The `coppe` document class

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Abstract

In this work, it is described the `coppe` document class as well as other files distributed by the CoppeTeX project. This class is suitable for writing academic dissertations, thesis and qualifying exams according to the formatting rules of the Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering. The minimalist set of macro commands allows its users to concentrate most of their efforts on text composition rather than on the document layout.

1   Introduction

Writing documents in LaTeX may be a laborious task when the authors have to prepare their manuscripts rigorously respecting formatting rules imposed by publishers. Regardless of difficulty, a lot of thesis presented to the Coordination of Graduate Studies and Research in Engineering of the Federal University of Rio de Janeiro (COPPE/UFRJ) is typeseted in LaTeX. This demand motivated the creation of the CoppeTeX project, which tries to facilitate and encourage the use of LaTeX within the COPPE/UFRJ scope.

The `coppe` document class is the main product of CoppeTeX. It was designed to be clear and succinct. It enables the creation of dissertations, qualifying exams and thesis in a simple and automatic way. The main goal of the `coppe` class is to maintain authors strictly focused on text composition without worrying about margins sizes, line spacing, paper size, vertical and horizontal alignment, etc. The CoppeTeX project comprehends also BibTeX and MakeIndex style files for creating lists of references, symbols and abbreviations. Although there aren't official guidelines to write qualifying exams, we provide this option just for convenience, as this exam is a requisite to obtain the DSc degree and, for some of the programs, the MSc degree.

In which follows, it is described the user interface of the `coppe` class. Some details about using the style files cited above are also given. We use the term *thesis* to generally refer to dissertation, qualifying exam, and thesis itself.

2   License

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copying, distributing or modifying the source code, among other acts covered by this license.

To see the full text of the GNU GPL license, go to the `COPYING` file attached to this package.

3 Support

We maintain a mailing list where users can send questions, comments, and bugs to. More details can be found here.

However, as the project maintenance was transferred to a new repository, bug reports, as well as new feature requests, should be directed to https://github.com/COPPE-UFRJ/CoppeTeX.

4 User interface

\frontmatter A thesis to be approved by the Academic Registry at COPPE/UFRJ must contain
\mainmatter three-parts: *front*, *main* and *back* matters [1]. Each one of these parts is started
\backmatter by calling its corresponding macro \frontmatter, \mainmatter or \backmatter. The front matter of a thesis consists of front cover and face, cataloging page, dedication, acknowledgments, abstracts, table of contents, and lists of tables, algorithms, symbols and abbreviations. The main matter is just composed by chapters, while the back matter usually consists of bibliographic references, appendices and index.

You must invoke the \frontmatter macro immediately after the \maketitle one. The \mainmatter command comes right before the first chapter, and \backmatter must be typed before the list of references.

Front cover

This element was recently introduced by the Academic Registry. It is automatically constructed by the \maketitle command.

Front face

The front face is unnumbered. There, it is not allowed to use hyphenation [1]. It is constructed by calling \maketitle. Next, it is described the commands used to enter the information required to create it.

\author   The \author command was redefined. Here, it takes two arguments: the author's first names and surname, e.g., \author{First Names}{Surname}. The words should be typed with only first letters in uppercase.

\title   The macros \title and \foreigntitle are used to enter the titles of your
\foreigntitle monograph in the current and foreign languages. The default languages are Brazilian Portuguese and English. The babel package is automatically loaded by coppe.cls, so you do not need to load it again. The Brazilian Portuguese is the main language and the English is only required for the foreign abstract.

\advisor   Every COPPE student is coordinated by at least one advisor. M.Sc. and D.Sc.
\examiner students can have at most 2 and 3 advisors, respectively. Their names must be provided by issuing the command \advisor as below:

    \advisor{Title}{Advisor's Name}{Surname}{Degree}

```
\advisor{Title}{Second Advisor's Name}{Surname}{Degree}
\advisor{Title}{Third Advisor's Name}{Surname}{Degree}
```

The advisors are not necessarily members of the thesis examination board. Thus, it is required to enter the names of all examiners using the `\examiner` macro. The examiners' names are entered differently:

```
\examiner{Title}{First Examiner's Name Surname}{Degree}
\examiner{Title}{Second Examiner's Name Surname}{Degree}
...
\examiner{Title}{N-th Examiner's Name Surname}{Degree}
```

Remember that all names must be given before calling `\maketitle`.

`\department`   The Alberto Luiz Coimbra institute is divided into 12 academic units: Biomedical Engineering (PEB), Civil Engineering (PEC), Electrical Engineering (PEE), Mechanical Engineering (PEM), Metallurgical and Materials Science Engineering (PEMM), Nuclear Engineering (PEN), Ocean Engineering (PENO), Energy Planning (PPE), Production Engineering (PEP), Chemical Engineering (PEQ), Systems Engineering and Computer Science (PESC), and Transportation Engineering (PET). You must specify your department using one of the above abbreviations, e.g., `\department{PEC}`.

`\date`   This macro is used to set the month and year of defense. This information is required to create the front face, cataloging details page and abstracts. For example, October 2007 should be entered as `\date{10}{2007}`.

`\keyword`   The keywords should describe the concentration areas of your work. You must provide them as follows:

```
\keyword{First Keyword}
\keyword{Second Keyword}
...
\keyword{N-th Keyword}
```

Usually, six words are enough.

Cataloging details

This page contains cataloging information useful for librarians. Fortunately, it is automatically generated from the data you entered at the time you call `\maketitle`. It is not needed in qualifying exams, though.

Dedication (optional)

`\dedication`   This macro was added for convenience. The input text is placed at the right bottom of a blank page. It is emphasized and in normal size.

Abstracts

abstract (*env.*)   As stated by the Academic Registry [1], abstracts must be in one page each, with foreignabstract (*env.*)   at most 250 words. We recommended that they should be only one paragraph long. They must be defined inside the environments `abstract` and `foreignabstract`.

Lists of symbols and abbreviations (optional)

\abbrev The lists of symbols and abbreviations are optional, although highly recommended.
\symbl It is a good practice to define a symbol/abbreviation in its first occurrence in the
text. To define a symbol use \symbl[alphabetic symbol]{Symbol}{Symbol Definition},
and for abbreviations \abbrev[alphabetic symbol]{Abbreviation}{Abbreviation Definition}.
These commands are called *dummy*, since they don't output anything at the place
they are executed, just an entry in the correspondent list.

\makeloabbreviations These lists are lexicographically sorted by using the MakeIndex program, which
\makelosymbols is part of any LaTeX implementation. For \symbl, if the optional parameter is
\printloabbreviations provided, it will used as sort key. This was later, in 2024, implemented also for
\printlosymbols \abbrev, otherwise Symbol, or Abreviation will be used as sort key, what can result in an undesirable order if it contains LaTeXcommands, mathematical symbols, or mix of uppercase and lowercase. MakeIndex needs two commands to create a final sorted list: one which generates a list of entries and the other that indicates the position where the list will be printed out. To generate the lists of symbols and abbreviations, the coppe class provides the commands \makeloabbreviations and \makelosymbols, respectively. They must be called in the document preamble. The commands \printlosymbols and \printloabbreviations have to be invoked at the point where you want these lists appear, e.g., following the list of tables as showed in the example. Once you call latex, it will be created two files with extensions abx and syx, which contain MakeIndex input data. They must be processed with makeindex in order to get the lists correctly produced, redirecting the output to files with extension lab and los respectively:

```
makeindex -s coppe.ist -o example.lab example.abx
makeindex -s coppe.ist -o example.los example.syx
```

Note the -s option for specifying the style coppe.ist. Now, rerun latex twice to get the references solved and you are done.

