

The `tlgart` package*

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1 Introduction

The `tlgart` package is provided for authors of articles to appear in collections in the book series “Texts in Logic and Games”, published by Amsterdam University Press. It was written by Joel Uckelman. Deviations from standard L^AT_EX are few and noted below.

2 Usage

2.1 Frontmatter

2.1.1 Document class and required packages

The `tlgart` package is intended for use with the `book` document class. `tlgart` loads the following packages: `amsthm`, `geometry`. If you want to add other packages, load them before the `\usepackage{tlgart}` line. Please use as few packages as possible, and use them only if absolutely necessary. This means that your paper should begin with the following lines:

```
\documentclass{book}
\usepackage{your packages} \usepackage{tlgart}
```

2.1.2 Title & author information

The following commands are provided for specifying title and author information to be placed in the title block of your article:

```
\title{short title}{full title}
\author{short name}{full name}
\address{author's address}
\email{email address}
```

The short form of the author’s name will appear in the running heads on even pages of the article, while the short form of the article’s title will appear on odd

*This document corresponds to `tlgart` v0.2, dated 2007/06/07.

pages. Please include your first name in the full name, and use initials in the short name (see example below).

Line breaks (`\`) may appear in the full title, full name, author's address and email address, as necessary. `\thanks{<text>}` may appear in the full name argument of `\author`. For articles with multiple authors, give full names separated by `\and` and short names separated by commas. Separate multiple addresses by `\and`, and reference addresses using `\addr{<number>}`.

Please enter your address in the format

```
<Address> \\  
<University> \\  
<Postal Address> \\  
<City & ZIP Code>, <Country>
```

adding additional lines if necessary and appropriate. Please use the full name of your institute (no abbreviations) and the official name of your university (in the example below, "Rheinische Friedrich-Wilhelms-Universität Bonn" instead of "Universität Bonn"). Do not translate the name of your institute and university unless the original name uses a different alphabet. As an example, the following code

```
\title{An Example Paper}  
  {An Example Paper for the \texttt{tlgart} Documentation}  
\author{B.~L"owe, J.~Uckelman}  
  {Benedikt L"owe\addr{1,2} \and Joel Uckelman\addr{1}}  
\address{Institute for Logic, Language and Computation \\  
  Universiteit van Amsterdam\<\  
  Plantage Muidergracht 24\<\  
  1018 TV Amsterdam, The Netherlands  
  \and  
  Mathematisches Institut\<\  
  Rheinische Friedrich-Wilhelms-Universit"at Bonn\<\  
  Beringstra{\ss}e 1\<\  
  53115 Bonn, Germany}  
\email{{bloewe,juckelma}@illc.uva.nl}
```

produces the following in the title block:

An Example Paper for the tlgart Documentation

Benedikt Löwe^{1,2}

Joel Uckelman¹

¹ Institute for Logic, Language and Computation
Universiteit van Amsterdam
Plantage Muidergracht 24
1018 TV Amsterdam, The Netherlands

² Mathematisches Institut
Rheinische Friedrich-Wilhelms-Universität Bonn
Beringstraße 1
53115 Bonn, Germany
{bloewe,juckelma}@illc.uva.nl

`\title`, `\author`, `\address`, and `\email` must be specified *prior* to the `\article` command, since `\article` uses the values specified there to construct the title block, table of contents entry and bibliographic information in the footer of the title page. See Section 2.2.1 for a description of `\article`.

2.1.3 Macros

Please enter your personal macros after the title and author information and before `\begin{document}`. Please include only macros that you are actually using.

2.2 Sectioning

2.2.1 The `\article` command

The `\article` command is used right after `\begin{document}` to begin your article, and takes no arguments. `\article` is the highest-level section type which should appear in your article, and it should appear exactly once. There should be *nothing* between `\begin{document}` and `\article`. `\article` produces the title header, sets up the running heads, and inserts the article into the Table of Contents, using the information provided by `\title`, `\author`, `\address`, and `\email`.

2.2.2 The abstract environment

Put your abstract in the `abstract` environment, following the `\article` command. Usage is unchanged from the `article` class.

2.2.3 The `\part` & `\chapter` commands

Do not use `\part` or `\chapter` in your article. They are reserved for higher-level structure of volumes.

