

# The `iitsrc` document class

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## Abstract

The format required for the IIT.SRC conference proceedings is explained briefly. Here we give the IIT.SRC template. In order to enable the publisher to bring the conference proceedings into the uniform layout and style, authors are kindly requested to follow the suggestions mentioned in this paper.

## 1 Introduction

If you have decided to write an article to IIT.SRC conference in  $\text{\LaTeX}$ , then this document is for you. You certainly need not to read it whole. The most important things are in the beginning. Please read at least the first sections which are intended to give you a clue how to use this (`iitsrc`) document class.

This document tells you:

- How to install this document class is described in Section 2.
- It shows you a minimal source code of an empty article which uses the `iitsrc` class (Section 3). It could be regarded as a convenient starting point. It is advised to use it because it contains all the things in which `iitsrc` class differs from the generic `article` class. So if you use it, you will not be confused. Look at it.
- Compile that demo (`example.tex`) source code to test whether the `iitsrc` class works and whether there are no other problems.
- In Section 4 we explain all the details in which the `iitsrc` class differs from the generic `article` class. This information might be occasionally useful.
- And finally do the hardest part—write the actual text of your article. It should not exceed 8 pages.

Between `\begin{document}` and `\end{document}` you can use any decent  $\text{\LaTeX}$  commands you are used to.

## 2 Installation

- Get the ZIP archive with IIT.SRC  $\text{\LaTeX}$  class from the conference site:  
<http://www.fiit.stuba.sk/iit-src>

- uncompress it
- go to the `iitsrc` directory
- `README` file contains instructions how to build particular sample documents

### 3 A minimal source code of an IIT.SRC article

Here is how a minimal source code of a document which uses the prescribed `iitsrc` class might look like:

```

\documentclass{iitsrc}
\usepackage[utf8x]{inputenc}
\PrerenderUnicode{áäčďéíĹĺňóőřšťúýžĀĀĈĎĚĪĹĹŃŌŐŔŠŤÚÝŽ}

% Please do not remove the following command:
\editpages{1}{8}

\title{A Skeleton of an IIT.SRC Article}
\author{Ján}{Novák}
\author{Martin}{Kováč}
\supervision{\bc}{\info}{Professor Xxxx Yyyy}{\iise, \fiit}
\mail{novak@fiit.stuba.sk}

\begin{document}

\begin{abstract}
  A place where you should concisely tell about your article and motivate
  the reader to read on.
\end{abstract}
The reason why \verb|\PrerenderUnicode| command might be necessary is
mentioned in the TODO list.

\section{Introduction}

Your text goes here.

\acknowledgement{Here you should mention the names of grants
                  which funded the work on this article. As defined
                  by a particular grant.}
\end{document}

```

### 4 Differences from the standard article class

This class was subclassed from the standard  $\LaTeX 2_{\epsilon}$  `article`. This means that most of the things you were using within the `article` class can be used also in this class. The main changes (you should take care of) are related to the part of the source code bounded by

```

\documentclass{iitsrc}

```

and beginning of your abstract. See the above article skeleton. It hopefully gives you enough information to continue on your own without a need to read all the details explained herein.

However, just to be sure that each difference in the interface of this class from the standard `article` class is clearly described, in this place we describe them.

The first command in your source file should be:

```
\documentclass{iitsrc}[2008/08/01]
```

Next, with `\usepackage` command you can load whatever packages you need. This `iitsrc` class already preloads the following packages:

- `fontenc`
- `geometry`
- `cite`
- `times`

with appropriate parameters. You should not to reload them. If you try to load some of the above packages with different options than those determined by the `iitsrc` class, the  $\LaTeX 2\epsilon$  will complain and you will not be able to compile your document.

As you can see, the editor requires usage of the Times font face. For now this font is preferred also for the  $\LaTeX$  contributions even though the default Computer Modern fonts look much better. The reason why Times are required is that all the documents submitted to IIT.SRC should be consistent. Hopefully, this decision (i.e. the necessity to use Times instead of Computer Modern) will be abandoned. But for now it holds.