References

It is well known that bibliography databases can be easily maintained with the aid of BibTeX. Thus, the CoppeTeX project designed two BibTeX styles, coppe-plain.bst and coppe-unsrt.bst. The coppe-plain.bst creates a list of references alphabetically sorted. The later is a numbered style, which sorts references by the order of citation. To use them, you have to select either coppe-plain or coppe-unsrt as the BibTeX style and include your BibTeX references without the bib extension, as in the following example:

```
\bibliographystyle{coppe-unsrt}
\bibliography{example}
```

As of May 4th, 2023, there are new bibliograhic styles for english, en-coppe-plain.bst and en-coppe-plain.bst, that uses other string constants, such as "Technical Report" instead of "Relatório Técnico".

Run in sequence LaTeX, BibTeX, and twice again LaTeX to resolve reference. These styles are natbib compatible. This means that you can freely issue the commands \citet and \citep, as well as any other natbib feature.

5 Class options

There are some options users can specify in order to customize the appearance of the output produced by the `coppe` class. These options can be passed to `coppe` as follows: `\documentclass[option1, option2]{coppe}`. In which follows, we give a brief description of all supported options.

dsc, msc, dscexam, mscexam The `coppe` class is able to produce thesis, dissertations, and qualifying exams, which are enabled by the `dsc`, `msc`, `mscexam`, and `dscexam` options, respectively.

doublespacing The default line spacing is one-and-a-half. For enabling double spacing between lines, use the `doublespacing` option.

numbers The default citation style is the author-year scheme, which must be followed by the use of its corresponding BibTeX style, namely, the `coppe-plain.bst` file. For numbered citations, specify the option `numbers` to the `coppe` class. In this case, it is mandatory the use of `coppe-unsrt.bst`, as the bibliography style.

5.1 Changing document identification

`\freeconfig` The user could *optionally* use the command `freeconfig` to modify the parameters that print the document identification. The command `freeconfig` needs all those paramerters, which are degree initials, degree name, title, foreign title, local doctype, and foreign doctype as in the following example:

    \freeconfig{Dr.}{Philosophiae Doctor}{PhD}{Doutor}{Dissertation}{Tese}

6 Quick, useful tips

Pictures. The default picture format of LaTeX is the Encapsulated PostScript (EPS). If you use pdfLaTeX, the default format becomes the PDF, but you can equally load PNG files. For such, you must enter the name of your image file without extension, e.g., `\includegraphics{filename}`, and `pdflatex` will firstly look for a file called `filename.pdf` and after for file `filename.png`. For producing high quality pictures with embedded fonts we recommend the Ipe drawing software available here.

Fonts. The default font in LaTeX is the Computer Modern. If you would like to try its enhanced version, consider using the `lmodern` package. To use Times, it is recommended to load the package `mathptmx`, rather than the deprecated `times`. There is also an enhanced Times version available with the `tgtermes` package. You can still use the Arial font face with the package `uarial`.

Hyperref. When working with PDF's, there is the possibility to add extra information to the file as the author's name, document title, subject, keywords, etc. This is easily done with the `hyperref` package. It is also useful to enable hyperlinks. Fortunately, the `coppe` class will do this automatically if `hyperref` is loaded.

Printing. To get your work correctly printed, you must ensure that any page scaling option (e.g., fit or shrink to printable area) isn't enabled. This kind of option often comes in print dialogs of document visualization softwares.

`longquote` **Quotation** To quote text larger than three lines, according to ABNT, you must increase the left margin to 4 cm, do not use quotation marks, and use a smaller font. The `coppe` class provides the `longquote` environment to easily make these adjustments.