2.2.4 `\section` & co.

All subchapter sectioning commands (`\section`, `\subsection`, `\subsubsection`, `\paragraph`, `\subparagraph`, and their starred versions) may be used as usual.

2.2.5 References

A bibliography may be produced in the standard way with the `thebibliography` environment and `\bibitem` command.

2.2.6 Appendices

Put appendices after the references. Use the `\appendix` command to switch to appendix numbering. For a single unlettered appendix, called “Appendix”, use `\section*{Appendix}`. For multiple appendices, called “Appendix A”, “Appendix B”, ..., begin each appendix with `\section{}`.

2.3 Displayed Text

2.3.1 Theorem-like environments

Using the `amsthm` package, we have defined the following theorem-like environments:

<code>assumption</code>	<code>definition</code>	<code>observation</code>
<code>axiom</code>	<code>example</code>	<code>problem</code>
<code>claim</code>	<code>exercise</code>	<code>proposition</code>
<code>conjecture</code>	<code>fact</code>	<code>remark</code>
<code>convention</code>	<code>lemma</code>	<code>subclaim</code>
<code>corollary</code>	<code>notation</code>	<code>theorem</code>

Please use these. By default, all theorem-like environments are numbered by section and sequentially in the same series. That is, Theorem 3.43 will follow Observation 3.42.

If your article requires some theorem-like environment not defined here, you may define new ones using `\newtheorem{<envname>}[<counter>]{<label>}`. For example, `\newtheorem{garbage}[theorem]{Garbage}` will define a `garbage` environment, instances of which will be numbered in sequence with the theorems.

Every theorem-like environment takes an optional argument which can be used to supply an annotation. E.g., this code

```
\begin{theorem}[Fermat]
  For integers  $n > 2$ , the equation  $a^n + b^n = c^n$ 
  has no nonzero integer solutions.
\end{theorem}
```

will produce

Theorem 2.1 (Fermat). For integers $n > 2$, the equation $a^n + b^n = c^n$ has no nonzero integer solutions.

Our standard numbering is by section. If you wish to have one numbering for the entire article (not resetting at the begin of each section), please use the command `\numberingbyarticle`. This has to be done for articles without sections, and could also be useful for other short articles. The theorem label for the above example would then read “**Theorem 1 (Fermat).**”, assuming that there are no theorem-like environments before it.

For more advanced usage of theorem-like environments, please see the documentation for the `amsthm` package.

2.3.2 Proof environments

The `proof` and `proofof` environments may be used for enclosing proofs:

```
\begin{proof}[<label>] ... \end{proof}
\begin{proofof}[<label>]{<qedlabel>} ... \end{proofof}
```

In both cases, the optional `<label>` defaults to *Proof* if not specified. The `proofof` environment extends `proof` by offering a labelled Q.E.D. at the end of the proof.

This code:

```
\begin{proof}Omitted due to space constraints.\end{proof}
```

```

\begin{proof}[Proof of Lemma] Suppose that...\end{proof}
\begin{proof}[Proof (Sketch)] The idea is that...\end{proof}
\begin{proofof}{Theorem 1}Proceed by induction...\end{proofof}
\begin{proofof}[Proof of Claim]{Claim}This proves the claim.\end{proofof}

```

produces the following:

Proof. Omitted due to space constraints. Q.E.D.

Proof of Lemma. Suppose that... Q.E.D.

Proof (Sketch). The idea is that... Q.E.D.

Proof. Proceed by induction... Q.E.D. (Theorem 1)

Proof of Claim. This proves the claim. Q.E.D. (Claim)

For more advanced usage of the `proof` environment, please see the documentation for the `amsthm` package.

2.4 Tables and figures

Tables and figures are numbered each with their own counter, which resets at the start of every article. If there are n tables and m figures in article, they will be numbered $1, \dots, n$ and $1, \dots, m$, respectively.

2.5 Everything else

Anything not mentioned here is unchanged usage-wise from standard L^AT_EX.

