like tocloft, ensure the options are correctly set to include appendices in the TOC. Manual Entries In some cases, you might need to manually add appendix entries to the TOC using commands like \addcontentsline. Hyperref Issues Incorrect Links If you're using the hyperref package, links to appendix sections might not work correctly. Update Hyperref Make sure you have the latest version of the hyperref package installed. Consult Hyperref Documentation The hyperref documentation provides detailed information on how to configure hyperlinks for appendices. General Troubleshooting TipsConsult Online Resources The LaTeX community is very active, and you can find numerous resources online (forums, documentation, tutorials) to assist with troubleshooting. Check Log Files The log file generated during compilation often provides valuable error messages and warnings that can help pinpoint the source of the problem. Compile Multiple Times LaTeX often requires multiple compilations (e.g., LaTeX, BibTeX, LaTeX, LaTeX) to correctly update cross-references and other elements after changes. Basic Usage\documentclass{article} \begin{document} \section{Introduction} This is the main body of the document. \appendix \section{Proof of Theorem 1} Here is the proof of Theorem 1. \section{Data Sources} This section lists the data sources used in the analysis. \end{document} After the \appendix command, the sectioning commands (like \section) will automatically be numbered as "Appendix A", "Appendix B", and so on. This example shows the most basic usage of \appendix.With \chapter (for books/reports)\documentclass{book} \begin{document} \chapter{Introduction} This is the main body of the document. \appendix \chapter{Technical Details} This chapter provides technical details. \end{document} The chapters after \appendix will be numbered as "Appendix A", "Appendix B", etc. This example demonstrates the use of \appendix with \chapter for books or reports.Customizing Appendix Title\documentclass{article} \begin{document} \section{Introduction} This is the main body of the document. \appendix \section{Appendix: Supporting Information} This section contains supporting information. \end{document} This example shows how to customize the appendix title by including it within the \section command. \documentclass{article} \begin{document} \section{Introduction} See Appendix \ref{app:proof} for the proof. \appendix \section{Proof of Theorem 1} \label{app:proof} Here is the proof of Theorem 1. \end{document} This example demonstrates how to use \label and \ref to create cross-references between the main text and the appendix. Example Concept This method involves redefining the behavior of sectioning commands (like \section) within the appendix environment.\documentclass{article} \begin{document} \section{Introduction} This is the main body. \renewcommand{\section}[1]{\section*{Appendix: #1}} \section{Proof of Theorem 1} Here is the proof. \end{document} Creating a Custom EnvironmentExample Concept You can define a new environment specifically for appendix sections using the ewenvironment command.\documentclass{article} ewenvironment{myappendix} {\section*{Appendix}} {} \begin{document} \section{Introduction} This is the main body. \begin{myappendix} \section{Proof of Theorem 1} Here is the proof. \end{myappendix} \end{document} Utilizing \part or \chapter (for Books/Reports)Example Concept If you're working with a book or report, you can use the \part or \chapter commands to create distinct appendix sections, even without the \appendix command.\documentclass{book} \begin{document} \chapter{Introduction} This is the main body. \part{Appendices} \chapter{Proof of Theorem 1} Here is the proof. \end{document} Note These alternative methods offer more flexibility in customizing the appearance and behavior of your appendices. However, the standard \appendix command is generally the most straightforward and recommended approach for most LaTeX documents. Information and discussion about LaTeX's math and science related features (e.g. formulas, graphs). jonathan webley Posts: 11 Joined: Sun May 03, 2009 8:28 am Post by jonathan webley » Sat May 09, 2009 9:19 pm This equation is part of a set of aligned equations: Code: Select all\documentclass[a4paper]{article} \usepackage{amsmath} \begin{document} \begin{flalign*} & \text{Solution:} & 6\left(3x + \frac{1}{2} \right) &= 6\left(\dfrac{x}{2} + \dfrac{1}{3}\right) + 6\left(\dfrac{x}{2} + \dfrac{1}{3}\right) + 6\left(\dfrac{x}{2} + \dfrac{1}{3}\right) && \text{Multiply both sides by 6 to clear the fractions} \\ \end{flalign*} \end{document} The text at the end of the line flows off the page. However, because of the fractions, the equation is over two lines. So can I get the text "Multiply..." to have a line break, something like: Code: Select allSolution: 6 Multiply... 