7   A simple example

```
 1  ⟨∗example⟩
 2  \documentclass[dsc,numbers]{coppe}
 3  \usepackage{amsmath,amssymb}
 4  \usepackage{hyperref}
 5
 6
 7
 8  \makelosymbols
 9  \makeloabbreviations
10
11  \begin{document}
12    \title{T\'itulo da Tese}
13    \foreigntitle{Thesis Title}
14    \author{Nome do Autor}{Sobrenome}
15    \advisor{Prof.}{Nome do Primeiro Orientador}{Sobrenome}{D.Sc.}
16    \advisor{Prof.}{Nome do Segundo Orientador}{Sobrenome}{Ph.D.}
17    \advisor{Prof.}{Nome do Terceiro Orientador}{Sobrenome}{D.Sc.}
18
19    \examiner{Prof.}{Nome do Primeiro Examinador Sobrenome}{D.Sc.}
20    \examiner{Prof.}{Nome do Segundo Examinador Sobrenome}{Ph.D.}
21    \examiner{Prof.}{Nome do Terceiro Examinador Sobrenome}{D.Sc.}
22    \examiner{Prof.}{Nome do Quarto Examinador Sobrenome}{Ph.D.}
23    \examiner{Prof.}{Nome do Quinto Examinador Sobrenome}{Ph.D.}
24    \department{PESC}
25    \date{01}{2024}
26
27    \keyword{Primeira palavra-chave}
28    \keyword{Segunda palavra-chave}
29    \keyword{Terceira palavra-chave}
30
31    \maketitle
32
33    \frontmatter
34    \dedication{A algu\'em cujo valor \'e digno desta dedicat\'oria.}
35
36    \chapter*{Agradecimentos}
37
38    Gostaria de agradecer a todos.
39
40    \begin{abstract}
41
```

```
42   Apresenta-se, nesta tese, ...
43
44   \end{abstract}
45
46   \begin{foreignabstract}
47
48   In this work, we present ...
49
50   \end{foreignabstract}
51
52   \tableofcontents
53   \listoffigures
54   \listoftables
55   \printlosymbols
56   \printloabbreviations
57
58   \mainmatter
59   \chapter{Introdu{\c c}\~ao}
60
61   Segundo a norma de formata{\c c}\~ao de teses e disserta{\c c}\~oes do
62   Instituto Alberto Luiz Coimbra de P\'os-gradua{\c c}\~ao e Pesquisa de
63   Engenharia (COPPE), toda abreviatura deve ser definida antes de
64   utilizada.\abbrev{COPPE}{Instituto Alberto Luiz Coimbra de P\'os-gradua{\c
65   c}\~ao e Pesquisa de Engenharia}.
66
67   Do mesmo modo, \'e imprescind\'ivel definir os s\'imbolos, tal como o
68   conjunto dos n\'umeros reais $\mathbb{R}$ e o conjunto vazio $\emptyset$.
69   \symbl{$\mathbb{R}$}{Conjunto dos n\'umeros reais}
70   \symbl{$\emptyset$}{Conjunto vazio}
71
72
73   \begin{longquote}
74   Um exemplo de citação longa nas regras da ABNT (4cm de recuo e fonte menor)
75   feita com o ambiente  \verb=longquote= The primary objective of this
76   investigation was to determine the feasibility of detecting corrosion in
77   aluminum Naval aircraft components with neutron radiographic interrogation
78   and the use of standard corrosion penetrameters. Secondary objectives
79   included the determination of the effect of object thickness on image quality,
80   the defining of minimum levels of detectability and a preliminary investigation
81   of a means whereby the degree of corrosion could be quantified with neutron
82   radiographic data. \cite{article-example}
83   \end{longquote}
84
85
86   \chapter{Revis\~ao Bibliogr\'afica}
87
88   Para ilustrar a completa ades\~ao ao estilo de cita{\c c}\~oes e listagem de
89   refer\^encias bibliogr\'aficas, a Tabela~\ref{tab:citation} apresenta cita{\c
90   c}\~oes de alguns dos trabalhos contidos na norma fornecida pela CPGP da
91   COPPE, utilizando o estilo num\'erico.
92
93   \begin{table}[h]
94   \caption{Exemplos de cita{\c c}\~oes utilizando o comando padr\~ao
95     \texttt{\textbackslash cite} do \LaTeX\ e
```

```latex
 96     o comando \texttt{\textbackslash citet},
 97     fornecido pelo pacote \texttt{natbib}.}
 98   \label{tab:citation}
 99   \centering
100   {\footnotesize
101   \begin{tabular}{|c|c|c|}
102     \hline
103     Tipo da Publica{\c c}\~ao & \verb|\cite| & \verb|\citet|\\
104     \hline
105     Livro & \cite{book-example} & \citet{book-example}\\
106     Artigo & \cite{article-example} & \citet{article-example}\\
107     Relat\'orio & \cite{techreport-example} & \citet{techreport-example}\\
108     Relat\'orio & \cite{techreport-exampleIn} & \citet{techreport-exampleIn}\\
109     Anais de Congresso & \cite{inproceedings-example} &
110       \citet{inproceedings-example}\\
111     S\'eries & \cite{incollection-example} & \citet{incollection-example}\\
112     Em Livro & \cite{inbook-example} & \citet{inbook-example}\\
113     Disserta{\c c}\~ao de mestrado & \cite{mastersthesis-example} &
114       \citet{mastersthesis-example}\\
115     Tese de doutorado & \cite{phdthesis-example} & \citet{phdthesis-example}\\
116     \hline
117   \end{tabular}}
118   \end{table}
119
120   \chapter{M\'etodo Proposto}
121   \chapter{Resultados e Discuss\~oes}
122
123   \section{Algumas Demonstra{\c c}\~oes}
124
125   A  Lista de Símbolos precisa usar comandos específicos. Aqui vamos usar os símbolos $\alpha
126   \symbl[beta]{Beta}{A palavra Beta more e corrigida}
127   \symbl[zzbeta]{$\beta$}{A letra $\beta$ corrigida}
128   \symbl{beta}{A palavra beta}
129   \symbl{alpha}{A palavra alpha}
130   \symbl[alpha]{Alpha}{A palavra Alpha}
131   \symbl[zzalpha]{$\alpha$}{A letra $\alpha$ corrigida}
132   \symbl[marco]{Marco}{A palavra Marco corrigida}
133
134   A Lista de Abreviações segue, a partir de 2024, a mesma regra, e aqui seguem alguns exemplo
135   \abbrev{GoT}{Game of Thrones}
136   \abbrev[GOT]{GoT}{Game of Thrones ordenado como GOT}
137   \abbrev[iot]{IoT}{IoT ordenado como iot}
138   \abbrev[IoT]{IoT}{IoT ordenado como IoT}
139   \abbrev[IOT]{IoT}{IoT ordenado como IOT}
140   \abbrev{IoT}{IoT com ordenação default}
141   \abbrev[ITU]{ITU}{ITU mesmo}
142
143
144   \chapter{Conclus\~oes}
145
146   \backmatter
147   \bibliographystyle{coppe-unsrt}
148   \bibliography{example}
149
```

```
150    \appendix
151
152
153
154
155  \end{document}
156  ⟨/example⟩
```

8 Implementation

8.1 The 'coppe.cls' file

```
157  ⟨*class⟩
158  \def\filename{coppe.dtx}
159  \def\fileversion{v3.2}
160  \def\filedate{2023/11/11}
161  \NeedsTeXFormat{LaTeX2e}[1995/12/01]
162  \ProvidesClass{coppe}[\filedate\ \fileversion\ COPPE Dissertations and Thesis]
163  \LoadClass[12pt,a4paper,oneside]{book}
164  \RequirePackage[sort&compress]{natbib}
165  \RequirePackage{hyphenat}
166  \RequirePackage{lastpage}
167  \RequirePackage{ifthen}
168  \RequirePackage{graphicx}
169  \RequirePackage{setspace}
170  \RequirePackage{tabularx}
171  \RequirePackage{etoolbox}
172  \RequirePackage{eqparbox}
173  \RequirePackage{ltxcmds}
174  \RequirePackage[T1]{fontenc}
175  \RequirePackage[a4paper,bindingoffset=0.0cm,vcentering=true,%
176  top=2.5cm,bottom=2.5cm,left=3.0cm,right=3.0cm]{geometry}
177  \def\CoppeTeX{{\rm C\kern-.05em{\sc o\kern-.025em p\kern-.025em
178  p\kern-.025em e}}\kern-.08em
179  T\kern-.1667em\lower.5ex\hbox{E}\kern-.125emX\spacefactor1000}

180  \newboolean{maledoc}
181  \setboolean{maledoc}{false}
182  %
183  % Class options.
184  % If you are writing a text in English, you must turn ''English'' on.
185  % Otherwise, Portuguese is considered the main language.
186  \newif\if@english\@englishfalse
187  \DeclareOption{english}{\@englishtrue}
188  \DeclareOption{msc}{%
189    \newcommand{\@degree}{M.Sc.}
190    \newcommand{\@degreename}{Mestrado}
191    \newcommand{\local@degname}{Mestre}
192    \newcommand{\foreign@degname}{Master}
193    \newcommand\local@doctype{Disserta\c c{\~ a}o}
194    \newcommand\foreign@doctype{Dissertation}
195  }
196  \DeclareOption{dscexam}{%
197    \newcommand{\@degree}{D.Sc.}
198    \newcommand{\@degreename}{Doutorado}
```

