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**Note: Some examples will be rendered incorrectly, since I am loath to reinstall/fix all fonts every time I install some new TeX stuff.**

This file contains information, which languages can be typeset with `ucs.sty`. It is not complete at all and shall be used as a technical reference only, i.e. you should not take it as a source of linguistic information. Names of languages and of scripts may be mixed without further notice.

If you find errors, omissions, better example strings etc., do not hesitate to contact me: `<dominique@unruh.de>`

Many of the example phrases were taken from <http://hcs.harvard.edu/~igp/glass.html> and from the KDE i18n data.

## 1 Latin scripts

### Esperanto (Esperanto)

Esperanto can be typeset using fontencoding T1. This language is known to `babel.sty` as `esperanto`.

#### Examples:

Normal .....	<i>Eĥoŝanĝo ĉiuĵaŭde</i>
Bold .....	<b>Eĥoŝanĝo ĉiuĵaŭde</b>
Italic .....	<i>Eĥoŝanĝo ĉiuĵaŭde</i>

Slanted .....	<i>Eĥoŝanĝo ĉiujaŭde</i>
Sans serif .....	Eĥoŝanĝo ĉiujaŭde
Typewriter .....	Eĥoŝanĝo ĉiujaŭde
Small caps .....	EĤOŜANĜO ĈIUJAŬDE

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\usepackage[esperanto,english]{babel}
\newcommand\esperantotext[1]{\foreignlanguage{esperanto}{#1}}
...
\esperantotext{Eĥoŝanĝo ĉiujaŭde}
```

## Toki Pona

Toki Pona<sup>1</sup> contains only the Latin letters contained in ASCII. Therefore it can be typeset with almost any Latin encoding (e.g. fontencoding T1).

**Examples:**

Normal .....	toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.
Bold .....	<b>toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.</b>
Italic .....	<i>toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.</i>
Slanted .....	<i>toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.</i>
Sans serif .....	toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.
Typewriter .....	toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.
Small caps .....	TOKI PONA LI PONA ALA PONA? PONA, NASIN PI TOKI PONA LI NASIN TAWA PONA.

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\newcommand\tokiponatext[1]{#1}
...
\tokiponatext{toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.}
```

## German (Deutsch)

German can be typeset using fontencoding T1. This language is known to `babel.sty` as `german`. For Austrian use `austrian`, for new orthography: `ngerman` resp. `naustrian`.

**Examples:**

Normal .....	Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.
Bold .....	<b>Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.</b>
Italic .....	<i>Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.</i>
Slanted .....	<i>Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.</i>
Sans serif .....	Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.
Typewriter .....	Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.
Small caps .....	FALSCHES ÜBEN VON XYLOPHONMUSIK QUÄLT JEDEN GRÖßEREN ZWERG.

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\usepackage[german,english]{babel}
\newcommand\germantext[1]{\foreignlanguage{german}{#1}}
...
\germantext{Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.}
```

---

<sup>1</sup><http://www.tokipona.org>

## French (Français)

French can be typeset using fontencoding T1. This language is known to `babel.sty` as `french`.

### Examples:

Normal .....	L'élève a dépassé le maître
Bold .....	<b>L'élève a dépassé le maître</b>
Italic .....	<i>L'élève a dépassé le maître</i>
Slanted .....	<i>L'élève a dépassé le maître</i>
Sans serif .....	L'élève a dépassé le maître
Typewriter .....	L'élève a dépassé le maître
Small caps .....	L'ÉLÈVE A DÉPASSÉ LE MAÎTRE

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[french,english]{babel}
\newcommand\frenchtext[1]{\foreignlanguage{french}{#1}}
...
\frenchtext{L'élève a dépassé le maître}
```

## English

English can be typeset using fontencoding T1. This language is known to `babel.sty` as `english`. British English: `british`, American English: `american`.

### Examples:

Normal .....	The quick brown fox jumps over the lazy dog.
Bold .....	<b>The quick brown fox jumps over the lazy dog.</b>
Italic .....	<i>The quick brown fox jumps over the lazy dog.</i>
Slanted .....	<i>The quick brown fox jumps over the lazy dog.</i>
Sans serif .....	The quick brown fox jumps over the lazy dog.
Typewriter .....	The quick brown fox jumps over the lazy dog.
Small caps .....	THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[english,english]{babel}
\newcommand\englishtext[1]{\foreignlanguage{english}{#1}}
...
\englishtext{The quick brown fox jumps over the lazy dog.}
```

## Vietnamese (Tiếng Việt)

Vietnamese can be typeset using fontencoding T5. This language is known to `babel.sty` as `vietnam`. Note that the `babel` language loads `dblacnt.sty`, which introduces potential compatibility problems.

### Examples:

Normal .....	Sự mặc thị của Đức Chúa...
Bold .....	<b>Sự mặc thị của Đức Chúa...</b>
Italic .....	<i>Sự mặc thị của Đức Chúa...</i>
Slanted .....	<i>Sự mặc thị của Đức Chúa...</i>
Sans serif .....	Sự mặc thị của Đức Chúa...
Typewriter .....	Sự mặc thị của Đức Chúa...
Small caps .....	SỰ MẶC THỊ CỦA ĐỨC CHÚA...

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[vietnam,english]{babel}
\newcommand\vietnamtext[1]{\foreignlanguage{vietnam}{#1}}
...
\vietnamtext{Sự mặc thị của Đức Chúa}
```

## Afrikaans

Afrikaans can be typeset using fontencoding T1. This language is known to `babel.sty` as `afrikaans`.

