

```
\begin{here}
```

```
\title{Topic #1:  
Creating my first LATEX article, Part 3}
```

```
\author{Tim Null}
```

```
\input{LATEX Survivor's Guide}
```

### Abstract

This a continuation of a series on the preparation of a simple and short L<sup>A</sup>T<sub>E</sub>X article. It is the third installment in the series. This column will introduce two sections of a L<sup>A</sup>T<sub>E</sub>X document: the *Preamble* and *Title Page*.

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**Smiley says:** If you haven't done so already, please read the second `\begin{here} column`. The second column reviews the material covered in the first `\begin{here} column`, and it also discusses methods to avoid and correct L<sup>A</sup>T<sub>E</sub>X errors.

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`\begin{here}` Col. #3: Topic #1, Part #3

**Tim Null** is a semi-*tired* Technical Editor. He keeps busy doing copyediting and figure repair. He started using L<sup>A</sup>T<sub>E</sub>X in 1991, when the journal he worked for began using L<sup>A</sup>T<sub>E</sub>X for composition.

# 1 Introduction

The `\begin{here} column` is for  $\text{\LaTeX}$  newbies and wannabes. It's *potluck*, so everyone who brings a *dish* is welcome.

The material presented in the `\begin{here} column` is cumulative<sup>1</sup>. This particular column is the third of a multi-part series about the preparation of a short and simple  $\text{\LaTeX}$  article. If you haven't done so already, I recommend you read the second `\begin{here} column`. The second `column` reviews the material covered in the first `column`, and it discusses methods to avoid and correct  $\text{\LaTeX}$  errors.

This `column` will *introduce* two sections essential to all  $\text{\LaTeX}$  documents: *The Preamble* and *The Body*. First, I will give a brief introduction to the preamble. (We will revisit the preamble time and again in later `columns`.) In this particular column, I will limit the discussion of the body of a  $\text{\LaTeX}$  document to the *Title Page*. (We will revisit the body of the of a  $\text{\LaTeX}$  document many times in our future discussions.) I'll end the column with the *Attack of the Dust Bunnies* section. I hope to make this section a regular part of my `\begin{here} columns`. It will be a place where we can handle *housekeeping* chores and take some time for fun and games.

So, to summarize, our main focus in this `column` will be a discussion of the *Preamble* and the *Title Page*. Although I do hope you will also read the *Dust Bunny* sections at the end of the column to learn about our various contests.

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**Smiley says:** If you want to travel to a fun and informative place, just *click* on a *blue hyperlink*, and a webpage will open in your browser.

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<sup>1</sup>It's like algebra class in high school. You don't want to fall behind.

## Part I

# The Main Topic

$\LaTeX$  files have a *specified* structure. Every  $\LaTeX$  file must have a *preamble* and a *body*. There are optional parts to the structure of a  $\LaTeX$  file, but both the preamble and body are required in every  $\LaTeX$  file.

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The **Preamble** contains global commands and specifications that *tell  $\LaTeX$  how to process the file*. In other words, the preamble is the place for  $\LaTeX$  commands that apply to your *whole* document.

The **Body** of a  $\LaTeX$  file contains the material that is to be **Typeset**.

**Typesetting** (AKA **processing** or **compiling**) is the process that creates “viewable output.” Viewable output can take many forms. Examples include dvi files, PDF files, and printed paper pages.

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Before proceeding, I should mention a  $\LaTeX$  feature I will be utilizing in my discussion below. Recall that when a percent sign (i.e., “%”) is put in front of text in a  $\LaTeX$  file, the text that follows the percent sign is *not* processed by  $\LaTeX$  (AKA “typeset” or “compile”). And when a “%” character is put in front of a line, it is often said that the line has been “commented out.” For example:

```
%Don't tell anyone about the vintage Playboys hidden in my closet!
```

But *please* remember that although “commented out” lines *won't* be sent to your output for viewing, the comments still *can* be viewed by anyone who reads your  $\LaTeX$  file (AKA “source file”). So, in the above example, anyone who reads my source file will know where to find my vintage *Playboys*.