9

```
199  \newcommand{\local@degname}{Doutor}
200  \newcommand{\foreign@degname}{Doctor}
201  \setboolean{maledoc}{true}
202  \newcommand\local@doctype{Exame de Qualifica{\c c}{\~ a}o}
203  \newcommand\foreign@doctype{Qualifying Exam}
204 }
205 \DeclareOption{mscexam}{%
206  \newcommand{\@degree}{M.Sc.}
207  \newcommand{\@degreename}{Mestrado}
208  \newcommand{\local@degname}{Mestre}
209  \newcommand{\foreign@degname}{Master}
210  \setboolean{maledoc}{true}
211  \newcommand\local@doctype{Exame de Qualifica{\c c}{\~ a}o}
212  \newcommand\foreign@doctype{Qualifying Exam}
213 }
214 \DeclareOption{dsc}{%
215  \newcommand{\@degree}{D.Sc.}
216  \newcommand{\@degreename}{Doutorado}
217  \newcommand{\local@degname}{Doutor}
218  \newcommand{\foreign@degname}{Doctor}
219  \newcommand\local@doctype{Tese}
220  \newcommand\foreign@doctype{Thesis}
221 }
222 \DeclareOption{numbers}{%
223  \PassOptionsToPackage{numbers}{natbib}
224 }
```

Here is the default one-and-a-half line spacing. Users can change to double spacing by passing the `doublespacing` option.

```
225 \onehalfspacing
226 \DeclareOption{doublespacing}{%
227  \doublespacing
228 }
229 \ProcessOptions\relax
230 \if@english
231  \RequirePackage[english]{babel}
232 \else
233  \RequirePackage[english,brazilian]{babel}
234 \fi
235 \addto{\captionsenglish}{%
236  \renewcommand{\bibname}{References}
237 }
```

\department This macro is used to set the author's affiliation. There are twelve options which correspond to all academic units at COPPE/UFRJ. It defines the current and the foreign names of these units.

```
238 \newcommand\department[1]{%
239  \ifthenelse{\equal{#1}{PEB}}
240    {\global\def\local@deptname{Engenharia Biom{\' e}dica}
241     \global\def\foreign@deptname{Biomedical Engineering}}{}
242  \ifthenelse{\equal{#1}{PEC}}
243    {\global\def\local@deptname{Engenharia Civil}
244     \global\def\foreign@deptname{Civil Engineering}}{}
245  \ifthenelse{\equal{#1}{PEE}}
```

```
246     {\global\def\local@deptname{Engenharia El{\' e}trica}
247       \global\def\foreign@deptname{Electrical Engineering}}{}
248   \ifthenelse{\equal{#1}{PEM}}
249     {\global\def\local@deptname{Engenharia Mec{\^ a}nica}
250       \global\def\foreign@deptname{Mechanical Engineering}}{}
251   \ifthenelse{\equal{#1}{PEMM}}
252     {\global\def\local@deptname{Engenharia Metal{\' u}rgica e de Materiais}
253 \global\def\foreign@deptname{Metallurgical and Materials Engineering}}{}
254   \ifthenelse{\equal{#1}{PEN}}
255     {\global\def\local@deptname{Engenharia Nuclear}
256       \global\def\foreign@deptname{Nuclear Engineering}}{}
257   \ifthenelse{\equal{#1}{PENO}}
258     {\global\def\local@deptname{Engenharia Oce{\^ a}nica}
259       \global\def\foreign@deptname{Ocean Engineering}}{}
260   \ifthenelse{\equal{#1}{PPE}}
261     {\global\def\local@deptname{Planejamento Energ{\' e}tico}
262       \global\def\foreign@deptname{Energy Planning}}{}
263   \ifthenelse{\equal{#1}{PEP}}
264     {\global\def\local@deptname{Engenharia de Produ{\c c}{\~ a}o}
265       \global\def\foreign@deptname{Production Engineering}}{}
266   \ifthenelse{\equal{#1}{PEQ}}
267     {\global\def\local@deptname{Engenharia Qu{\' i}mica}
268       \global\def\foreign@deptname{Chemical Engineering}}{}
269   \ifthenelse{\equal{#1}{PESC}}
270     {\global\def\local@deptname{Engenharia de Sistemas e Computa{\c c}{\~ a}o}
271       \global\def\foreign@deptname{Systems Engineering and Computer Science}}{}
272   \ifthenelse{\equal{#1}{PET}}
273     {\global\def\local@deptname{Engenharia de Transportes}
274       \global\def\foreign@deptname{Transportation Engineering}}{}
275   \ifthenelse{\equal{#1}{PENT}}
276     {\global\def\local@deptname{Engenharia de Nanotecnologia}
277       \global\def\foreign@deptname{Nanotechnology Engineering}}{}
278 }
```

\title   Used to enter the title in Brazilian Portuguese.

```
279 \renewcommand\title[1]{%
280   \global\def\local@title{#1}%
281 }
```

\foreigntitle   Used to enter the foreign title.

```
282 \newcommand\foreigntitle[1]{%
283   \global\def\foreign@title{#1}%
284 }
```

\advisor   Defines globally the title, name and academic degree of the advisors.

```
285 \newcount\@advisor\@advisor0
286 \newcommand\advisor[4]{%
287   \global\@namedef{CoppeAdvisorTitle:\expandafter\the\@advisor}{#1}
288   \global\@namedef{CoppeAdvisorName:\expandafter\the\@advisor}{#2}
289   \global\@namedef{CoppeAdvisorSurname:\expandafter\the\@advisor}{#3}
290   \global\@namedef{CoppeAdvisorDegree:\expandafter\the\@advisor}{#4}
291   \global\advance\@advisor by 1
292   \ifnum\@advisor>1
293     \renewcommand\local@advisorstring{Orientadores}
```

```
294      \renewcommand\foreign@advisorstring{Advisors}
295    \fi
296 }
```

\examiner

```
297 \newcount\@examiner\@examiner0
298 \newcommand\examiner[3]{%
299    \global\@namedef{CoppeExaminer:\expandafter\the\@examiner}{#1\ #2}
300    \global\advance\@examiner by 1
301 }
```

\author   It was redefined to allow the identification of the author's first names and surname.

```
302 \renewcommand\author[2]{%
303    \global\def\@authname{#1}
304    \global\def\@authsurn{#2}
305 }
```

\date   This code makes easy to switch from dates in different languages.

```
306 \renewcommand\date[2]{%
307    \month=#1
308    \year=#2
309 }
```

\local@monthname

```
310 \newcommand\local@monthname{\ifcase\month\or
311    Janeiro\or Fevereiro\or Mar{\c c}o\or Abril\or Maio\or Junho\or
312    Julho\or Agosto\or Setembro\or Outubro\or Novembro\or Dezembro\fi}
```

\foreign@monthname

```
313 \newcommand\foreign@monthname{\ifcase\month\or
314    January\or February\or March\or April\or May\or June\or
315    July\or August\or September\or October\or November\or December\fi}
```

\keyword

```
316 \newcounter{keywords}
317 \newcommand\keyword[1]{%
318    \global\@namedef{CoppeKeyword:\expandafter\the\c@keywords}{#1}
319    \global\addtocounter{keywords}{1}
320 }
```

\freeconfig   This command allows easy changing of core class parameters.

```
321 \newcommand\freeconfig[6]{%
322    \providecommand\@degree{}
323    \renewcommand\@degree{#1}
324    \providecommand\@degreename{}
325    \renewcommand\@degreename{#2}
326    \providecommand\local@degname{}
327    \renewcommand\local@degname{#3}
328    \providecommand\foreign@degname{}
329    \renewcommand\foreign@degname{#4}
330    \providecommand\local@doctype{}
331    \renewcommand\local@doctype{#5}
332    \providecommand\foreign@doctype{}
```

