

TeX

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Abstract

Some notes on TeX.

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1 Resources

1. **The Comprehensive TeX Archive Network** (CTAN) is the central place for all kinds of material around TeX. Most of the packages are free & can be downloaded & used immediately.
2. **Overleaf** – L^AT_EX, Evolved: The easy to use, online, collaborative L^AT_EX editor.
3. **TeX-L^AT_EX StackExchange** is a question & answer site for users of TeX, L^AT_EX, ConTeXt, & related typesetting systems.

2 babel Package

“This package manages culturally-determined typographical (& other) rules for a wide range of languages. A document may select a single language to be supported, or it may select several, in which case the document may switch from 1 language to another in a variety of ways. **babel** uses **contributed configuration files** that provide the detail of what has to be done for each language. Included is also a set of ini files for about 250 languages. Many language styles work with pdfL^AT_EX, as well as with XeL^AT_EX & LuaL^AT_EX, out of the box. A few even work with plain formats.” – **CTAN/babel – Multilingual support for L^AT_EX, LuaL^AT_EX, XeL^AT_EX, & Plain TeX**

3 Overleaf/International language support

“L^AT_EX supports many worldwide languages by means of some special packages.”

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3.1 Introduction

“If you are a non-English speaker, L^AT_EX can be configured to typeset in your language.” [...] “The package that makes possible to display special characters is `babel`, this package also changes the language of the elements in the document. In the example instead of “abstract” & “Contents” the Spanish words “resumen” & “Índice” are used.”

3.2 Input encoding

“Modern computer systems allow you to input letters of national alphabets directly from the keyboard. In order to handle a variety of input encodings used for different groups of languages &/or on different computer platforms L^AT_EX employs the `inputenc` package to set up input encoding. To use this package, add the next line to the *preamble* of your document:

```
\usepackage[encoding]{inputenc}
```

The recommended input encoding is `utf8`, which supports a lot of national alphabets letter (inside the brackets, instead of the word “encoding” you must put the name of the encoding you are using). If you want, you can also use other encodings connected with different groups of languages &/or on different computer platforms.”

OS	Western European Latin encoding	Central European Latin encoding	Cyrillic encoding
Windows	cp1252	cp1250	cp1251
GNU/Linux & Unix-like (*BSD, Mac OS X)	latin1	latin2	koi8-ru
Recommended for all systems	utf8	utf8	utf8

Remark 3.1. “If you can’t input some letters of national alphabets directly from the keyboard, you can use L^AT_EX alternative commands for accents & special characters.”

3.3 Font encoding

“To proper L^AT_EX document generation you must also choose a font which has to support specific characters for a given language by using `fontenc` package:

```
\usepackage[encoding]{fontenc}
```

The default L^AT_EX font encoding is `OT1`, but it contains only 128 characters. The `T1` encoding contains letters & punctuation characters for most of the European languages using Latin script. For languages using Cyrillic script you can use `T2A`, `T2B`, `T2C`, or `X2` font encodings.”

3.4 babel

“The `babel` package allows to use special characters & also translates some elements within the document. This package also automatically activates the appropriate hyphenation rules for the language you choose. You can activate the `babel` package by adding the next command to the preamble:

```
\usepackage[language]{babel}
```

Change the `language` to the name of the language you need. You can see list of the languages available in the [babel package documentation](#), under Sect. 1.26 “Languages supported by `babel` with `ldf` files”.

3.5 Using ≥ 2 language in a document

“`babel` command can be called with multiple languages” e.g.,

```
\documentclass{article}
\usepackage[utf8]{inputenc}
\usepackage[english, russian]{babel}
\usepackage[T1, T2A]{fontenc}
...
```

“Notice at the preamble that 2 encodings & 2 languages are passed as parameters to the `fontenc` & `babel` packages respectively. When using this syntax the last language in the option list will be active (i.e. Russian), and you can use the command `\selectlanguage{english}` at any point to change the active language.”

3.6 Right-to-left writing

3.6.1 Arabic language

“The `arabic` package provides the Right-to-Left scripts support for L^AT_EX without the need of any external preprocessor. You can include the `arabtex` package for extended capabilities when working with documents in Arabic or Hebrew. If you need to insert latin text inside the arabic text use `\textLR{Latin text}`.”

```
\documentclass[11pt,a4paper]{report}
\usepackage{arabtex}
\usepackage[utf8]{inputenc}
\usepackage[LFE,LAE]{fontenc}
\usepackage[arabic]{babel}
...
```

3.7 Examples of Supported Languages

Arabic, Chinese, French, German, Greek, Italian, Japanese, Korean, Portuguese, Russian, Spanish (with links & examples).

3.8 Reference guide

3.8.1 Accents & special characters

“If you can’t input some letters of national alphabets directly from the keyboard, you can use L^AT_EX commands for accents and special characters.” See [Overleaf/international language support](#)/reference guide for a list.

4 Vanilla T_EXLive

UBUNTU does not pre-install Vanilla T_EXLive, you need to install it manually & additionally.