There is also the

```
\editpages{1}{8}
```

command. It is not really needed for you. But please do not delete it. It is a convenience for those who will do the integration of diverse documents into a single volume. Since not all the contributions are done in  $\LaTeX$ , the page numbers will have to be set up manually. So please leave this command for these people.

Then there should follow the `\title` command. Such as the above one:

```
\title{A Skeleton of an IIT.SRC Article}
```

The string within the braces may employ explicit newline command `\\` if you feel that in this way or the other you want to influence it.

Then there should be a sequence of the authors' names. Such as:

```
\author{Firstname}{Surname}
```

Notice that the `\author` command has two parameters (as opposed to the `\author` command in the standard `article` class<sup>1</sup>). The first parameter determines the author's first name(s). The second parameter determines the surname. There should be at least one `\author` command. There could be as many of them as needed.

Then there should occur a single `\supervision` command. Such as:

```
\supervision{Degree}{Field}{Your supervisor's name}{Supervisor's affiliation}
```

The first parameter should be one of the following three strings:

- `\bc`
- `\ms`
- `\phd`

The second parameter should be one of the following strings:

- `Informatics`
- `Computer Engineering`
- `Software Engineering`
- `Information Systems`
- `Applied Informatics`
- `Artificial Intelligence`

The third parameter should be your supervisor's name; if appropriate, prefixed with one of these strings:

- `Professor~`
- `Assoc.~Professor~`
- `Dr.~`

The fourth parameter should state affiliation of your supervisor:

- `\iai, \fiit`
- `\icsn, \fiit`
- `\iise, \fiit`

Then there could optionally follow a `\mail` command

```
\mail{your@mail.net}
```

---

<sup>1</sup>The other difference is that in this class, if there are more than one authors, they are not declared by a single `\author` command but by a sequence of the `\author` commands.

which gives reader a chance to contact you later if that person considers you article interesting. Please utilize also this command.

Then you can continue with:

```
\begin{document}

\begin{abstract}
A place where you should concisely tell about your article and motivate
the reader to read on.
\end{abstract}
```

The abstract should not exceed 100 words.

After the above mandatory part you can put the actual text of your article. In further text you can use those commands which can be used also with the standard `article` class. They are described in many places. Also for example in [4].

The last section of your article should be “Conclusions”. It is a good place to summarize your contribution.

Concerning typesetting the bibliography, please use the `iitsrc.bst` file we provide. It is part of the archive you downloaded.

If you have to put specific note concerning the grant which funded your article, please do that with `\acknowledgement` command as indicated below. The text which should be put there usually defined by your particular grant. The `\acknowledgement` command will only ensure its proper formatting.

```
\acknowledgement{Here you should mention the names of grants which funded
                  the work on this article and such. As defined by
                  a particular grant.}
```

Finally you should use:

```
\end{document}
```

## 5 TODO

This is our first attempt to extend the original L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> article class. Sources of related useful information can be found in [1, 3, 5–9]. Things which should be checked and set up correctly:

- At the moment, the `\supervisor` command does not allow to specify different affiliations of different students (if these are different).
- It would be appropriate to reveal what (and how it accomplishes it) does the `\and` macro within the standard article class’s `\author` command.
- Computer Modern font is still used in the math mode. Is there a possibility how could we enforce utilization of the Times font also in math-mode? There is so called `mathtime`

package but when we tried to use it, it produced catastrophic results. We have also observed that even though Times have the “fi” ligature, it does not have the “ffi” ligature, which is quite common in English. This was observed within the word “affiliation”. In Computer Modern, everything is OK. In Times, the first “f” is separate and then goes the “fi” ligature. Horrible. The other reasons why to abandon the Times font family. Furthermore, microtypographic extensions do not work with Times roman.