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```
333  \renewcommand\foreign@doctype{#6}%
334 }
335 %    \end{macrocode}
336 % \end{macro}
337 %
338 % \begin{macro}{\frontmatter}
339 % The number of pages for both frontmatter and mainmatter printed
340 % in the cataloging details page is computed by means of simple
341 % \LaTeX\ labels.
342 %    \begin{macrocode}
343 \renewcommand\frontmatter{%
344   \cleardoublepage
345   \@mainmatterfalse
346   \pagenumbering{roman}
347   \thispagestyle{empty}
348   \setcounter{page}{2}
349   \makefrontpage
350   \clearpage
351   \pagestyle{plain}
352   \ifthenelse{\boolean{maledoc}}{}{\makecatalog}%
353 }
```

\mainmatter
```
354 \renewcommand\mainmatter{%
355   \coppe@mainBegin
356   \cleardoublepage
357   \@mainmattertrue
358   \pagestyle{plain}
359   \pagenumbering{arabic}}
```

\backmatter
```
360 \renewcommand\backmatter{%
361   \if@openright
362     \cleardoublepage
363   \else
364     \clearpage
365   \fi}
366 %
```

\maketitle
```
367 \renewcommand\maketitle{%
368   \pagenumbering{alph}
369   \ltx@ifpackageloaded{hyperref}{\coppe@hypersetup}{}%
370   \begin{titlepage}
371   \begin{flushleft}
372   \vspace*{1.5mm}
373   \setlength\baselineskip{0pt}
374   \setlength\parskip{1mm}
375   \makebox[20mm][c]{\hspace{4.8cm}\includegraphics{coppe-logo}}
376   \end{flushleft}
377   \vspace{1.05cm}
378   \begin{center}
379   \nohyphens{%
380     \if@english
```

```
381        \MakeUppercase\foreign@title
382      \else
383        \MakeUppercase\local@title
384      \fi}\par
385   \vspace*{3cm}
386   \nohyphens{\@authname\ \@authsurn}\par
387   \end{center}
388   \vspace*{2.1cm}
389   \begin{flushright}
390   \begin{minipage}{8.45cm}
391   \frontcover@maintext
392   \end{minipage}\par
393   \vspace*{7.5mm}
394   \nohyphens{%
395   \begin{tabularx}{8.45cm}[b]{@{}l@{ }>{\raggedright\arraybackslash}X@{}}
396      \local@advisorstring: &
397      \count1=0
398      \toks@={}
399      \@whilenum \count1<\@advisor \do{%
400      \ifcase\count1 % same as \ifnum0=\count1
401        \toks@=\expandafter{\csname CoppeAdvisorName:\the\count1%
402          \expandafter\endcsname\expandafter\space%
403          \csname CoppeAdvisorSurname:\the\count1\endcsname\\}
404      \else
405        \toks@=\expandafter\expandafter\expandafter{%
406          \expandafter\the\expandafter\toks@%
407          \expandafter&\expandafter\space%
408          \csname CoppeAdvisorName:\the\count1\expandafter\endcsname%
409          \expandafter\space\csname CoppeAdvisorSurname:\the\count1\endcsname\\
410        }%
411      \fi
412      \advance\count1 by 1}
413      \the\toks@
414   \end{tabularx}}\par
415   \end{flushright}
416   \vspace*{\fill}
417   \begin{center}
418   \local@cityname\par
419   \local@monthname\ de \number\year
420   \end{center}
421   \end{titlepage}
422   \global\let\maketitle\relax%
423   \global\let\and\relax}

424 \newcommand\makefrontpage{%
425   \begin{center}
426      \sloppy\nohyphens{
427        \if@english
428          \MakeUppercase\foreign@title
429        \else
430          \MakeUppercase\local@title
431        \fi}\par
432      \vspace*{7mm}
433      {\@authname\ \@authsurn}\par
```

```latex
434   \end{center}\par
435   \vspace*{4mm}
436   \frontpage@maintext
437   \vspace*{16mm}
438   \nohyphens{%
439   \noindent\begin{tabularx}{\textwidth}[b]{@{}l@{ }>{\raggedright\arraybackslash}X@{}}
440     \local@advisorstring: &
441     \count1=0
442     \toks@={}
443     \@whilenum \count1<\@advisor \do{%
444     \ifcase\count1 % same as \ifnum0=\count1
445       \toks@=\expandafter{\csname CoppeAdvisorName:\the\count1%
446         \expandafter\endcsname\expandafter\space%
447         \csname CoppeAdvisorSurname:\the\count1\endcsname\\}
448     \else
449       \toks@=\expandafter\expandafter\expandafter{%
450         \expandafter\the\expandafter\toks@%
451         \expandafter&\expandafter\space%
452         \csname CoppeAdvisorName:\the\count1\expandafter\endcsname%
453         \expandafter\space\csname CoppeAdvisorSurname:\the\count1\endcsname\\
454       }%
455     \fi
456     \advance\count1 by 1}
457     \the\toks@
458   \end{tabularx}\par
459   \vspace*{20mm}
460   \noindent\begin{tabularx}{\textwidth}[b]{@{}l@{ }>{\raggedright\arraybackslash}X@{}}
461     Aprovada por: &
462     \count1=0
463     \toks@={}
464     \@whilenum \count1<\@examiner \do{%
465     \ifcase\count1 % same as \ifnum0=\count1
466       \toks@=\expandafter{\csname CoppeExaminer:\the\count1%
467         \expandafter\endcsname\expandafter\\}
468     \else
469       \toks@=\expandafter\expandafter\expandafter{%
470         \expandafter\the\expandafter\toks@%
471         \expandafter&\expandafter\space%
472         \csname CoppeExaminer:\the\count1\expandafter\endcsname%
473         \expandafter\space\\
474       }%
475     \fi
476     \advance\count1 by 1}
477     \the\toks@
478     \end{tabularx}}\par
479   \vspace*{\fill}
480   \frontpage@bottomtext}

481 \newcommand\coppe@hypersetup{%
482 \begingroup
483   % changes to \toks@ and \count@ are kept local;
484   % it's not necessary for them, but it is usually the case
485   % for \count1, because the first ten counters are written
486   % to the DVI file, thus you got lucky because of PDF output
```

```
487  \toks@={}% in this special case not necessary
488  \count@=0 %
489  \@whilenum\count@<\value{keywords}\do{%
490    % * a keyword separator is not necessary,
491    %   if there is just one keyword
492    % * \csname CoppeKeyword:\the\count@\endcsname must be expanded
493    %   at least once, to get rid of the loop depended \count@
494    \ifcase\count@ % same as \ifnum0=\count@
495      \toks@=\expandafter{\csname CoppeKeyword:\the\count@\endcsname}%
496    \else
497      \toks@=\expandafter\expandafter\expandafter{%
498        \expandafter\the\expandafter\toks@
499        \expandafter;\expandafter\space
500        \csname CoppeKeyword:\the\count@\endcsname
501      }%
502    \fi
503    \advance\count@ by 1 %
504  }%
505  \edef\x{\endgroup
506    \noexpand\hypersetup{%
507      pdfkeywords={\the\toks@}%
508    }%
509  }%
510 \x
511 \hypersetup{%
512   pdfauthor={\@authname\ \@authsurn},
513   pdftitle={\local@title},
514   pdfsubject={\local@doctype\ de \@degreename\ em \local@deptname\ da COPPE/UFRJ},
515   pdfcreator={LaTeX with CoppeTeX toolkit},
516   breaklinks={true},
517   raiselinks={true},
518   pageanchor={true},
519 }}
```

\makecatalog When the document has illustrations, it is required to insert ": il.;" between the number of pages of the textual part and the page dimension. We have created a label to flag the existence of lists of figures. It is checked to be undefined using the plain TeX command \@isundefined [7].