Now recall the three basic commands used in all  $\LaTeX$  files (see `\begin{here}` columns 1 and 2). The three basic commands are:

```
\documentclass{article}
\begin{document}
\end{document}
```

Even the basic and “empty”  $\LaTeX$  document that is shown immediately above has both a preamble and a body. An explanation follows in the next section.

## 2 $\LaTeX$ files: The Preamble

The preamble in a  $\LaTeX$  file begins after the `\documentclass{article}` command and ends with the `\begin{document}` command. The body begins after the `\begin{document}` command and ends with the `\end{document}` command. Take a look at the following example, to see what I am talking about.

```
\documentclass{article}
%This is the PREAMBLE.
\begin{document}
  %This is the BODY of the document.
  The place for your heart and soul.
\end{document}
```

Above I stated that the preamble is the place you put global commands that apply to your whole  $\LaTeX$  document. In the short and simple document we will be working on in this series of columns, we will want the ability to use colored text, in order to apply accent and make our pages look more interesting. By itself (“out-of-the-box, so to speak),  $\LaTeX$  can’t add color to text. But  $\LaTeX$  can make use of what are called “packages” to give  $\LaTeX$  additional capabilities. In this case, there is a package called “color.”

In order to use the color package, or any other package, you would use the `\usepackage{package_name}` command; therefore, in the case of the color package, the command would be: `\usepackage{color}`.

When we add the color package to our document template, we have:

```
\documentclass{article}
\usepackage{color}
\begin{document}

{\color{red}We'll talk about color in a later column.}

\end{document}
```

Remember I said I was only going to introduce you to the preamble section of the  $\LaTeX$  document. We're going to do a short and simple document, and, for now, all we need in our preamble is:

```
\documentclass{article}
\usepackage{color}
\begin{document}
```

We'll now move on to the title page of a  $\LaTeX$  document.

### 3 $\LaTeX$ file: Title Page

There are numerous optional parts to the body of a  $\LaTeX$  document. We're going to focus on just one here, the **Title Page**. I will introduce you to a simple title page for our short and simple  $\LaTeX$  article. I'm sure we will discuss title pages again and again in the future.

The title page for a  $\LaTeX$  article includes at least three commands (a) one to tell  $\LaTeX$  the title of the article, (b) one command to tell  $\LaTeX$  the name of the author (or names of the authors), and one command to tell  $\LaTeX$  to go ahead and "make" the title page. There is also an optional command to insert the date. Specifically, the  $\LaTeX$  title page commands are:

```
\title{}
\author{}
\date{}

\maketitle
```

When we add these commands with our previous document template, we end up with our new revised template:

```
\documentclass{article}
\usepackage{color}
\begin{document}

\title{}
\author{}
\date{\today}

\maketitle

\end{document}
```

Notice the `\today` command. This inserts the current date in the `month day year` format. If you would prefer the date in another format, you can use commands for the day, month and year; for example, `\date{\day \month \year}`

After we insert the title and author name, we will be ready to start writing our little article about the descendants of Levi Null. Look below to see the current status of our article file.

```
\documentclass{article}
\usepackage{color}
\begin{document}

\title{The Migratory History of the Levi Null Clan\\ from 1830--1870}
\author{Tim Null\\
and \\
The {\color{blue}\textbackslash begin\{here\}} Readers}
\date{\today}

\maketitle

\end{document}
```

In the `\{author}` command, notice the use of the double backslashes (i.e., “`\\`”). The double backslash command forces line breaks. If you are curious why a backslash was combined with the curly braces (i.e., `\{` and `\}`), please refer to the second `\begin{here} column`. Also, notice the “short” dash separating “1830” and “1870” in the title (i.e., “-”). This short dash is called an *en-dash*. In the  $\TeX$  world, en-dashes are created with double hyphens (i.e., “--”) or the command `\textendash`. Full width dashes (i.e., “—”) are called *em-dashes*, and they are created with three hyphens (i.e., “---”) or the command `\textemdash`. You can learn about dashes, and their usage, by visiting the [Wikipedia.org](http://Wikipedia.org) online.