### Examples:

Normal .....	Ek kan glas eet, dit maak my nie seer nie.
Bold .....	<b>Ek kan glas eet, dit maak my nie seer nie.</b>
Italic .....	<i>Ek kan glas eet, dit maak my nie seer nie.</i>
Slanted .....	<i>Ek kan glas eet, dit maak my nie seer nie.</i>
Sans serif .....	Ek kan glas eet, dit maak my nie seer nie.
Typewriter .....	Ek kan glas eet, dit maak my nie seer nie.
Small caps .....	EK KAN GLAS EET, DIT MAAK MY NIE SEER NIE.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[afrikaans,english]{babel}
\newcommand\afrikaanstext[1]{\foreignlanguage{afrikaans}{#1}}
...
\afrikaanstext{Ek kan glas eet, dit maak my nie seer nie.}
```

## Bahasa

Bahasa can be typeset using fontencoding T1. This language is known to `babel.sty` as `bahasa`.

## Brazilian

Brazilian can be typeset using fontencoding T1. This language is known to `babel.sty` as `brazil`.

## Breton

Breton can be typeset using fontencoding T1. This language is known to `babel.sty` as `breton`.

## Croatian (Hrvatski)

Croatian can be typeset using fontencoding T1. This language is known to `babel.sty` as `croatian`.

## Czech (Český)

Czech can be typeset using fontencoding T1. This language is known to `babel.sty` as `czech`.

### Examples:

Normal .....	Žluťoučký kůň úpěl ďábelské ódy.
Bold .....	<b>Žluťoučký kůň úpěl ďábelské ódy.</b>
Italic .....	<i>Žluťoučký kůň úpěl ďábelské ódy.</i>
Slanted .....	<i>Žluťoučký kůň úpěl ďábelské ódy.</i>
Sans serif .....	Žluťoučký kůň úpěl ďábelské ódy.
Typewriter .....	Žluťoučký kůň úpěl ďábelské ódy.
Small caps .....	ŽLUŤOUČKÝ KŮŇ ÚPĚL ĎÁBELSKÉ ÓDY.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[czech,english]{babel}
\newcommand\czechtext[1]{\foreignlanguage{czech}{#1}}
...
\czechtext{Žluťoučký kůň úpěl ďábelské ódy.}
```

## Danish (Dansk)

Danish can be typeset using fontencoding T1. This language is known to `babel.sty` as `danish`.

### Examples:

Normal .....	Jeg kan spise glas, det gør ikke ondt på mig.
Bold .....	<b>Jeg kan spise glas, det gør ikke ondt på mig.</b>
Italic .....	<i>Jeg kan spise glas, det gør ikke ondt på mig.</i>
Slanted .....	<i>Jeg kan spise glas, det gør ikke ondt på mig.</i>
Sans serif .....	Jeg kan spise glas, det gør ikke ondt på mig.
Typewriter .....	Jeg kan spise glas, det gør ikke ondt på mig.
Small caps .....	JEG KAN SPISE GLAS, DET GØR IKKE ONDT PÅ MIG.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[danish,english]{babel}
\newcommand\danishtext[1]{\foreignlanguage{danish}{#1}}
...
\danishtext{Jeg kan spise glas, det gør ikke ondt på mig.}
```

## Dutch (Nederlands)

Dutch can be typeset using fontencoding T1. This language is known to `babel.sty` as `dutch`.

### Examples:

Normal .....	Ik kan glas eten. Het doet geen pijn.
Bold .....	<b>Ik kan glas eten. Het doet geen pijn.</b>
Italic .....	<i>Ik kan glas eten. Het doet geen pijn.</i>
Slanted .....	<i>Ik kan glas eten. Het doet geen pijn.</i>
Sans serif .....	Ik kan glas eten. Het doet geen pijn.

Typewriter ..... Ik kan glas eten. Het doet geen pijn.  
 Small caps ..... IK KAN GLAS ETEN. HET DOET GEEN PIJN.

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\usepackage[dutch,english]{babel}
\newcommand\dutchtext[1]{\foreignlanguage{dutch}{#1}}
...
\dutchtext{Ik kan glas eten. Het doet geen pijn.}
```

**Finnish (Suomi)**

Finnish can be typeset using fontencoding T1. This language is known to babel.sty as finnish.

**Examples:**

Normal ..... Pystyn syömään lasia. Se ei koske yhtään.  
 Bold ..... **Pystyn syömään lasia. Se ei koske yhtään.**  
 Italic ..... *Pystyn syömään lasia. Se ei koske yhtään.*  
 Slanted ..... *Pystyn syömään lasia. Se ei koske yhtään.*  
 Sans serif ..... Pystyn syömään lasia. Se ei koske yhtään.  
 Typewriter ..... Pystyn syömään lasia. Se ei koske yhtään.  
 Small caps ..... PYSTYN SYÖMÄÄN LASIA. SE EI KOSKE YHTÄÄN.