- Computer Modern font is still used with small-caps (`\sc`) text. Times does not seem to have small-caps variant. The other reason why to adhere to Computer Modern.
- The class’s source code should contain a note where is related home page.
- The testing file(s) should be generated from the dtx file.
- Reveal why `\footnote` command causes the “Overfull hbox” warning. Maybe the width of the footnotes is too wide.
- If at the bottom of a title page is some high vertical box, then the abstract might get moved toward the e-mail address. That is, the space between the e-mail address and the abstract might be affected by page-break algorithm. This should not be the case.
- Now, the page margins are set to match the Word template. That is, length of the left and the right margin are the same. The text is 13.5 cm wide. Since we are going to print a (two-sided) book, it might be advantageous to reconsider the setting of the margins according to the good typographic practices. This means that the space in between the adjacent two pages (two inner margins) is the same as the outer margins.
- The `BIBTEX` style should be compared with the instructions in [2, 10].
- The `iitsrc.bst` should be checked checked against `xample.bib`.
- The `iitsrc.bst` should be checked what happens if one omits the mandatory field from `BIBTEX` record.
- Those convenient macros for supervisors should be put back.
- The class should allow to change the address of the contributors. The FIIT STU certainly should not be the only hard-coded options. In the year 2007 there were contributions also from different universitites.
- The `\supervision` macro should be reconsidered. What if one author has one supervisor and the other one has different supervisor? We should allow a similar intelligent possibilities as in `springer` classes. That is one supervisor can be referred to by two authors but on the other hand two authors might have different supervisors. There may be even cases when there is no supervisor at all (or the first author has and the second one do not have supervisor). This possibility should also be supported.
- The `url` field in `BIBTEX` records should be taken into consideration too and typeset correctly.
- Under the abstract could be also `\keywords` command. That makes sense. The question is whether we want such thing.

- We should change the `iitsrc.bst` file to produce such the list of authors and the list of editors in such a way that only first or only the first two authors/editors are typeset. The rest of them should be denoted as `et al.`. This will could shorted the bibliographic references in some cases without introducing much ambiguity.
- Maybe before IIT.SRC 2009 there could be one tutorial session for those who consider submitting papers in  $\text{\LaTeX}$  form where some basic things will be explained (simple  $\text{\LaTeX}$  article skeleton should be demonstrated, compiling the  $\text{\LaTeX}$  article, sample article source code (together with Makefile and other convenient things), what is  $\text{\BibTeX}$ , how to use it, how to enrich the  $\text{\BibTeX}$  database (the correct way how the names of the authors, editors etc. should be written, sources of the  $\text{\BibTeX}$  records (citeseer, ACM portal, etc), which kinds of bibliographic references are supported etc, typical erros (difference between *hyphen*, *en-dash*, *em-dash* according to the collected problems which occurred in 2008). Maybe we should show some representative entries in the sample `common.bib`  $\text{\BibTeX}$  database.
- Concerning the `iitsrc.bst` file, I think that the year of the particular bibliographic references should not be in parentheses. But some authoritative literature concerning styles and standards should be consulted.
- We should allow one other to have more than one supervisor (as in the case of 39-uzak contribution to IIT.SRC.)
- The `iitsrc.bst` should be enhanced to take into the account also the `url` field in a similar way as it is done in `elsart-num.bst`
- This style introduced special style of page headers. Our page numbers are typeset in italics. As soon as the Word template will be dropped we might change the typesetting of page numbers back to romans. This is more conventional.
- Students should perhaps be trained to use  $\text{\LaTeX}$ . Maybe with this class.
- The hyphenation was previously turned off in order to match Word style. Of course, once the Word template will be dropped, the hyphenation should be reenabled (although now I see that the word hyphenation is not suppressed).
- The `example.pdf` file contains a bibliographic reference to SWIG. It is desirable to change the way how these kind of things are rendered. It is not a good idea to put information concerning “last access time” into the `note` attribute. It would be desirable to define new (optional) attribute for this purpose and let appropriate string (in brackets) render before the actual URL link.
- At the moment, users can choose their encoding by using appropriate `\usepackage[...]{inputenc}` command. Unfortunately, if:
  - The authors’ names do not include diacritical marks
  - The parameter of the `\thanks` command includes some diacritical marks
 then the footnote at the bottom of the first page will contain junk. The problem disappears if we:
  - Move `\usepackage[utf8x]{inputenc}` together with `\PrerenderUnicode{...}` from user’s document to the `iitsrc.cls` file.