[Paratype.com](http://Paratype.com) defines an *em* as the width of a typeface’s widest letter (i.e., the uppercase “M”). If the current typeface is 10 point, an em would be 10 points wide. If the the current typeface was 12 point, then an em would be 12 points wide, and so forth. [Paratype.com](http://Paratype.com) defines an *en* as being half as wide as an em. An *em-dash* is the width of the current em width. An *en-dash* is the width of the current en width. Consult a dictionary or a style manual for guidance on proper usage of en- and em-dashes.

`\maketitle` We now have completed our title page for our short and simple article. You can download a copy of the current version of our article on the Levi clan at the following location:

<http://tug.org/pracjourn/2005-3/null-bh03/levi01.tex>

This file is a duplication of the document presented on the bottom of page 6. After you `Typeset` the `levi01.tex` file, it should look like this<sup>2</sup>:

## The Migratory History of the Levi Null Clan from 1830–1870

Tim Null

and

The `\begin{ here}` Readers

July 15, 2005

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<sup>2</sup>Except your title page will have the current date.

## Part II

# Attack of the Dust Bunnies

The *Dust Bunnies* portion of the [column](#) is where I'm going to make my best effort to promote interaction between [myself](#) and the readers of the `\begin{here}` [column](#). This portion of the column contains two main sections: Housekeeping and Yard Work. "Housekeeping" is aptly named, I believe, but I probably should have named the latter section "[Yard Fun](#)."

## 4 Housekeeping

This will be a regular section in `\begin{here}` [columns](#). This section will be the forum to present column related announcements, mention T<sub>E</sub>X related events that may be of interest to the `\begin{here}` readers, discuss plans for future `\begin{here}` column topics or projects et cetera and so forth. For an example of a Housekeeping section, please see the [April 2005 \begin{here} column](#).

### 4.1 Cards and letters...

After you read this `\begin{here}` [column](#) in this issue of [The PracT<sub>E</sub>X Journal](#), please let me know what you think of the `\begin{here}` [column](#) so far. I welcome your ideas and suggestions. And do let me know what topics you would like me to cover in future `\begin{here}` [columns](#).

It's very easy to contact me. Just [click](#) on the [Comment on this paper](#) link in this [folder](#), or, if you prefer, e-mail me at [tim@timnull.com](mailto:tim@timnull.com).

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Smiley says: If you send me an e-mail, use a *Subject* relevant to this column, so your message won't be mistaken for spam.

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## 5 Yard Work: Fake Contests

In most, if not all, `\begin{here} columns`. I'm going to have one or more fake contests. I call them "fake" because (a) there will be no prize other than the possibility of favorable mention in a future `\begin{here} column`, and (b) there won't be any attempt at fair and unbiased judging. I'll be the sole judge<sup>3</sup> with the absolute and final say, and that's as unbiased and fair as it's going to get.

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Two rules apply to all contests:

1. The determination of the Judge is final.
2. A short questionnaire contained in the contest submission file must be completed, so we know your name, e-mail address, level of  $\text{\LaTeX}$  skill, and whether you're declaring yourself a  $\text{\LaTeX}$  survivor or casualty.

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### 5.1 Old Business: `\smiley` contest

In the April 2005 `\begin{here} column`, I initiated a `\smiley` contest, but a personal illness delayed the publication of that column, so people have asked that I extend the `\smiley` contest. I'm delighted to oblige. A description of the contest follows.