3 Implementation

This is the implementation of the `tlgart` package. It is rather ugly at present. Suggestions for improvement are welcome.

```
1
2 % zap linebreaks
3 \newcommand{\OneLine}[1]{%
4   \begingroup
5     \def\{\space\unskip}\ignorespaces}%
6     #1%
7   \endgroup}
8
9 % define crop font
10 \newcommand{\cropfont}{\upshape\mdseries\small\texttt}
11
12 %
13 % no headers on left-side pages following
14 % articles which end on right-side pages
15 %
16 \newcommand{\clearemydoublepage}%
17   {\newpage\thispagestyle{empty}\cleardoublepage}
18
19 %
20 % frontmatter, mainmatter, backmatter
21 %
22 \renewcommand\frontmatter{\clearemydoublepage%
23   \@mainmatterfalse
24   \pagestyle{headings}
25   \pagenumbering{arabic}}
26
27 \renewcommand\mainmatter{\clearemydoublepage%
28   \@mainmattertrue
29   \pagestyle{headings}}
30
31 \renewcommand\backmatter{\clearemydoublepage%
32   \@mainmatterfalse}
33
34
35 %
36 % title header
37 %
38 \newif\ifTitle
39 \renewcommand{\thanks}[1]{%
40   \ifTitle{%
41     \renewcommand{\thefootnote}{\fnsymbol{footnote}}%
42     \footnote{#1}%
43     \renewcommand{\thefootnote}{\arabic{footnote}}}%
44   \else\null\fi}
45
46 \renewcommand{\title}[2]{%
47   \gdef\@title{\OneLine{#2}}
48   \gdef\@titledisplay{#2}
49   \gdef\@shorttitle{#1}
50 }
```

```

51 \def\@title{}
52 \def\@titledisplay{}
53 \def\@shorttitle{}
54
55 \renewcommand{\author}[2]{%
56   \def\and{\unskip}\ignorespaces\ifTitle{ \[1mm]\else{, }\fi}
57   \gdef\@author{#2}
58   \gdef\@shortauthor{#1}
59 }
60 \def\@author{}
61 \def\@shortauthor{}
62
63 \newcommand{\addr}[1]{\unskip}\ignorespaces\ifTitle{${#1}$}\else\null\fi}
64
65 \newcounter{@addr}
66 \newcommand{\address}[1]{%
67   \setcounter{@addr}{1}
68   \gdef\@address{%
69     \def\and{\[2mm]\stepcounter{@addr}${\the@addr}$\enspace\ignorespaces}
70     ${\the@addr}$\enspace\ignorespaces #1}
71 }
72 \def\@address{}
73
74 \newcommand{\email}[1]{\gdef\@email{\[1mm]\texttt{#1}}}
75 \def\@email{}
76
77 \renewcommand{\maketitle}{%
78   \Titletrue
79   \refstepcounter{chapter}
80   \thispagestyle{copy}%
81   \begingroup
82     \parindent 0pt
83     \hrulefill \linebreak \null \vspace{-8pt}\par
84     {\Large\textbf{\@titledisplay}}
85
86     }
87     \vspace{5mm}
88     {\large\@author}\[3mm]
89     \fontsize{8}{9}\selectfont\@address
90     \@email\par
91     \nobreak
92     \hrulefill \linebreak \null \vspace{-8pt}\par
93   \endgroup
94   \vspace*{10pt}
95   \@thanks
96   \setcounter{footnote}{0}
97 }
98
99 %
100 % article
101 %
102
103 \newcommand{\article}{%
104   \clearemydoublepage