- Ideally, we should create an environment in the school where both, LaTeX and IIT.SRC class file would be preinstalled. It might be a last resort for those students that are not able to install required software and our class files to their computer.
- We could create some new environments via `newtheorem` for adding definitions, conjectures, lemmas and corollaries. These new environments should be then described in the documentation.

## 6 Implementation

Announce yourself.

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesClass{iitsrc}[2008/11/10]
```

Load the superclass.

```
3 \LoadClass[12pt,twoside]{article}
```

Load packages we will certainly need.

```
4 \RequirePackage[IL2]{fontenc}
5 \RequirePackage{cite}
6 \RequirePackage{times}
7 \RequirePackage[dvips,dvipdfm,a4paper,centering,textwidth=13.5cm,top=4.6cm,headsep=.6cm,footnotesep=1cm,f
8 \RequirePackage{microtype}
```

`\Large` Here we adjust the symbolic font sizes. These macros are used elsewhere for choosing the correct font size for particular typeset element.

`\LARGE`

`\large`

`\normalsize`

```
\footnotesize footnotes
\small abstract and page heading
\normalsize normal text, subsection,
page footings and few things within the title page
\large subsection
\Large section
\LARGE title of an article
```

```
9 \renewcommand{\LARGE}{\@setfontsize\LARGE{20pt}{24pt}}
10 \renewcommand{\Large}{\@setfontsize\Large{13pt}{15.6pt}}
11 \renewcommand{\large}{\@setfontsize\large{12pt}{14.4pt}}
12 \renewcommand{\normalsize}{\@setfontsize\normalsize{11pt}{13.2pt}}
13 \renewcommand{\small}{\@setfontsize\small{10pt}{12pt}}
14 \renewcommand{\footnotesize}{\@setfontsize\footnotesize{10pt}{12pt}}
15 \renewcommand{\ttdefault}{cmtt}
16 \DeclareMathSizes{11}{11}{8}{6}
```

`\timesrm` The `\RequirePackage{times}` already ensured that throughout the document the Times font family will be used. However, we have noticed that in the title page there are places which were still typeset with the Computer Modern font (which we unfortunately cannot use.) So for those cases where by default Times font family would not be automatically utilized we define

the `\timesrm` macro to eliminate the remaining utilization of other fonts (such as Computer Modern).

```
17 \newcommand\timesrm{\usefont{IL2}{ptm}{m}{n}}
```

`\acknowledgementname` Here we influence the captions of figures and tables. Instead of “Figure” and “Table” (as they are defined within *babel*) there will appear “Fig.” and “Tab.”. Apart from that we define a new name `\acknowledgementname`. Its contents will appear when user uses the `\acknowledgement` command.

```
18 \newcommand\acknowledgementname{Acknowledgement:}
```

`abstract` We redefine the `abstract` environment:

```
19 \renewenvironment{abstract}%
20   {%
21     \begin{center}%
22       \vskip2mm%
23       \small
24       \begin{minipage}{10cm}%
25         {\bf\abstractname.}%
26         \setlength\parindent{2em}
27         \hskip-.25em
28       }%
29     {%
30       \end{minipage}%
31     \end{center}%
32     \normalsize
33   }%
```

`\labelitemi` `\labelitemii` `\labelitemiii` `\labelenumi` `\labelenumii` `\labelenumiii` Redefine the style of labels of itemized and enumerated lists. We change only the first, the second and the third level. We leave the fourth level as is.