`\smiley` contest is Contest #3. The objective is to create a Smiley face using only  $\text{\LaTeX}$  code. The contest is open to all levels of  $\text{\LaTeX}$  users. Contestants must follow these rules:

- You must do original work. If your code ends up being a duplication of code available on CTAN or elsewhere, you must (i) provide a note from your

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<sup>3</sup>Except in those cases, when the Editor of The  $\text{\PracTeX}$  Journal might also become involved.

mother stating you did original work, (ii) convince the judge through the use of persuasion or gratuity that you did original work, or (iii) withdrawn your entry.

- Only L<sup>A</sup>T<sub>E</sub>X code can be used. For example, no graphic images can be included as any part of your smiley face entry.
- The `\input`, `\include`, or any similar commands that now exist, or may be devised, cannot be used in this contest.
- Use the Smiley face [template](#) (shown below). No additional packages can be used; that is, you can only use the `color` and `rotating`<sup>4</sup> packages.

### Smiley face template: [smiley.tex](#)

```
\documentclass{article}
\usepackage{color}
\usepackage{rotating}
%Enter your smiley code here.
\begin{document}
\thispagestyle{empty}
% My name is:
% My email address is:
% My level of LaTeX experience is (mark one):
% __novice __intermediate __advanced.
% I am a LaTeX (mark one):
% __survivor __casualty
% The original LaTeX code for my Smiley Face is listed below:
%% %% %% %% %% %% %% %% %% %% %% %% %% %% %% %%
\smiley
\end{document}
```

The Smiley Template can be downloaded at:  
<http://www.tug.org/pracjourn/2005-3/null-bh03/smiley.tex>

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<sup>4</sup>The `rotating` package is a new addition. I hadn't allowed this package in the original rules.

**First `\smiley` contest entry.** I've received one `\smiley` entry so far. Having only one entry at this point isn't bad considering that at the time I'm writing this neither the April nor the July `\begin{here} columns` have been published.<sup>5</sup> The entry I received is shown below. I've included the smiley as a graphic, so that I don't have to list the  $\LaTeX$  code at this time. (When the contest is over, I will eagerly list everyone's code.) Also, I've enlarged the smiley, so you can see it better. When the contest is over, we can discuss coding, and the various ways everyone made their smiley faces. It should be a real learning experience for us all. I know it will be for me. For now, please enjoy the first smiley entry (see the graphic below), and hurry and send me your entry. Entries can be as simple or complex as you wish, as long as you follow the rules listed above.



Smiley says: *She's kinda cute!*

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## 5.2 Contest #4: Title Page Additions.

This contest is for  $\LaTeX$  beginners.

There are two parts to this contest.

1. Modify the `contest04.tex` file, so that no page number appears on the title page, after the file is `Typeset` (AKA compiling or processing).
2. Modify the title page included in the `contest04.tex` file, so that you can add a *Thank You* footnote to your Aunt Gertrude on the title page.

Use the `contest04.tex` file for your entry. The `contest04.tex` file can be found at: [tug.org/pracjourn/2005-3/null-bh03/contest05.tex](http://tug.org/pracjourn/2005-3/null-bh03/contest05.tex)

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<sup>5</sup>This is due to a health problem I had in the spring of 2005. —TSN

## Levi Title Page template: [contest04.tex](#).

```
\documentclass{article}
% My name is:
% My email address is:
% My level of LaTeX experience is (mark one):
% __novice __intermediate __advanced.
% I am a LaTeX (mark one):
% __survivor __casualty
%% %% %% %% %% %% %% %% %% %% %% %% %% %% %%
\begin{document}

\title{The Migratory History of the Levi Null Clan from 1830--1870}
\author{Tim Null\ and the\ \textbackslash begin\{here\} readers}
\date{\today}

\maketitle

\end{document}
```

### 5.3 Contest #5: `\begin{here}` Title Page tune-up

This fake contest is for intermediate and advanced L<sup>A</sup>T<sub>E</sub>Xers.

If you look at the title page of this `\begin{here}` column and the title page of the April 2005 `\begin{here}` column, you will notice that there are four lines that (a) begin with a “\” and (b) they are flush with the left-hand margin. These four lines begin with `\begin{...}`, `\{Topic #...`, `\author{Tim...`, and `\input{LATEX...`. I will call these four lines, for the purpose of this contest, the four `\-lines`.