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\usepackage[finnish,english]{babel}
\newcommand\finnishtext[1]{\foreignlanguage{finnish}{#1}}
...
\finnishtext{Pystyn syömään lasia. Se ei koske yhtään.}
```

**Estonian (Eesti)**

Estonian can be typeset using fontencoding T1. This language is known to babel.sty as estonian.

**Examples:**

Normal ..... Ma võin klaasi süüa, see ei tee mulle midagi.  
 Bold ..... **Ma võin klaasi süüa, see ei tee mulle midagi.**  
 Italic ..... *Ma võin klaasi süüa, see ei tee mulle midagi.*  
 Slanted ..... *Ma võin klaasi süüa, see ei tee mulle midagi.*  
 Sans serif ..... Ma võin klaasi süüa, see ei tee mulle midagi.  
 Typewriter ..... Ma võin klaasi süüa, see ei tee mulle midagi.  
 Small caps ..... MA VÕIN KLAASI SÜÜA, SEE EI TEE MULLE MIDAGI.

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\usepackage[estonian,english]{babel}
\newcommand\estoniantext[1]{\foreignlanguage{estonian}{#1}}
...
\estoniantext{Ma võin klaasi süüa, see ei tee mulle midagi.}
```

## Icelandic (Íslenska)

Icelandic can be typeset using fontencoding T1.

### Examples:

Normal .....	Öll dýrin í skóginum eiga að vera vinir!
Bold .....	<b>Öll dýrin í skóginum eiga að vera vinir!</b>
Italic .....	<i>Öll dýrin í skóginum eiga að vera vinir!</i>
Slanted .....	<i>Öll dýrin í skóginum eiga að vera vinir!</i>
Sans serif .....	Öll dýrin í skóginum eiga að vera vinir!
Typewriter .....	Öll dýrin í skóginum eiga að vera vinir!
Small caps .....	ÖLL DÝRIN Í SKÓGINUM EIGA AÐ VERA VINIR!

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\newcommand\icelandictext[1]{#1}
...
\icelandictext{Öll dýrin í skóginum eiga að vera vinir!}
```

## Galician (Galego)

Galician can be typeset using fontencoding T1. This language is known to babel.sty as galician.

## Hungarian ( Magyar)

Hungarian can be typeset using fontencoding T1. This language is known to babel.sty as hungarian.

### Examples:

Normal .....	Árvíztűrő Tükörfúrógép
Bold .....	<b>Árvíztűrő Tükörfúrógép</b>
Italic .....	<i>Árvíztűrő Tükörfúrógép</i>
Slanted .....	<i>Árvíztűrő Tükörfúrógép</i>
Sans serif .....	Árvíztűrő Tükörfúrógép
Typewriter .....	Árvíztűrő Tükörfúrógép
Small caps .....	ÁRVÍZTŰRŐ TÜKÖRFÚRÓGÉP

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[hungarian,english]{babel}
\newcommand\hungariantext[1]{\foreignlanguage{hungarian}{#1}}
...
\hungariantext{ Árvíztűrő Tükörfúrógép}
```

## Irish (Gaeilge)

Irish can be typeset using fontencoding T1. This language is known to babel.sty as irish.

### Examples:

Normal .....	Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.
Bold .....	<b>Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.</b>
Italic .....	<i>Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.</i>
Slanted .....	<i>Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.</i>
Sans serif .....	Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.
Typewriter .....	Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.

Small caps ..... TÁ MÉ IN ANN GLOINE A ITHE; NÍ CHUIREANN SÉ ISTEACH NÓ AMACH ORM.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[irish,english]{babel}
\newcommand\irishtext[1]{\foreignlanguage{irish}{#1}}
...
\irishtext{Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.}
```

## Italian (Italiano)

Italian can be typeset using fontencoding T1. This language is known to `babel.sty` as `italian`.

### Examples:

Normal .....	Posso mangiare il vetro, non mi fa male.
Bold .....	<b>Posso mangiare il vetro, non mi fa male.</b>
Italic .....	<i>Posso mangiare il vetro, non mi fa male.</i>
Slanted .....	<i>Posso mangiare il vetro, non mi fa male.</i>
Sans serif .....	Posso mangiare il vetro, non mi fa male.
Typewriter .....	Posso mangiare il vetro, non mi fa male.
Small caps .....	POSSO MANGIARE IL VETRO, NON MI FA MALE.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[italian,english]{babel}
\newcommand\italiantext[1]{\foreignlanguage{italian}{#1}}
...
\italiantext{Posso mangiare il vetro, non mi fa male.}
```

## Latin (Lingua latina)

Latin can be typeset using fontencoding T1.