```
34 \renewcommand\labelitemi{--}
35 \renewcommand\labelitemii{${\circ}$}
36 \renewcommand\labelitemiii{\raise.1em\hbox{\vrule width .3em height .3em}}
37 \renewcommand\labelenumi{\arabic{enumi}.}
38 \renewcommand\labelenumii{\alph{enumii}.}
39 \renewcommand\labelenumiii{\roman{enumiii}.}
```

`\acknowledgement` We define a new command which makes it possible to insert information about grants which funded particular article and such. It is usually employed at the end (just before the bibliography) of the source code.

```
40 \newcommand\acknowledgement[1]{%
41   \vskip1em%
42   \noindent{\em\acknowledgementname}\hskip\labelsep#1%
43 }
```

`\editpages` These macros are related to the setting of correct start and end-page number. The `\editpages` macro enables the editor to (manually) set the desired number of the initial page belonging to this article and the final page.

```

44 \newcommand\editpages[2]{%
45     \setcounter{page}{#1}%
46     \gdef\@startpage{#1}%
47     \gdef\@endpage{#2}%
48 }

```

`\@startpage` `\@endpage` `\@bottomnote` These global variables are initialized to the default start and end page numbers. Here we also define what should appear in the note at the bottom of the title page.

```

49 \gdef\@startpage{1}
50 \gdef\@endpage{1}
51 \gdef\@bottomnote{%
52     \ifnum\@startpage=\@endpage
53         IIT.SRC 2010, Bratislava, April 21, 2010, p.\@startpage
54     \else
55         IIT.SRC 2010, Bratislava, April 21, 2010, pp.\@startpage--\@endpage
56     \fi
57 }

```

`\ps@empty` We redefine the meaning of the `empty` page style we use for the title page. We change the meaning of both, the `\@oddfoot` and the `\@evenfoot`. Since the initial page number will be set later, we cannot know whether it will be even or odd. Therefore it is necessary to change both. Original version of this macro is defined in `ltpage.dtx`.

```

58 \gdef\ps@empty{%
59     \let\@mkboth\@gobbletwo
60     \let\@oddhead\@empty
61     \def\@oddfoot{\hfill\footnotesize\it\@bottomnote.}%
62     \let\@evenhead\@empty
63     \def\@evenfoot{\hfill\footnotesize\it\@bottomnote.}%
64 }

```

`\ps@myheadings` We redefine the meaning of the `\ps@myheadings` because we want to change not only the text inside the headings but also the font used therein.

```

65 \gdef\ps@myheadings{%
66     \let\@oddfoot\@empty
67     \let\@evenfoot\@empty
68     \def\@evenhead{\small\it\thepage\hfil\leftmark}
69     \def\@oddhead{\small\it\rightmark\hfil\thepage}
70 }

```

`\@maketitle` Redefine the things which should go on top of the title-page.

First we thought that since we have to redefine the `\maketitle` there is no reason to keep `\@maketitle` stuff outside `\maketitle` definition. We considered it as over-factorization. But indeed it has sense to keep `\@maketitle` stuff separate from the ugly stuff within the `\maketitle` definition. It has sense, because someone might later want to change solely the top of the titlepage (as it was in my former attempt) without bothering about other things which can be found in `\maketitle`. This can be done quite easily when `\@maketitle` stuff is separate from `\maketitle`. So we adhere to the original separation of these two things.