```
520 \newcommand\makecatalog{%
521   \vspace*{\fill}
522   \begin{center}
523     \setlength{\fboxsep}{5mm}
524     \framebox[120mm][c]{\makebox[5mm][c]{}%
525       \begin{minipage}[c]{105mm}
526       \setlength{\parindent}{5mm}
527       \noindent\sloppy\nohyphens\@authsurn,
528       \nohyphens\@authname\par
529       \nohyphens{%
530         \if@english
531           \foreign@title%
532         \else
533           \local@title%
534         \fi/\@authname\ \@authsurn. -- \local@cityname:
535       UFRJ/COPPE, \number\year.}\par
```

```
536        \pageref{front:pageno},
537        \pageref{LastPage}
538        p.\@ifundefined{r@cat:lofflag}{}{\pageref{cat:lofflag}} $29,7$cm.\par
539        % There is an issue here. When the last entry must be split between lines,
540        % the spacing between it and the next paragraph becomes smaller.
541        % Should we manually introduce a fixed space? But how could we know that
542        % a name was split? Is this happening yet?
543        \nohyphens{%
544        \begin{tabularx}{100mm}[b]{@{}l@{ }>{\raggedright\arraybackslash}X@{}}
545          \local@advisorstring: &
546          \count1=0
547          \toks@={}
548          \@whilenum \count1<\@advisor \do{%
549          \ifcase\count1 % same as \ifnum0=\count1
550            \toks@=\expandafter{\csname CoppeAdvisorName:\the\count1%
551            \expandafter\endcsname\expandafter\space%
552            \csname CoppeAdvisorSurname:\the\count1\endcsname\\}
553          \else
554            \toks@=\expandafter\expandafter\expandafter{%
555              \expandafter\the\expandafter\toks@
556              \expandafter&\expandafter\space
557              \csname CoppeAdvisorName:\the\count1\expandafter\endcsname%
558              \expandafter\space\csname CoppeAdvisorSurname:\the\count1\endcsname\\
559            }%
560          \fi
561          \advance\count1 by 1}
562          \the\toks@
563        \end{tabularx}}\par
564        \nohyphens{\local@doctype\ ({\MakeLowercase\@degreename}) --
565        UFRJ/COPPE/Programa de \local@deptname, \number\year.}\par
566        Refer{\^ e}ncias Bibliogr{\' a}ficas: p. \pageref{bib:begin} -- \pageref{bib:end}.\par
567        \count1=0
568        \count2=1
569        \nohyphens{\@whilenum \count1<\value{keywords} \do {%
570          \number\count2. \csname CoppeKeyword:\the\count1 \endcsname.
571          \advance\count1 by 1
572          \advance\count2 by 1}
573        I. \csname CoppeAdvisorSurname:0\endcsname,%
574        \ \csname CoppeAdvisorName:0\endcsname%
575        \ifthenelse{\@advisor>1}{\ \emph{et~al.}}{}.
576        II. \local@universityname, COPPE, Programa de \local@deptname.
577        III. T{\' i}tulo.}
578      \end{minipage}}
579    \end{center}
580    \vspace*{\fill}}
```

\dedication

```
581 \newcommand\dedication[1]{
582   \gdef\@dedic{#1}
583     \cleardoublepage
584     \vspace*{\fill}
585     \begin{flushright}
586       \begin{minipage}{60mm}
587         \raggedleft \it \normalsize \@dedic
```

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```
588        \end{minipage}
589      \end{flushright}}
```

abstract (*env.*) This is a specialization of the abstract in the article standard class.

```
590 \newenvironment{abstract}{%
591   \clearpage
592   \thispagestyle{plain}
593   \abstract@toptext\par
594   \vspace*{8.6mm}
595   \begin{center}
596     \sloppy\nohyphens{\MakeUppercase\local@title}\par
597     \vspace*{13.2mm}
598     \@authname\ \@authsurn \par
599     \vspace*{7mm}
600     \local@monthname/\number\year
601   \end{center}\par
602   \vspace*{\fill}
603   \noindent%
604   \begin{tabularx}{\textwidth}[b]{@{}l@{ }>{\raggedright\arraybackslash}X@{}}
605     \local@advisorstring: &
606     \count1=0
607     \toks@={}
608     \@whilenum \count1<\@advisor \do{%
609     \ifcase\count1 % same as \ifnum0=\count1
610       \toks@=\expandafter{\csname CoppeAdvisorName:\the\count1%
611       \expandafter\endcsname\expandafter\space%
612       \csname CoppeAdvisorSurname:\the\count1\endcsname\\}
613     \else
614       \toks@=\expandafter\expandafter\expandafter{%
615         \expandafter\the\expandafter\toks@
616         \expandafter&\expandafter\space
617         \csname CoppeAdvisorName:\the\count1\expandafter\endcsname%
618         \expandafter\space\csname CoppeAdvisorSurname:\the\count1\endcsname\\
619       }%
620     \fi
621     \advance\count1 by 1}
622     \the\toks@
623   \end{tabularx}\par
624   \vspace*{2mm}
625   \noindent\local@deptstring: \local@deptname\par
626   \vspace*{7mm}}{\vspace*{\fill}}}
```

foreignabstract (*env.*)

```
627 \newenvironment{foreignabstract}{%
628   \clearpage
629   \thispagestyle{plain}
630   \begin{otherlanguage}{english}
631   \foreignabstract@toptext\par
632   \vspace*{8.6mm}
633   \begin{center}
634     \sloppy\nohyphens{\MakeUppercase\foreign@title}\par
635     \vspace*{13.2mm}
636     \@authname\ \@authsurn \par
637     \vspace*{7mm}
```

```
638      \foreign@monthname/\number\year
639    \end{center}\par
640    \vspace*{\fill}
641    \noindent%
642    \begin{tabularx}{\textwidth}[b]{@{}l@{ }>{\raggedright\arraybackslash}X@{}}
643      \foreign@advisorstring: &
644      \count1=0
645      \toks@={}
646      \@whilenum \count1<\@advisor \do{%
647      \ifcase\count1 % same as \ifnum0=\count1
648        \toks@=\expandafter{\csname CoppeAdvisorName:\the\count1%
649        \expandafter\endcsname\expandafter\space%
650        \csname CoppeAdvisorSurname:\the\count1\endcsname\\}
651      \else
652        \toks@=\expandafter\expandafter\expandafter{%
653          \expandafter\the\expandafter\toks@
654          \expandafter&\expandafter\space
655          \csname CoppeAdvisorName:\the\count1\expandafter\endcsname%
656          \expandafter\space\csname CoppeAdvisorSurname:\the\count1\endcsname\\
657        }%
658      \fi
659      \advance\count1 by 1}
660        \the\toks@
661    \end{tabularx}\par
662    \vspace*{2mm}
663    \noindent\foreign@deptstring: \foreign@deptname\par
664    \vspace*{7mm}}}{%
665    \end{otherlanguage}
666    \vspace*{\fill}
667    \global\let\@author\@empty
668    \global\let\@date\@empty
669    \global\let\foreign@title\@empty
670    \global\let\foreign@title\relax
671    \global\let\local@title\@empty
672    \global\let\local@title\relax
673    \global\let\author\relax
674    \global\let\author\relax
675    \global\let\date\relax}
```