```

```

105 \label{FirstPage}
106 \maketitle
107 \Titlefalse
108 \addcontentsline{toc}{chapter}{\emph{\@author}\protect\@title}
109 \main
110 \renewcommand{\leftmark}{\@shortauthor}
111 \renewcommand{\rightmark}{\@shorttitle}
112 }
113
114 %
115 % copyright slug
116 %
117 \newif\ifCollection
118
119 \def\publisher#1{\gdef\@publisher{#1}}
120 \def\@publisher{}
121
122 \def\seriestitle#1{\gdef\@seriestitle{#1}}
123 \def\@seriestitle{}
124
125 \def\editor#1{\gdef\@editor{#1}}
126 \def\@editor{}
127
128 \def\volumentitle#1{\gdef\@volumentitle{#1}}
129 \def\@volumentitle{}
130
131 \def\volumesubtitle#1{\gdef\@volumesubtitle{#1}}
132 \def\@volumesubtitle{}
133
134 \def\volumeyear#1{\gdef\@volumeyear{#1}}
135 \def\@volumeyear{}
136
137 \def\volumenumber#1{\gdef\@volumenumber{#1}}
138 \def\@volumenumber{}
139
140 % FIXME: Will there ever be single-page articles? Maybe.
141
142 \def\CopyrightContent{%
143   \ifCollection{\parbox[t]{\textwidth}{%
144     \scriptsize \@editor. \textit{\@volumentitle}. \@volumesubtitle.} \@seriestitle} \@volum
145   \else\null\fi
146 }
147
148 %
149 % running heads
150 %
151 \def\ps@copy{%
152   \def\@oddfont{\CopyrightContent}%
153   \def\@evenfont{\CopyrightContent}%
154   \let\@evenhead\@empty%
155   \let\@oddhead\@empty}
156
157 \def\ps@headings{%
158   \let\@oddfont\@empty%

```



```

159     \let\@evenfoot\@empty%
160     \def\@evenhead{\Titlefalse\fontsize{8}{9}\selectfont%
161         \thepage\hfil\leftmark}%
162     \def\@oddhead{\Titlefalse\fontsize{8}{9}\selectfont%
163         \rightmark\hfil\thepage}}
164
165 \pagestyle{headings}
166
167 %
168 % theorem-like environments
169 %
170 \newtheoremstyle{tlg}%           name
171     {\topsep}%                 space above
172     {\topsep}%                 space below
173     {\rm}%                     body text
174     {}%                        indent
175     {\bfseries}%               head text
176     {.}%                       punctuation after head
177     {0.5em}%                  space after head
178     {}%                        head spec
179
180 \theoremstyle{tlg}
181
182 \newtheorem{theorem}{Theorem}[section]
183
184 \newtheorem{algorithm}[theorem]{Algorithm}
185 \newtheorem{assumption}[theorem]{Assumption}
186 \newtheorem{axiom}[theorem]{Axiom}
187 \newtheorem{case}[theorem]{Case}
188 \newtheorem{claim}[theorem]{Claim}
189 \newtheorem{conclusion}[theorem]{Conclusion}
190 \newtheorem{condition}[theorem]{Condition}
191 \newtheorem{conjecture}[theorem]{Conjecture}
192 \newtheorem{convention}[theorem]{Convention}
193 \newtheorem{corollary}[theorem]{Corollary}
194 \newtheorem{criterion}[theorem]{Criterion}
195 \newtheorem{definition}[theorem]{Definition}
196 \newtheorem{example}[theorem]{Example}
197 \newtheorem{exercise}[theorem]{Exercise}
198 \newtheorem{fact}[theorem]{Fact}
199 \newtheorem{lemma}[theorem]{Lemma}
200 \newtheorem{notation}[theorem]{Notation}
201 \newtheorem{observation}[theorem]{Observation}
202 \newtheorem{problem}[theorem]{Problem}
203 \newtheorem{proposition}[theorem]{Proposition}
204 \newtheorem{question}[theorem]{Question}
205 \newtheorem{remark}[theorem]{Remark}
206 \newtheorem{solution}[theorem]{Solution}
207 \newtheorem{subclaim}[theorem]{Subclaim}
208 \newtheorem{summary}[theorem]{Summary}
209
210 \renewcommand\thetheorem{\thesection.\arabic{theorem}}
211
212 \def\@removefromreset#1#2{%