```

71 \renewcommand\@maketitle{%

```

```

72 \begin{center}%
73 \vbox{%
74 \vskip1.65cm%
75 \begin{minipage}{\hsize}%
76 \begin{center}%
77 \LARGE\@title
78 \end{center}%
79 \end{minipage}%
80 \vskip.9cm%
81 \ifnum\arabic{@authorlinenumber}=0%
82 \unvbox\@authorlines
83 \hbox to \hsize{%
84 \hfill\unhbox\@authorline\hfill
85 }%
86 \else
87 \unvbox\@authorlines
88 \vskip\@authorlineskip
89 \hbox to \hsize{%
90 \hfill\unhbox\@authorline\hfill
91 }%
92 \fi
93 \vskip3mm%
94 {\it Slovak University of Technology\}
95 Faculty of Informatics and Information Technologies\}
96 Ilkovi\ v cova 3, 842 16 Bratislava, Slovakia}\}
97 {\tt\@mail}%
98 \end{center}%
99 }

```

`\maketitle` We have found out that we need to redefine not only the convenient hook `\@maketitle` but also the main `\maketitle` because we needed to influence things which were done in the `\maketitle` rather than in the `\@maketitle`.

```
100 \renewcommand\maketitle{\par
```

Unchanged

```

101 \begin{group
102 \renewcommand\thefootnote{%
103 \@fnsymbol\c@footnote
104 }%
105 \def\@makefnmark{%
106 \rlap{\@textsuperscript{\normalfont\@thefnmark}}%
107 }%

```

Changed. It determines the way how (in this case `\thanks`-like) footnote text is typeset.

```

108 \long\def\@makefnmark##1{%
109 \noindent
110 \hskip1em%
111 \vbox{%
112 % The following 'advance' is necessary due to the last 'hskip'
113 % command which moves the whole vbox 1em to the right.
114 \advance\hsize-1em%

```

```

115         \hskip-1em\@textsuperscript{\normalfont\@thefnmark}%
116         \hskip.5em%
117         ##1%
118     }%
119 }%
120 \newpage

```

Unchanged. Prevents figures from going at top of page. Include the stuff which goes on the top of the title page.

```

121 \global\@topnum\z@
122 \@maketitle

```

Changed. We choose so called `empty` style for the title page (instead of the `plain` chosen in the original `\maketitle` definition). Note that the `empty` page style is also redefined herein. See the `ps@empty` definition within this class.

```

123 \thispagestyle{empty}%

```

The rest is the same as in the original `\maketitle` macro.

```

124 \@thanks
125 \endgroup
126 \setcounter{footnote}{0}%
127 \global\let\thanks\relax
128 \global\let\maketitle\relax
129 \global\let\@maketitle\relax
130 \global\let\@thanks\@empty
131 \global\let\@author\@empty
132 \global\let\@date\@empty
133 \global\let\@title\@empty
134 \global\let\title\relax
135 \global\let\author\relax
136 \global\let\date\relax
137 \global\let\and\relax
138 }

```

`\@makecaption` The default L<sup>A</sup>T<sub>E</sub>X way how captions are typeset was different from the way how these things are done in the original Word template so in order to be consistent with it, we redefine the caption typesetting instructions.

Our version is different from the original in the way that:

- our figure/table etc number is ended by dot (and not by a colon),
- float type name and float number are typeset in italic face,
- the size of the font used for typesetting the label is 10pt.

```

139 \long\def\@makecaption#1#2{%
140     \vskip\abovecaptionskip
141     \sbox\@tempboxa{\small{\em #1. #2}}%
142     \ifdim \wd\@tempboxa >\hsize
143         \small{\em #1. #2}\par
144     \else

```

```

145     \global\@minipagefalse
146     \hb@xt@\hsize{\hfil\box\@tempboxa\hfil}%
147     \fi
148     \vskip\belowcaptionskip
149 }

```

**\@authorlines** Here is a part of code which deals with typesetting the authors' names in the title page.

Here are the boxes in which we hold the hitherto composed material for (authors' names) typesetting. The `\@authorlines` (vertical-box) contains lines (horizontal-boxes) with authors' names. The `\@authorline` contains the currently constructed line of authors' names. Each line contains at most three names. New name is added to the current line if there is space (there are less than three names there). Otherwise the current line (horizontal-box) is appended at the end of the `\@authorlines`.

The vertical-box containing the particular lines (horizontal-boxes) with at most three authors' names.

```

150 \newbox\@authorlines
151 \setbox\@authorlines=\vbox{}

```

**\@authorline** The horizontal-box containing the currently constructed line with authors' names.