### Examples:

Normal .....	Vitrum ēdere possum; mihi nōn nocet.
Bold .....	<b>Vitrum ēdere possum; mihi nōn nocet.</b>
Italic .....	<i>Vitrum ēdere possum; mihi nōn nocet.</i>
Slanted .....	<i>Vitrum ēdere possum; mihi nōn nocet.</i>
Sans serif .....	Vitrum ēdere possum; mihi nōn nocet.
Typewriter .....	Vitrum ēdere possum; mihi nōn nocet.
Small caps .....	VITRUM ĒDERE POSSUM; MIHI NŌN NOCET.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\newcommand\latintext[1]{#1}
...
\latintext{Vitrum ēdere possum; mihi nōn nocet.}
```



## Latvian (Latviešu)

Latvian can be typeset using fontencoding T1, the ģ however is constructed in an ugly way.

### Examples:

Normal .....	Sliņķis izlīdzas ar viltību
Bold .....	<b>Sliņķis izlīdzas ar viltību</b>
Italic .....	<i>Sliņķis izlīdzas ar viltību</i>
Slanted .....	<i>Sliņķis izlīdzas ar viltību</i>
Sans serif .....	Sliņķis izlīdzas ar viltību
Typewriter .....	Sliņķis izlīdzas ar viltību
Small caps .....	SLIŅĶIS IZLĪDZAS AR VILTĪBU

### Some usage example:

```
\usepackage[nodirty]{ucs}
\usepackage[utf8x]{inputenc}
\newcommand\latviantext[1]{\bgroup\SetUnicodeOption{dirty}#1\egroup}
...
\latviantext{Sliņķis izlīdzas ar viltību}
```

## Upper Sorbian

Upper Sorbian can be typeset using fontencoding T1. This language is known to `babel.sty` as `uppersorbian`.

## Lower Sorbian

Lower Sorbian can be typeset using fontencoding T1. This language is known to `babel.sty` as `lowersorbian`.

## Maltese (Malti)

Maltese can be typeset using fontencoding T4.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[T4,T1]{fontenc}
\newcommand\maltesetext[1]{\bgroup\fontencoding{T4}\selectfont#1\egroup}
...
\maltesetext{Malti}
```

## Norwegian (Norsk)

Norwegian can be typeset using fontencoding T1. Use `nynorsk` for new orthography.

### Examples:

Normal .....	Jeg kan spise glas. Det gjør meg ikke vondt.
Bold .....	<b>Jeg kan spise glas. Det gjør meg ikke vondt.</b>
Italic .....	<i>Jeg kan spise glas. Det gjør meg ikke vondt.</i>
Slanted .....	<i>Jeg kan spise glas. Det gjør meg ikke vondt.</i>
Sans serif .....	Jeg kan spise glas. Det gjør meg ikke vondt.
Typewriter .....	Jeg kan spise glas. Det gjør meg ikke vondt.
Small caps .....	JEG KAN SPISE GLAS. DET GJØR MEG IKKE VONDT.

### Some usage example:

```

\usepackage[utf8x]{inputenc}
\newcommand\norskstext[1]{#1}
...
\norskstext{Jeg kan spise glas. Det gjør meg ikke vondt.}

```

## Polish (Polska)

Polish can be typeset using fontencoding T1. This language is known to `babel.sty` as `polish`.

### Examples:

Normal .....	Zażółć Gęślą Jaźń
Bold .....	<b>Zażółć Gęślą Jaźń</b>
Italic .....	<i>Zażółć Gęślą Jaźń</i>
Slanted .....	<i>Zażółć Gęślą Jaźń</i>
Sans serif .....	Zażółć Gęślą Jaźń
Typewriter .....	Zażółć Gęślą Jaźń
Small caps .....	ZAZÓŁĆ GĘŚLĄ JAZŃ

## Portuguese (Português)

Portuguese can be typeset using fontencoding T1. This language is known to `babel.sty` as `portuguese`.

### Examples:

Normal .....	Posso comer vidro, não me fere.
Bold .....	<b>Posso comer vidro, não me fere.</b>
Italic .....	<i>Posso comer vidro, não me fere.</i>
Slanted .....	<i>Posso comer vidro, não me fere.</i>
Sans serif .....	Posso comer vidro, não me fere.
Typewriter .....	Posso comer vidro, não me fere.
Small caps .....	POSSO COMER VIDRO, NÃO ME FERER.

### Some usage example:

```

\usepackage[utf8x]{inputenc}
\usepackage[portuguese,english]{babel}
\newcommand\portuguesetext[1]{\foreignlanguage{portuguese}{#1}}
...
\portuguesetext{Posso comer vidro, não me fere.}

```

## Romanian (Română)

Romanian can be typeset using fontencoding T1. This language is known to `babel.sty` as `romanian`.

### Examples:

Normal .....	Pot minca sticla. Nu ma doare.
Bold .....	<b>Pot minca sticla. Nu ma doare.</b>
Italic .....	<i>Pot minca sticla. Nu ma doare.</i>
Slanted .....	<i>Pot minca sticla. Nu ma doare.</i>
Sans serif .....	Pot minca sticla. Nu ma doare.
Typewriter .....	Pot minca sticla. Nu ma doare.
Small caps .....	POT MINCA STICLA. NU MA DOARE.

### Some usage example:

```

\usepackage[utf8x]{inputenc}
\usepackage[romanian,english]{babel}

```

```
\newcommand\romaniantext[1]{\foreignlanguage{romanian}{#1}}
...
\romaniantext{Pot minca sticla. Nu ma doare.}
```

## Scottish

Scottish can be typeset using fontencoding T1. This language is known to `babel.sty` as `scottish`.