Now take a second to observe the second line of the title in this PDF file that begins with the word “Creating.” For the purposes of this contest, we’ll call that line **T-Line2**. If the title is long and it flows into a third line, we’ll call that third line **T-Line3**. Notice how the left edge of the “C” in “Creating” *nearly* aligns with the right edge of the curly-brace above in the first line of the title. (We’ll call the first line of the title **T-Line1**.) Note: I personally find it most visually pleasing to have

the **T-Line2** start with the first letter aligned as I just described, but most people would probably tell you that the first letter of **T-Line2** should be aligned directly below the first letter after the curly brace in **T-Line1** (i.e., the “T” in this case). For the purposes of this contest, either alignment will be acceptable.

At the current time I use a very kludgy method to position these six lines. See the title page in the following files:

<http://www.tug.org/pracjourn/2005-2/null-bh02/null-bh02.tex>

<http://www.tug.org/pracjourn/2005-3/null-bh03/null-bh03.tex>

Every time I change the title, or make some other change, I have to *fudge my kludge* to get things aligned again. I have to nudge this way and that, then back a little the other way... *on and on*... until my eyeballs “tell” me things look right.

It doesn’t take a genius to know that *that* isn’t the way it should be! I should be able to type in my new title every issue, and have the code correctly figure out the proper alignments.

*Which brings me back to the contest.*

The point of this contest will be to rewrite my title page code so that the six lines on the `\begin{here}` column title page mentioned above will automatically align every time the `\begin{here}` title is changed.

### Contest #6 Requirements.

Modifying the `\begin{here}` column Title Page, so lines automatically align as specified.

1. In Contest #5 use the following template:  
<http://www.tug.org/pracjourn/2005-3/null-bh03/contest05.tex>
2. Modify the four `\-lines` described above, so that they *automatically* align on the left margin.  
Note: “Automatically” is the operative word here. If you have to “nudge” the `\-lines` into position even once, I won’t consider your solution “automatic.”
3. Modify the “`\title{}`” code so that lines **T-Line2** and **T-Line3** automatically have the proper alignment in relation to line **T-Line1** (see the description of proper alignment above).

4. Judging will be based on *elegance* and *robustness*.  
Elegance: Primarily meaning the less code the better.  
Robustness: Primarily meaning that it works, when I test it.

## 6 Conclusion

This column introduced the  $\LaTeX$  preamble, and discussed the creation of the title page for our short and simple  $\LaTeX$  article. In the *Dust Bunnies* section some contests were outlined, and I hope you choose to become a contestant of one or more contests.

Next time we will begin our article in earnest. In the next column I will discuss the text formatting and  $\LaTeX$  environments (e.g., lists) that we will need for our little article about the Levi clan. Until then, be safe. [It's dangerous out there.](#)

## References

- [1] Flynn, Peter. (2003). *Formatting information: A beginner's introduction to typesetting with  $\LaTeX$* . *Tugboat*, 23(2), 115–218.  
<http://www.tug.org/tex-archive/info/beginlatex/>
- [2] Kopka, Helmut, and Patrick W. Daly. (2004). *Guide to  $\LaTeX$*  (4th ed.). Boston, MA: Addison-Wesley Professional.
- [3] Mittelbach, Frank, Michel Goossens, Johannes Braams, David Carlisle, and Chris Rowley. (2004). *The  $\LaTeX$  Companion* (2nd ed.). Boston, MA: Addison-Wesley Professional.
- [4] Oetiker, Tobias, Hubert Partl, Irene Hyna, and Elisabeth Schlegl. *The Not So Short Introduction to  $\LaTeX$ 2 $\epsilon$* . Unpublished manuscript.  
<http://www.tug.org/tex-archive/info/lshort/english/lshort.pdf>