```

152 \newbox\@authorline
153 \setbox\@authorline=\hbox{}

```

**@authorinline** This counter represents the number of the currently processed author within the currently constructed line of authors. Its value help us to decide where and how to put the current author's name. There are three cases:

- the `@authorinline` is 1: this means that the author's name should be put to `\@authorline` (which is currently yet empty).
- the `@authorinline` is 4: this means that the author's name does not fit to the currently constructed line with authors' names. Thus, `\@authorline` horizontal-box is appended at the end of the `\@authorlines` vertical-box and current author's name is put to the `\@authorline` (which is thus overwritten and now will contain a single author's name.) The `authorlinenumber` is incremented. The `authorinline` is set to 1.
- the `@authorinline` is 2 or 3: the current author's name is added to `\@authorline` horizontal-box with prepended comma. It will separate it from the previous author's name. The `@authorinline` is incremented.

```

154 \newcounter{@authorinline}
155 \setcounter{@authorinline}0

```

**@authorlinenumber** It holds the number of lines held by `\@authorlines`. It helps to decide whether or not to put the vertical skip before the current author line which is appended to the `\@authorlines`. If that vertical-box is yet empty (if this counter is 0) then no vertical space is prepended before the current authors' line. Otherwise the `\@authorlineskip` (by default `.2em`) is prepended.

```

156 \newcounter{@authorlinenumber}
157 \setcounter{@authorlinenumber}0

```

`@authorlineskip` The vertical space inserted between the adjacent authors' lines.

```
158 \newcommand\@authorlineskip{.2em}
```

`@firstauthorname` These variables are set in the `\author` command to the name of the first and the second author name respectively. These values are needed when we will compute and set (with `\markboth` command) the left heading of the page<sup>2</sup>.

`@secondauthorname`

```
159 \gdef\@firstauthorname{}
160 \gdef\@secondauthorname{}
```

`@numberofauthors` This counter is used for determining the total number of all authors of this document. It is incremented everytime `\author` command is used.

```
161 \newcounter{@numberofauthors}
162 \setcounter{@numberofauthors}0
```

`\author` This macro can be used as many times as necessary (at least once). Each time it is used, it enriches

- `\@authorline` horizontal-box
- and sometimes also even `\@authorlines` vertical-box.

and a few other things.

```
163 \renewcommand\author[2]{%
164   \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
165   \stepcounter{@authorinline}%
166   \stepcounter{@numberofauthors}%
```

Set the `\@firstauthorname` or `\@secondauthorname` to the appropriate value.

```
167   \ifnum\arabic{@numberofauthors}=1%
168     \gdef\@firstauthorname{#1~#2}%
169   \fi
170   \ifnum\arabic{@numberofauthors}=2%
171     \gdef\@secondauthorname{#1~#2}%
172   \fi
```

Enrich the `\@authorline` horizontal-box and if necessary also the `\@authorlines` vertical-box.

```
173   \ifnum\arabic{@authorinline}=1%
174     % This is the first author in the line.
175     \setbox\@authorline=\hbox{\@timesrm#1~\@sc#2}%
176   \else
177     \ifnum\arabic{@authorinline}=4%
178       % This would be the fourth author in the line.
179       \ifnum\arabic{@authorlinenumber}=1%
180         % This is the first line of authors.
181         \setbox\@authorlines=\vbox{%
182           \unvbox\@authorlines
```

---

<sup>2</sup>The initial value of these variables is insignificant—it will be overwritten. We only wanted to make few notes concerning their meaning.