### Examples:

Normal .....	'S urrainn dhomh gloidne ithe; cha ghoirtich i mi.
Bold .....	<b>'S urrainn dhomh gloidne ithe; cha ghoirtich i mi.</b>
Italic .....	<i>'S urrainn dhomh gloidne ithe; cha ghoirtich i mi.</i>
Slanted .....	<i>'S urrainn dhomh gloidne ithe; cha ghoirtich i mi.</i>
Sans serif .....	'S urrainn dhomh gloidne ithe; cha ghoirtich i mi.
Typewriter .....	'S urrainn dhomh gloidne ithe; cha ghoirtich i mi.
Small caps .....	'S URRAINN DHOMH GLOIDNE ITHE; CHA GHOIRTICH I MI.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[scottish,english]{babel}
\newcommand\scottishtext[1]{\foreignlanguage{scottish}{#1}}
...
\scottishtext{'S urrainn dhomh gloidne ithe; cha ghoirtich i mi.}
```

## Slovak (Slovenský)

Slovak can be typeset using fontencoding T1. This language is known to `babel.sty` as `slovak`.

### Examples:

Normal .....	Rýchla hnedá líška skáče cez lenivého psa
Bold .....	<b>Rýchla hnedá líška skáče cez lenivého psa</b>
Italic .....	<i>Rýchla hnedá líška skáče cez lenivého psa</i>
Slanted .....	<i>Rýchla hnedá líška skáče cez lenivého psa</i>
Sans serif .....	Rýchla hnedá líška skáče cez lenivého psa
Typewriter .....	Rýchla hnedá líška skáče cez lenivého psa
Small caps .....	RÝCHLA HNEDÁ LÍŠKA SKÁČE CEZ LENIVÉHO PSA

## Spanish (Español / Castellano)

Spanish can be typeset using fontencoding T1. This language is known to `babel.sty` as `spanish`.

### Examples:

Normal .....	La cigüeña tocaba el saxofón detrás del palenque de paja.
Bold .....	<b>La cigüeña tocaba el saxofón detrás del palenque de paja.</b>
Italic .....	<i>La cigüeña tocaba el saxofón detrás del palenque de paja.</i>
Slanted .....	<i>La cigüeña tocaba el saxofón detrás del palenque de paja.</i>
Sans serif .....	La cigüeña tocaba el saxofón detrás del palenque de paja.
Typewriter .....	La cigüeña tocaba el saxofón detrás del palenque de paja.
Small caps .....	LA CIGÜEÑA TOCABA EL SAXOFÓN DETRÁS DEL PALENQUE DE PAJA.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[spanish,english]{babel}
\newcommand\spanishtext[1]{\foreignlanguage{spanish}{#1}}
```

...  
`\spanishtext{La cigüeña tocaba el saxofón detrás del palenque de paja.}`

## Swedish (Svenska)

Swedish can be typeset using fontencoding T1. This language is known to `babel.sty` as `swedish`.

### Examples:

Normal .....	Östen äter müsli på ett café.
Bold .....	<b>Östen äter müsli på ett café.</b>
Italic .....	<i>Östen äter müsli på ett café.</i>
Slanted .....	<i>Östen äter müsli på ett café.</i>
Sans serif .....	Östen äter müsli på ett café.
Typewriter .....	Östen äter müsli på ett café.
Small caps .....	ÖSTEN ÄTER MÜSLI PÅ ETT CAFÉ.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[swedish,english]{babel}
\newcommand\swedishtext[1]{\foreignlanguage{swedish}{#1}}
...
\swedishtext{Östen äter müsli på ett café.}
```

## Welsh

Welsh can be typeset using fontencoding T1. This language is known to `babel.sty` as `welsh`.

### Examples:

Normal .....	Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.
Bold .....	<b>Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.</b>
Italic .....	<i>Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.</i>
Slanted .....	<i>Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.</i>
Sans serif .....	Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.
Typewriter .....	Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.
Small caps .....	DW I'N GALLU BWYTA GWYDR, DWY E DDIM YN GWNEUD DOLUR I MI.

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[welsh,english]{babel}
\newcommand\welshtext[1]{\foreignlanguage{welsh}{#1}}
...
\welshtext{Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.}
```

## 2 Cyrillic

Many languages named here were taken from

`ftp://ftp.dante.de/tex-archive/fonts/cyrillic/lh/doc/beresta.tgz`.

### Russian (Русский)

This language can be typeset using fontencodings T2A. This language is known to `babel.sty` as `russian`.

#### Examples:

Normal .....	Луна. Балкон. Она и он. Вдруг — супруг. «Подлец!» Конец.
Bold .....	<b>Луна. Балкон. Она и он. Вдруг — супруг. «Подлец!» Конец.</b>
Italic .....	<i>Луна. Балкон. Она и он. Вдруг — супруг. «Подлец!» Конец.</i>
Slanted .....	<i>Луна. Балкон. Она и он. Вдруг — супруг. «Подлец!» Конец.</i>
Sans serif .....	Луна. Балкон. Она и он. Вдруг — супруг. «Подлец!» Конец.
Typewriter .....	Луна. Балкон. Она и он. Вдруг - супруг. «Подлец!» Конец.
Small caps .....	ЛУНА. БАЛКОН. ОНА И ОН. ВДРУГ — СУПРУГ. «ПОДЛЕЦ!» КОНЕЦ.

#### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[russian,english]{babel}
\newcommand\russiantext[1]{\foreignlanguage{russian}{#1}}
...
\russiantext{Луна. Балкон. Она и он. Вдруг - супруг. «Подлец!» Конец.}
```

### Ukrainian (Українська)

This language can be typeset using fontencodings T2A. This language is known to `babel.sty` as `ukrainian`.

### Belarusian (Беларуская)

Belarusian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

### Bulgarian (Български)

Bulgarian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

### Macedonian (Македонски)

Macedonian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

### Serbian

Serbian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Moldavian**

Moldavian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Kurdish (Cyrillic)**

Kurdish (Cyrillic) can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Ossetian**

Ossetian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Tadzhik**

Tadzhik can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Abkhazian**

Abkhazian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Abazinian**

Abazinian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Adygey**

Adygey can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Kabardinian-Chircassian**

Kabardinian-Chircassian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Ingush**

Ingush can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Chechen**

Chechen can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Avar**

Avar can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Dargin**

Dargin can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Lak**

Lak can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Lezgin**

Lezgin can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Tabasaran**

Tabasaran can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Mansi**

Mansi can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Khanty**

Khanty can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Komi**

Komi can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Komi-Permyak

Komi-Permyak can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Mari

Mari can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Mordvin

Mordvin can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Saam

Saam can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Udmurt

Udmurt can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Nganasan

Nganasan can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Nenets

Nenets can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Selkup

Selkup can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Chuvash

Chuvash can be typeset using the LH fonts (fontencoding T2A).

### Examples:

Normal ..... Улмушси суркунне сешкере кӓмӓллӓ—ске ун айӓнче сӓреье.  
Bold ..... **Улмушси суркунне сешкере кӓмӓллӓ—ске ун айӓнче сӓреье.**  
Italic ..... *Улмушси суркунне сешкере кӓмӓллӓ—ске ун айӓнче сӓреье.*



Slanted ..... Улмуҗси җуркунне җеҗкере кӓмӓллӓ—җке ун айӓнче җӓреье.  
 Sans serif ..... Улмуҗси җуркунне җеҗкере кӓмӓллӓ—җке ун айӓнче җӓреье.  
 Typewriter ..... Улмуҗси җуркунне җеҗкере кӓмӓллӓ-җке ун айӓнче җӓреье.  
 Small caps ..... УЛМУҖСИ ҖУРКУННЕ ҖЕҖКЕРЕ КӓМӓЛЛӓ—ҖКЕ УН АЙӓНЧЕ ҖӓРЕЬЕ.

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\usepackage[T2A,T1]{fontenc}
\newcommand\chuvashtext[1]{\bgroup\fontencoding{T2A}\selectfont#1\egroup}
...
\chuvashtext{Улмуҗси җуркунне җеҗкере кӓмӓллӓ-җке ун айӓнче җӓреье.}
```

**Azerbaijani**

Azerbaijani can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

**Gagaus**

Gagaus can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

**Turkmen**

Turkmen can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

**Altai**

Altai can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

**Balkar**

Balkar can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

**Bashkir**

Bashkir can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

**Kazakh**

Kazakh can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Kara-Kalpak**

Kara-Kalpak can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Karachai**

Karachai can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Kirgiz**

Kirgiz can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Crimea-Tatar**

Crimea-Tatar can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Kumyk**

Kumyk can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Nogai**

Nogai can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Tatar**

Tatar can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Uzbek**

Uzbek can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Uigur**

Uigur can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Dolgan**

Dolgan can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Tofalar**

Tofalar can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Tuvinian**

Tuvinian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Khakassian**

Khakassian can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Shor**

Shor can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Yakut**

Yakut can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Buryat**

Buryat can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Kalmyk**

Kalmyk can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Mongolian (Cyrillic)**

Mongolian (Cyrillic) can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Evenki**

Evenki can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Even**

Even can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Nanai**

Nanai can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Ulchi**

Ulchi can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Dungan**

Dungan can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Chukchi**

Chukchi can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Koryak**

Koryak can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Nivkh**

Nivkh can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## **Aleut**

Aleut can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Itelmen

Itelmen can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Eskimo

Eskimo can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Yukagir

Yukagir can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## Kettish

Kettish can be typeset using the LH fonts (try e.g. fontencodings T2A, T2B, T2C, T2D, X2, XS). See also Russian (p. 13).

## 3 CJK

### Japanese (日本語)

This language can be typeset using the fonts supported by CJK-L<sup>A</sup>T<sub>E</sub>X and fontencoding C40. Activate the Unicode option `CJKjis`

#### Examples:

Family `song` (kanji48 font) ..... 私は消しゴムです。

#### Some usage example:

```

\usepackage[nocjkjis]{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[C40,T1]{fontenc}
\newcommand\japanesetext[1]{\bgroup\fontencoding{C40}\fontfamily{song}\selectfont%
  \SetUnicodeOption{cjkjis}#1\egroup}
...
\japanesetext{私は消しゴムです。}

```

### Chinese (traditional) (中國文)

This language can be typeset using the fonts supported by CJK-L<sup>A</sup>T<sub>E</sub>X and fontencoding C00. Activate the Unicode option `ckgb5`.

#### Examples:

Family `ming` (Arphic font) ..... 耶穌基督的啓示...

Family `ming` (Arphic font), slanted ..... 耶穌基督的啓示...

Family `mingr` (Arphic font), rotated ..... 耶穌基督的啓示...