2 ...the fractions jonathan webley Posts: 11 Joined: Sun May 03, 2009 8:28 am Post by jonathan webley » Sun May 10, 2009 9:21 am I finally worked this out - I can use a parbox: Code: Select all& \textbf{Solution:} & 6\left(3x + \HALF \right) &= 6\left(\dfrac{x}{2} + \dfrac{1}{3}\right) && \parbox[m]{1.5in}{\textit{Multiply both sides by } 6 \textit{ to clear the fractions}} \\ Information and discussion about LaTeX's math and science related features (e.g. formulas, graphs). ghostanime2001 Posts: 402 Joined: Fri May 20, 2011 9:41 am Post by ghostanime2001 » Mon Aug 29, 2011 9:19 pm I get an error with this code, it says "You can't use 'spacefactor' in vertical mode. How can I fix this? This error appears to stem from using the enumitem package with 'inline' optional argument. But I don't understand how to fix it. Thanks for anyone's help. Code: Select all\documentclass{article} \usepackage{amsmath} \usepackage[inline]{enumitem} \usepackage{cancel} \usepackage[T1]{fontenc} \usepackage{mathtools} \usepackage[version=3]{mhchem} \setlength{\parskip}{0in} \setlength{\parindent}{0in} \everymath{\displaystyle} \begin{document} \begin{enumerate} \item \ce{$\underset{\clap{\begin{minipage}[t]{2cm}\vspace{0.5\baselineskip}\centering\scriptsize\textsf{27 g/mol \\ 0.0306 mol}\end{minipage}}}{\ce{2Al}}$ + $\underset{\clap{\begin{minipage}[t]{2cm}\centering\scriptsize\textsf{4.5 g \\ 98.1 g/mol \\ 0.0459 mol}\end{minipage}}}{\ce{Zn(OH)2}}$ -> Al2(SO4)3 + 3H2} \\ \\ \\ $\begin{array}{ll} n_{\ce{H2SO4}}=\dfrac{\text{4.5 \cancel{g}}}{\text{98.1 \cancel{g}/mol}} &\qquad \begin{aligned}[t]n_{\ce{Al}}&=\smash{\text{0.0459 mol \cancel{\ce{H2SO4}}}\times\dfrac{\text{2 mol Al}}{\text{3 mol \cancel{\ce{H2SO4}}}}} \\ &= \text{0.0306 mol}\end{aligned} \\ \\ &\qquad \begin{aligned}[t]m_{\ce{Al}}&=\text{0.0306 mol $\times$ 27 g/mol} \\ &=\text{0.83 g}\end{aligned} \end{array}$ \item \begin{enumerate*} \item \ce{H2O} \end{enumerate*} \end{enumerate} \end{document} Last edited by ghostanime2001 on Mon Aug 29, 2011 9:50 pm, edited 1 time in total. Stefan Kottwitz Site Admin Posts: 10323 Joined: Mon Mar 10, 2008 9:44 pm Post by Stefan Kottwitz » Mon Aug 29, 2011 9:44 pm Hi, it's good that you posted a complete example. I tested it, but there was no error when I compiled. I used enumitem version 3.3 from 2011/07/14. If your version is older, you could update it. You can see the version if you look into the produced .log file and search for enumitem. Stefan LaTeX.org admin LaTeX provides an exceedingly simple mechanism for appendixes: the command \appendix switches the document from generating sections (in article class) or chapters (in report or book classes) to producing appendixes. Section or chapter numbering is restarted and the representation of the counter switches to alphabetic. So: \section{My inspiration} ... \section{Developing the inspiration} ... \appendix \section{How I became inspired} ... would be typeset (in an article document) something like: 1 My inspiration ... 2 Developing the inspiration ... A How I became inspired ... which is quite enough for many ordinary purposes. Note that, once you’ve switched to typesetting appendixes, LaTeX provides you with no way back — once you’ve had an appendix, you can no longer have an “ordinary” \section or \chapter. The appendix provides several ways of elaborating on this simple setup. Straightforward use of the package allows you to have a separate heading, both in the body of the document and the table of contents; this would be achieved by \usepackage{appendix} ... \appendix \appendixpage \addappheadtotoc The \appendixpage command adds a separate title “Appendices” above the first appendix, and \addappheadtotoc adds a similar title to the table of contents. These simple modifications cover many people’s needs about appendixes. The package also provides an appendices environment, which provides for fancier use. The environment is best controlled by package options; the above example would be achieved by \usepackage[toc,page]{appendix} ... \begin{appendices} ... \end{appendices} The great thing that the appendices environment gives you, is that once the environment ends, you can carry on with sections or chapters as before — numbering isn't affected by the intervening appendixes. The package provides another way of setting appendixes, as inferior divisions in the document. The subappendices environment allows you to put separate appendixes for a particular section, coded as \subsections, or for a particular chapter, coded as \sections. So one might write: \usepackage{appendix} ... \section{My inspiration} ... \begin{subappendices} \subsection{How I became inspired} ... \end{subappendices} \section{Developing the inspiration} ... Which will produce output something like: 1 My inspiration ... 1.A How I became inspired ... 2 Developing the inspiration ... There are many other merry things one may do with the package; the user is referred to the package documentation for further details. The memoir class includes the facilities of the appendix package. The KOMA-script classes offer a \appendixprefix command for manipulating the appearance of appendixes. FAQ ID: Q-appendix Tags: structure