```

```

213 \expandafter\let\csname c@#1\endcsname\@removefromreset
214 \def\@elt##1{%
215   \expandafter\ifx\csname c@##1\endcsname\@removefromreset
216   \else
217     \noexpand\@elt{##1}%
218   \fi}%
219 \expandafter\xdef\csname cl@#2\endcsname{%
220   \csname cl@#2\endcsname}}
221
222 \newcommand{\numberbyarticle}{%
223   \@removefromreset{theorem}{section}
224   \renewcommand\thetheorem{\arabic{theorem}}}
225
226 %
227 % proof environments
228 %
229 \renewcommand{\qedsymbol}{\footnotesize\textsc{q.e.d.}}
230
231 \newenvironment{proof}[2][Proof]%
232   {\begin{proof}[#1]%
233     \let\@oldqedsymbol\qedsymbol
234     \renewcommand{\qedsymbol}{\footnotesize\@oldqedsymbol\ (#2)}}}
235   {\end{proof}}
236
237 %
238 % table of contents
239 %
240 \renewcommand\contentsname{Table of Contents}
241
242 \renewcommand{\tableofcontents}{%
243   \clearemptydoublepage
244   \thispagestyle{empty}
245   \begingroup
246     \vspace*{1em}
247     \parindent 0pt
248     \hrulefill \linebreak \null \vspace{-8pt}\par
249     {\Large\bfseries\contentsname}
250
251   }
252   \nobreak
253   \hrulefill \linebreak \null \vspace{-8pt}\par
254 \endgroup
255 \vskip3\baselineskip
256 \@starttoc{toc}
257 \pagestyle{headings}
258 \markboth{\contentsname}{\contentsname}
259 \clearemptydoublepage
260 }
261
262 %
263 % part
264 %
265 % FIXME: add part code
266

```

```

267 %
268 % chapter
269 %
270 \def\@makechapterhead#1{%
271   \thispagestyle{empty}
272   \vspace*{1em}
273   \begingroup
274     \parindent 0pt
275     \hrulefill \linebreak \null \vspace{-8pt}\par
276     \ifnum \c@secnumdepth >\m@ne
277       \if@mainmatter
278         {\Large\bfseries \@chapapp\space \thechapter}
279
280       }
281     \fi
282   \fi
283   \interlinepenalty\@M
284   {\Large\bfseries #1}
285
286   }
287   \nobreak
288   \hrulefill \linebreak \null \vspace{-8pt}\par
289 \endgroup
290 \vskip 40\p@
291 \renewcommand{\leftmark}{\@chapapp\space \thechapter}
292 \renewcommand{\rightmark}{#1}
293 }
294
295 \def\@makeschapterhead#1{%
296   \thispagestyle{empty}
297   \vspace*{1em}
298   \begingroup
299     \parindent 0pt
300     \hrulefill \linebreak \null \vspace{-8pt}\par
301     {\Large\bfseries #1}
302
303   }
304   \nobreak
305   \hrulefill \linebreak \null \vspace{-8pt}\par
306 \endgroup
307 \vskip 40\p@
308 \renewcommand{\leftmark}{#1}
309 \renewcommand{\rightmark}{#1}
310 }
311
312 \def\l@chapter#1#2{\addpenalty{-\@highpenalty}%
313   \vskip 1.0em plus\p@
314   \@tempdima 1.5em
315   \begingroup
316     \parindent \z@ \rightskip \@pnumwidth
317     \parfillskip -\@pnumwidth
318     \leavevmode
319     #1 \dotfill #2\par
320     \penalty\@highpenalty

```

```

321 \endgroup}
322
323 %
324 % set the section numbering depth
325 %
326 \setcounter{secnumdepth}{5}
327
328 %
329 % section
330 %
331 \def\thesection{\arabic{section}} % blow away chapter numbers
332
333 \def\section{\@startsection{section}{1}{\z@}%
334             {-2ex plus -.5ex minus -.2ex}%
335             {.8ex plus .08ex}%
336             {\raggedright\large\bf}}
337 %
338 % subsection
339 %
340 \def\subsection{\@startsection{subsection}{2}{\z@}%
341             {-1.5ex plus -.25ex minus -.1ex}%
342             {.6ex plus .06ex}%
343             {\raggedright\normalsize\bf}}
344
345 %
346 % subsubsection
347 %
348 \def\subsubsection{\@startsection{subsubsection}{3}{\z@}%
349             {-1ex plus -.15ex minus -.06ex}%
350             {.4ex plus .04ex}%
351             {\raggedright\normalsize\bf}}
352
353 %
354 % paragraph
355 %
356 \def\paragraph{\@startsection{paragraph}{4}{\z@}%
357             {.5ex plus .05ex minus .025ex}%
358             {-.66em}%
359             {\normalsize\bf}}
360
361 %
362 % subparagraph
363 %
364 \def\subparagraph{\@startsection{subparagraph}{5}{\parindent}%
365             {.25ex plus .01ex minus .005ex}%
366             {-.66em}%
367             {\normalsize\bf}}
368
369 %
370 % appendix
371 %
372 \renewcommand\appendix{\par
373 \setcounter{section}{0}%
374 \gdef\thesection{\appendixname} \@Alph@c@section}}