Family `mingr` (Arphic font), rotated, slanted ..... 耶穌基督的啓示...

Family `kai` ..... 耶穌基督的啓示...

Family kair, rotated .....	耶穌基督的啓示...
Family akai (Arphic font) .....	耶穌基督的啓示...
Family akai (Arphic font), slanted .....	耶穌基督的啓示...
Family akair (Arphic font), rotated .....	耶穌基督的啓示...
Family akair (Arphic font), rotated, slanted .....	耶穌基督的啓示...
Family moekai (Taiwan MOE font) .....	耶穌基督的啓示...
Family moesong (Taiwan MOE font) .....	耶穌基督的啓示...

**Some usage example:**

```

\usepackage[nocjkbg5]{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[C00,T1]{fontenc}
\newcommand\chinesetradtext[1]{\bgroup\fontencoding{C00}\fontfamily{ming}\selectfont%
  \SetUnicodeOption{cjkbg5}#1\egroup}
...
\chinesetradtext{耶穌基督的啓示}

```

**Chinese (simplified) (中国文)**

This language can be typeset using the fonts supported by CJK-L<sup>A</sup>T<sub>E</sub>X and fontencoding C10. Activate the Unicode option `cjkgb`.

**Examples:**

Family fs (Jianti Fangsong font) .....	耶穌基督的啓示...
Family akai (Arphic font AR PL KaitiM GB) .....	耶穌基督的啓示...
Family akai (Arphic font AR PL KaitiM GB), slanted .....	耶穌基督的啓示...
Family akair (Arphic font "AR PL KaitiM GB"), rotated .....	耶穌基督的啓示...
Family akair (Arphic font "AR PL KaitiM GB"), rotated, slanted .....	耶穌基督的啓示...
Family asng (Arphic font "AR PL SungtiL GB") .....	耶穌基督的啓示...
Family asng (Arphic font "AR PL SungtiL GB"), slanted .....	耶穌基督的啓示...
Family asngr (Arphic font "AR PL SungtiL GB"), rotated .....	耶穌基督的啓示...
Family asngr (Arphic font "AR PL SungtiL GB"), rotated, slanted .....	耶穌基督的啓示...

**Some usage example:**

```

\usepackage[nocjkbg]{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[C10,T1]{fontenc}
\newcommand\chinesesimptext[1]{\bgroup\fontencoding{C10}\fontfamily{ming}\selectfont%
  \SetUnicodeOption{cjkbg}#1\egroup}
...
\chinesesimptext{耶穌基督的啓示}

```

## Korean (한국어)

This language can be typeset using the fonts supported by CJK- $\LaTeX$  and fontencding C61. Activate the Unicode option `ckhanguk`

### Examples:

Family mj .....	꺆고 기욤어집
Family mj, bold .....	꺆고 기욤어집
Family dr .....	꺆고 기욤어집
Family gr .....	꺆고 기욤어집
Family gs .....	꺆고 기욤어집
Family gt .....	꺆고 기욤어집

### Some usage example:

```
\usepackage[nocjkhanguk]{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[C61,T1]{fontenc}
\newcommand\koreantext[1]{\bgroup\fontencding{C61}\fontfamily{mj}\selectfont%
  \SetUnicodeOption{ckhanguk}#1\egroup}
...
\koreantext{꺆고 기욤어집}
```

## 4 Indian scripts

### Thai (ไทย)

This encoding can be typeset using the fontencding C90 and fontfamilies `nrsr` or `dbss`,<sup>2</sup> or using the fontencding LTA and one of the fonts `arialuni.ttf`<sup>3</sup> or `code2000.ttf`<sup>4</sup>. This language is known to `babel.sty` as `thaicjk`.

### Examples:

Fontencding LTA, Family arial (arialuni.ttf) .....	สวัสดีคร์บ, สวัสดีคะ
Fontencding LTA, Family c2000 (code2000.ttf) .....	สวัสดีคร์บ, สวัสดีคะ