\listoffigures

```
676 \renewcommand\listoffigures{%
677    \coppe@hasLof
678    \if@twocolumn
679      \@restonecoltrue\onecolumn
680    \else
681      \@restonecolfalse
682    \fi
683    \chapter*{\listfigurename}%
684      \addcontentsline{toc}{chapter}{\listfigurename}%
685      \@mkboth{\MakeUppercase\listfigurename}%
686              {\MakeUppercase\listfigurename}%
687    \@starttoc{lof}%
688    \if@restonecol\twocolumn\fi
689    }
```

```
690 \renewcommand\listoftables{%
691     \if@twocolumn
692       \@restonecoltrue\onecolumn
693     \else
694       \@restonecolfalse
695     \fi
696    \chapter*{\listtablename}%
697      \addcontentsline{toc}{chapter}{\listtablename}%
698      \@mkboth{%
699         \MakeUppercase\listtablename}%
700        {\MakeUppercase\listtablename}%
701    \@starttoc{lot}%
702    \if@restonecol\twocolumn\fi
703      }
```

```
704 \newcommand\printlosymbols{%
705 \renewcommand\glossaryname{\listsymbolname}%
706 \@input@{\jobname.los}}
```

```
707 \def\makelosymbols{%
708    \newwrite\@losfile
709    \immediate\openout\@losfile=\jobname.syx
710    \newcommand\symbl[3][]{\@bsphack\begingroup
711    \ifstrempty{##1}{\def\@tempsymbl{##2=}}{\def\@tempsymbl{##1=}}%
712              \@sanitize%
713              \@wrlos{\@tempsymbl}{##2}{##3}}\typeout%
714    {Writing index of symbols file \jobname.syx}%
715    \let\makelosymbols\@empty%
716 }%
717 \@onlypreamble\makelosymbols
```

```
718 \AtBeginDocument{%
719 \@ifpackageloaded{hyperref}{%
720    \newcommand\@wrlos[3]{%
721      \protected@write\@losfile{}%
722        {\string\indexentry{#1[#2] #3|hyperpage}{\thepage}}%
723      \endgroup%
724      \@esphack}}{%
725    \newcommand\@wrlos[3]{%
726      \protected@write\@losfile{}%
727        {\string\indexentry{#1[#2] #3}{\thepage}}%
728      \endgroup%
729      \@esphack}}}%
```

```
730 \newcommand\printloabbreviations{%
731 \renewcommand\glossaryname{\listabbreviationname}%
732 \@input@{\jobname.lab}}
```

```
733 \def\makeloabbreviations{%
734   \newwrite\@labfile
735   \immediate\openout\@labfile=\jobname.abx
736   \newcommand\abbrev[3][]{\@bsphack\begingroup
737           \ifstrempty{##1}{\def\@tempsymbl{##2=}}{\def\@tempsymbl{##1=}}
738           \@sanitize
739           \@wrlab{\@tempsymbl}{##2}{##3}}\typeout
740   {Writing index of abbreviations file \jobname.abx}%
741   \let\makeloabbreviations\@empty
742 }
743 \@onlypreamble\makeloabbreviations

744 \AtBeginDocument{%
745 \@ifpackageloaded{hyperref}{%
746   \newcommand\@wrlab[3]{%
747     \protected@write\@labfile{}%
748       {\string\indexentry{#1[#2] #3|hyperpage}{\thepage}}%
749     \endgroup%
750     \@esphack}}{%
751   \newcommand\@wrlab[3]{%
752     \protected@write\@labfile{}%
753       {\string\indexentry{#1[#2] #3}{\thepage}}%
754     \endgroup%
755     \@esphack}}}%
756 %%%% \AtBeginDocument{%
757 %%%% \@ifpackageloaded{hyperref}{%
758 %%%%    \def\@wrlab#1#2{%
759 %%%% \protected@write\@labfile{}%
760 %%%%        {\string\indexentry{[#1] #2|hyperpage}{\thepage}}%
761 %%%%      \endgroup
762 %%%%      \@esphack}}{%
763 %%%%    \def\@wrlab#1#2{%
764 %%%%      \protected@write\@labfile{}%
765 %%%%        {\string\indexentry{[#1] #2}{\arabic{page}}}%
766 %%%%      \endgroup
767 %%%%      \@esphack}}}
768 % Some macros used to generate cataloging information.
769 \AtBeginDocument{%
770   \ltx@ifpackageloaded{hyperref}{
771     \def\coppe@bibEnd{%
772       \immediate\write\@auxout{%
773         \string\newlabel{bib:end}{{}{\arabic{page}}{}{page.\arabic{page}}{}}}%
774     \def\coppe@bibBegin{%
775       \immediate\write\@auxout{%
776         \string\newlabel{bib:begin}{{}{\arabic{page}}{}{page.\arabic{page}}{}}}%
777     \def\coppe@mainBegin{%
778       \immediate\write\@auxout{%
779         \string\newlabel{front:pageno}{{}{\Roman{page}}{}{page.\roman{page}}{}}}%
780     \def\coppe@hasLof{%
781       \immediate\write\@auxout{%
782         \string\newlabel{cat:lofflag}{{}{:~il.;}{}{page.\roman{page}}{}}}%
783   }{%
784     \def\coppe@bibEnd{%
785       \immediate\write\@auxout{%
```

```
786        \string\newlabel{bib:end}{{}{\arabic{page}}{}}}}%
787     \def\coppe@bibBegin{%
788        \immediate\write\@auxout{%
789        \string\newlabel{bib:begin}{{}{\arabic{page}}{}}}}%
790     \def\coppe@mainBegin{%
791        \immediate\write\@auxout{%
792          \string\newlabel{front:pageno}{{}{\Roman{page}}{}}}}%
793     \def\coppe@hasLof{%
794        \immediate\write\@auxout{%
795          \string\newlabel{cat:lofflag}{{}{:~il.;}{}}}}%
796   }%
797 }
798 \newdimen\bibindent%
799 \setlength\bibindent{1.5em}%
800 \renewenvironment{thebibliography}[1]%
801      {\onehalfspacing%
802       \chapter*{\bibname}%
803       \addcontentsline{toc}{chapter}{\bibname}%
804       \coppe@bibBegin
805       \list{\@biblabel{\@arabic\c@enumiv}}%
806           {\setlength{\labelwidth}{0ex}%
807            \setlength{\leftmargin}{9.0ex}%
808            \setlength{\itemindent}{-9.0ex}%
809            \advance\leftmargin\labelsep%
810            \@openbib@code%
811            \usecounter{enumiv}%
812            \let\p@enumiv\@empty%
813            \renewcommand\theenumiv{\@arabic\c@enumiv}}%
814       \sloppy%
815       \clubpenalty4000%
816       \@clubpenalty \clubpenalty%
817       \widowpenalty4000%
818       \sfcode`\.\@m}%
819      {\def\@noitemerr%
820       {\@latex@warning{Empty `thebibliography' environment}}%
821       \coppe@bibEnd
822       \endlist}
```