```

```

375
376 \newcommand\main{\par
377   \gdef\thesection{\@arabic\c@section}}
378
379 %
380 % tables and figures
381 %
382 \@addtoreset{figure}{article}
383 \renewcommand\thefigure{\arabic{figure}}
384
385 \@addtoreset{table}{article}
386 \renewcommand\thetable{\arabic{table}}
387
388 %
389 % bibliography
390 %
391 \renewcommand{\bibname}{References}
392
393 \renewenvironment{thebibliography}[1]{%
394   \vskip1cm
395   \section*{\bibname}%
396   \list{\@biblabel{\@arabic\c@enumiv}}%
397     {\settowidth\labelwidth{\@biblabel{#1}}%
398       \leftmargin\labelwidth
399       \advance\leftmargin\labelsep
400       \@openbib@code
401       \usecounter{enumiv}%
402       \let\p@enumiv\@empty
403       \renewcommand\theenumiv{\@arabic\c@enumiv}}%
404   \sloppy
405   \clubpenalty4000
406   \@clubpenalty \clubpenalty
407   \widowpenalty4000%
408   \sfcode'\.\@m}
409   {\def\@noitemerr
410     {\@latex@warning{Empty 'thebibliography' environment}}}%
411   \endlist}
412
413 %
414 % received, revised, accepted
415 %
416 \newcommand\receivedtext{%
417   \bigskip\noindent
418   \begingroup
419     \if!\@received!\else{\scriptsize Received: \@received}\[-.3em] \fi
420     \if!\@revised!\else{\scriptsize Revised: \@revised}\[-.3em] \fi
421     \if!\@accepted!\else{\scriptsize Accepted: \@accepted} \fi
422   \endgroup
423 }
424
425 \def\received#1{\gdef\@received{#1}}
426 \def\revised#1{\gdef\@revised{#1}}
427 \def\accepted#1{\gdef\@accepted{#1}}
428

```

```

429 %
430 % abstract
431 %
432 \newcommand\abstractname{Abstract}
433
434 \newenvironment{abstract}{%
435   \small
436   \begin{center}%
437     {\bfseries \abstractname\vspace{-.5em}\vspace{\z@}}%
438   \end{center}%
439   \quotation}
440   {\endquotation}
441
442 %
443 % caption
444 %
445 \long\def\@makecaption#1#2{%
446   \vskip 10\p@
447   \setbox\@tempboxa\hbox{\textsc{#1.} #2}%
448   \ifdim \wd\@tempboxa >\hsiz
449     \textsc{#1.} #2\par
450   \else
451     \hbox to\hsiz{\hfil\box\@tempboxa\hfil}%
452   \fi}
453
454 %
455 % quote, quotation
456 %
457 \renewenvironment{quotation}%
458   {\list{}}%
459   {\listparindent 1.5em%
460     \itemindent \listparindent
461     \rightmargin \leftmargin
462     \parsep \z@ \@plus\p@}%
463     \small%
464     \item\relax}%
465   {\endlist}
466 \renewenvironment{quote}%
467   {\list{}}%
468   {\rightmargin\leftmargin}%
469   \small%
470   \item\relax}%
471   {\endlist}
472
473 %
474 % lists
475 %
476 \renewcommand{\labelitemi}{\small\textbullet}
477
478 %
479 % footnotes
480 %
481 \newdimen\fnindent
482 \fnindent1em

```

```
483
484 \long\def\@makefntext#1{%
485   \parindent \fnindent%
486   \leftskip \fnindent%
487   \noindent
488   \llap{\hb@xt@1em{\hss\@makefnmark\ }}\ignorespaces#1}
489
490 %
491 % various characters
492 %
493 \renewcommand{\emptyset}{\varnothing}
494 \renewcommand{\phi}{\varphi}
495
```

The End.