```

183             \hbox to \hsize{\hfill\unhbox\@authorline\hfill}%
184         }%
185     \else
186         % This is not the first line of authors.
187         \setbox\@authorlines=\vbox{%
188             \unvbox\@authorlines
189             \vskip\@authorlineskip
190             \hbox to \hsize{\hfill\unhbox\@authorline\hfill}%
191         }%
192     \fi
193     \setbox\@authorline=\hbox{\{\timesrm#1\}~{\sc#2}}%
194     \setcounter{@authorinline}1%
195     \stepcounter{@authorlinenumber}%
196 \else
197     % This is the second or the third author in the line
198     \setbox\@authorline=\hbox{%
199         \unhbox\@authorline, {\timesrm#1}~{\sc#2}}%
200     }%
201 \fi
202 \fi
203 }

```

Redefinition of the `\thefootnote` macro was necessary because otherwise reference to the supervisor which is placed after the last author name would be Arabic numeral and we need to be the character produced by the `\@fnsymbol`. The behavior of this macro is set back at the end of the `\supervision`. See the next macro definition.

`\supervision` This macro flushes `\@authorline` horizontal-box to `\@authorlines` vertical-box while it appends to the last horizontal box the so called `\thanks` tag. Again, depending on the fact whether the `\@authorlines` is empty (`\@authorlinenumber` counter is 0) or not, the small vertical skip is prepended before the last line.

```

204 \newcommand\supervision[4]
205     {%
206         \setbox\@authorline\hbox{%
207             \unhbox\@authorline
208             \thanks{#1 study programme in field: #2\Supervisor: #3, #4}}%
209     }

```

`\bc` The following macros might be useful for the first (degree) parameter of the `\supervision` macro.

`\ms`

`\phd`

`\info` The following macros might be useful for the second (your affiliation) parameter of the `\supervision` macro.

`\compeng`

`\softeng`

`\inf`

`\appriaf`

`\icsn`

`\iise`

```

210 \newcommand\fiit{Faculty of Informatics and Information Technologies STU in Bratislava}
211 \newcommand\iai{Institute of Applied Informatics}
212 \newcommand\iise{Institute of Informatics and Software Engineering}
213 \newcommand\icsn{Institute of Computer Systems and Networks}

```

`\@makefn`text Redefine the way how normal (non-`\thanks`) footnotes are typeset.

```
214 \long\def\@makefn#1{%
215     \noindent
216     \hskip1em%
217     \vbox{%
218         \hskip-1em\@textsuperscript{\normalfont\@thefnmark}%
219         \hskip.5em%
220         #1%
221     }%
222 }
```

`\mail` The `\mail` macro (used within preamble) enables the user to typeset the contact e-mail address.

```
\@mail
223 \gdef\@mail{}
224 \newcommand\mail[1]{\gdef\@mail{#1}}
```

`\AtBeginDocument` The meaning of the `\begin{document}` command.

We first decide how should (particularly the left) heading look like. There are three cases.

- there is a single author—the left header then contains the name of this author,
- there are two authors—the left header contains the names of both these names separated by a comma,
- there are more the two authors—then the left header contains the name of the first author and the `et al.` string.

```
225 \AtBeginDocument{%
226     \ifnum\arabic{@numberofauthors}=1%
227         % there is only one author
228         \markboth{\hfill\@firstauthorname\hfill}%
229             {\hfill{\@title}\hfill}%
230     \else\ifnum\arabic{@numberofauthors}=2%
231         % there are two authors
232         \markboth{\hfill\@firstauthorname,~\@secondauthorname\hfill}%
233             {\hfill{\@title}\hfill}%
234     \else
235         % there are more than two authors
236         \markboth{\hfill\@firstauthorname~et~al.\hfill}%
237             {\hfill{\@title}\hfill}%
238     \fi\fi
239     \maketitle
240     \pagestyle{myheadings}%
241     \renewcommand\thefootnote{\arabic{footnote}}%
242 }
```

Above we set back the value of `\thefootnote` to the original value. It determines the way how footnotemarks appear. Hitherto we used footnotes for typesetting the supervisors. Their footnotemarks appeared as special characters (not arabic numbers). Now, however, we want to set this value back because we want ordinary footnotes (inserted in normal text) typeset normally—with arabic numbers.

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