longquote (*env.*)

```
823 \newlength{\recuolongquote}%
824 \setlength{\recuolongquote}{4cm}%
825 \newenvironment*{longquote}[1][default]{%
826  \list{}%
827  \footnotesize%
828  \addtolength{\leftskip}{\recuolongquote}%
829  \item[]%
830  \singlespacing%
831  \ifthenelse{\not\equal{#1}{default}}{\itshape\selectlanguage{#1}}{}%
832 }{\endlist}%

833 \newenvironment{theglossary}{%
834  \if@twocolumn%
835    \@restonecoltrue\onecolumn%
836  \else%
```

```
837    \@restonecolfalse%
838    \fi%
839    \@mkboth{\MakeUppercase\glossaryname}%
840    {\MakeUppercase\glossaryname}%
841    \chapter*{\glossaryname}%
842    \addcontentsline{toc}{chapter}{\glossaryname}
843    \list{}
844    {\setlength{\listparindent}{0in}%
845     \setlength{\labelwidth}{1.0in}%
846     \setlength{\leftmargin}{1.5in}%
847     \setlength{\labelsep}{0.5in}%
848     \setlength{\itemindent}{0in}}%
849     \sloppy}%
850    {\if@restonecol\twocolumn\fi%
851    \endlist}
852 %
853 \renewenvironment{theindex}{%
854    \if@twocolumn
855       \@restonecolfalse
856    \else
857       \@restonecoltrue
858    \fi
859    \twocolumn[\@makeschapterhead{\indexname}]%
860    \@mkboth{\MakeUppercase\indexname}%
861    {\MakeUppercase\indexname}%
862    \thispagestyle{plain}\parindent\z@
863    \addcontentsline{toc}{chapter}{\indexname}
864    \parskip\z@ \@plus .3\p@\relax
865    \columnseprule \z@
866    \columnsep 35\p@
867    \let\item\@idxitem}
868    {\if@restonecol\onecolumn\else\clearpage\fi}
869 \if@english
870    \newcommand\listabbreviationname{List of Abbreviations}
871    \newcommand\listsymbolname{List of Symbols}
872    \newcommand\glossaryname{Glossary}
873 \else
874    \newcommand\listabbreviationname{Lista de Abreviaturas}
875    \newcommand\listsymbolname{Lista de S{\' i}mbolos}
876    \newcommand\glossaryname{Gloss{\' a}rio}
877 \fi
878 %
879 \newcommand\local@advisorstring{Orientador}
880 \newcommand\foreign@advisorstring{Advisor}
881 \ifthenelse{\boolean{maledoc}}{%
882    \newcommand\local@approvedname{Examinado por}%
883 }{%
884    \newcommand\local@approvedname{Examinada por}%
885 }
886 \newcommand\local@universityname{Universidade Federal do Rio de Janeiro}
887 \newcommand\local@deptstring{Programa}
888 \newcommand\foreign@deptstring{Department}
889 \newcommand\local@cityname{Rio de Janeiro}
890 \newcommand\local@statename{RJ}
```

```
891 \newcommand\local@countryname{Brasil}
892 %
893 \newcommand\frontcover@maintext{
894   \sloppy\nohyphens{\local@doctype\ de \@degreename\
895   \ifthenelse{\boolean{maledoc}}{apresentado}{apresentada}
896   ao Programa de P{\' o}s-gradua{\c c}{\~ a}o em \local@deptname,
897   COPPE, da \local@universityname, como parte dos requisitos
898   necess{\' a}rios {\` a} obten{\c c}{\~ a}o do t{\' i}tulo de
899   \local@degname\ em \local@deptname.}
900 }
901 %
902 \newcommand\frontpage@maintext{
903   \noindent {\MakeUppercase\local@doctype}
904   \ifthenelse{\boolean{maledoc}}{SUBMETIDO}{SUBMETIDA}
905   \sloppy\nohyphens{AO CORPO DOCENTE DO INSTITUTO ALBERTO LUIZ COIMBRA
906   DE P{\' O}S-GRADUA{\c C}{\~ A}O E PESQUISA DE ENGENHARIA DA
907   UNIVERSIDADE FEDERAL DO RIO DE JANEIRO COMO PARTE DOS REQUISITOS
908   NECESS{\' A}RIOS PARA A OBTEN{\c C}{\~ A}O DO GRAU DE
909   {\MakeUppercase\local@degname} EM CI{\^E}NCIAS EM
910   {\MakeUppercase\local@deptname.\par}}%
911 }
912 %
913 \newcommand\frontpage@bottomtext{%
914   \begin{center}
915   {\MakeUppercase{\local@cityname, \local@statename\ -- \local@countryname}}\par
916   {\MakeUppercase\local@monthname\ DE \number\year}
917   \end{center}%
918 }
919 %
920 \newcommand\abstract@toptext{%
921   \noindent Resumo \ifthenelse{\boolean{maledoc}}{do}{da}
922   \local@doctype\ \ifthenelse{\boolean{maledoc}}{apresentado}{apresentada}
923   \sloppy\nohyphens{{\` a} COPPE/UFRJ como parte dos requisitos
924   necess{\' a}rios para a obten{\c c}{\~ a}o do grau de
925   \local@degname\ em Ci{\^ e}ncias (\@degree)}
926 }
927 \newcommand\foreignabstract@toptext{%
928   \noindent \sloppy\nohyphens{Abstract of \foreign@doctype\ presented to
929   COPPE/UFRJ as a partial fulfillment of the requirements for the
930   degree of \foreign@degname\ of Science (\@degree)}
931 }
932 %

933 ⟨/class⟩

934 ⟨∗glossary⟩
935 actual '='
936 quote '!'
937 level '>'
938 delim_0   ", p. "
939 lethead_flag  0
940 headings_flag 0
941 preamble
942 "\n\\begin{theglossary}\n  \\makeatletter"
943 postamble
```

```
944  "\n   \\end{theglossary}\n"
945 ⟨/glossary⟩
```

Acknowledgments

References

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[6] William Strunk, Jr. and E. B. White. *The Elements of Style*. Macmillan, 3 edition, 1979.

[7] TeX Frequently Asked Questions.

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

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