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[LTA,T1]{fontenc}
\usepackage[thaicjk,english]{babel}
\newcommand\thaitext[1]{\bgroup\fontencding{LTA}\fontfamily{arial}\selectfont%
  \foreignlanguage{thaicjk}{#1}\egroup}
...
\thaitext{สวัสดีคร์บ, สวัสดีคะ}
```

### Kuy

See also Thai (p. 23).

### Lavna

See also Thai (p. 23).

---

<sup>2</sup>install CJK- $\LaTeX$  and Thai $\LaTeX$  to get these

<sup>3</sup>MS Arial Unicode: <http://download.microsoft.com/download/publisher2000/Aruniup/2000/WIN98/EN-US/Aruniupd.exe>

<sup>4</sup>Code2000: <http://home.att.net/~jameskass/>

## **Pali**

See also Thai (p. 23).

## **Devanagari**

This script can be written using the fontencoding LDV and the font `arialuni.ttf`<sup>5</sup>, but it will lack ligatures and halfforms.

## **Hindi**

See also Devanagari (p. 24).

## **Marathi**

See also Devanagari (p. 24).

## **Nepali**

See also Devanagari (p. 24).

## **Awadhi**

See also Devanagari (p. 24).

## **Begheli**

See also Devanagari (p. 24).

## **Bhatneri**

See also Devanagari (p. 24).

## **Bhili**

See also Devanagari (p. 24).

## **Bihari**

See also Devanagari (p. 24).

## **Braj-Bhasha**

See also Devanagari (p. 24).

---

<sup>5</sup>MS Arial Unicode: <http://download.microsoft.com/download/publisher2000/Aruniup/2000/WIN98/EN-US/Aruniupd.exe>



## **Chhattisgarhi**

See also Devanagari (p. 24).

## **Garhwali**

See also Devanagari (p. 24).

## **Gondi**

See also Devanagari (p. 24).

## **Harauti**

See also Devanagari (p. 24).

## **Ho**

See also Devanagari (p. 24).

## **Jaipuri**

See also Devanagari (p. 24).

## **Kachchhi**

See also Devanagari (p. 24).

## **Kanauji**

See also Devanagari (p. 24).

## **Konkani**

See also Devanagari (p. 24).

## **Kului**

See also Devanagari (p. 24).

## **Kumaoni**

See also Devanagari (p. 24).

## Kurku

See also Devanagari (p. 24).

## Kurukh

See also Devanagari (p. 24).

## Marwari

See also Devanagari (p. 24).

## Mundari

See also Devanagari (p. 24).

## Newari

See also Devanagari (p. 24).

## Palpa

See also Devanagari (p. 24).

## Santali

See also Devanagari (p. 24).

## Telugu (తెలుగు)

This language can be typeset using fontencoding LTL<sup>6</sup> and the TeluguT<sub>E</sub>X fonts or fontencoding LTG<sup>7</sup> and the font `code2000.ttf`<sup>8</sup>.

Note that with LTG superscript vowels look wrong and no ligatures are supported.

### Examples:

Fontencoding LTL, normal .....	తెలుగు
Fontencoding LTL, bold .....	తెలుగు
Fontencoding LTL, slanted .....	తెలుగు
Fontencoding LTL, X-non-uniform ( <code>\fontseries{nx}</code> ) .....	తెలుగు
Fontencoding LTL, Y-non-uniform ( <code>\fontseries{ny}</code> ) .....	తెలుగు
Fontencoding LTA, Family c2000 ( <code>code2000.ttf</code> ) .....	తెలుగు

### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[unistring]{ucsutils}
```

<sup>6</sup>Contributed with `ucs.sty`. Install also TeluguT<sub>E</sub>X.

<sup>7</sup>Contributed with `ucs.sty`.

<sup>8</sup>Code2000: <http://home.att.net/~jameskass/>

```

\usepackage[LTL,T1]{fontenc}
% Note: This macro does not work in moving arguments (captions etc.)
% because of the macro call \unistring{#1}. You may use
% \SetUnicodeOption{combine}#1\SetUnicodeOption{nocombine} instead,
% but then you may not provide whitespaces or other ASCII characters as input,
% i.e. you have to call the macro for each word separately.
\newcommand\telugutext[1]{\bgroup\fontencoding{LTL}\selectfont\unistring{#1}\egroup}
...
\telugutext{తెలుగు}

```

## 5 African scripts

### Ge'ez

This script can be written using the fonts `gfzmenu.ttf`<sup>9</sup>, `jiret.ttf`<sup>10</sup> or `code2000.ttf`<sup>11</sup>. Use `fontencoding LET`.

See section 7.1 for instructions on installing these fonts. The T<sub>E</sub>X names should be as follows:

```

gfzmenu.ttf  gfzemen
jiret.ttf    jiret
code2000.ttf code2k

```

#### Examples:

```

Family gfzem (gfzmenu.ttf) ..... ሰማይ አይታረስ ንጉሥ አይከሰስ።...
Family jiret (jiret.ttf) ..... ሰ ማይ አይታረስ ንጉሥ አይከሰስ።...
Family c2000 (code2000.ttf) ..... ሰማይ ከይታረስ ንጉሥ ከይከሰስ።...

```

#### Some usage example:

```

\usepackage[utf8x]{inputenc}
\usepackage[LET,T1]{fontenc}
\newcommand\geeztext[1]{\bgroup\fontencoding{LET}\fontfamily{gfzem}\selectfont#1\egroup}
...
\geeztext{ሰማይ አይታረስ ንጉሥ አይከሰስ።}

```

### Amharic (Ethiopic)

See also Ge'ez (p. 27).

### Tigrinya (Eritrean)

See also Ge'ez (p. 27).

### Tigre (Eritrean)

See also Ge'ez (p. 27).

### Oromo (Ethiopic)

See also Ge'ez (p. 27).

<sup>9</sup>[ftp://ftp.ethiopic.org/pub/fonts/TrueType/gfzmenu.ttf](http://ftp.ethiopic.org/pub/fonts/TrueType/gfzmenu.ttf)

<sup>10</sup><http://www.senamirmir.com/download/jiret.zip>

<sup>11</sup>Code2000: <http://home.att.net/~jameskass/>

## 6 Miscellaneous languages and scripts

### Greek (Ελληνικά)

Greek can be typeset using fontencoding LGR. This language is known to `babel.sty` as `greek`. Ancient (polytonic) Greek as `polutonikogreek`. Normally the CB fonts are installed by default. You can alternatively use the Kerkis fonts<sup>1213</sup>.

#### Examples:

Family cmr (CB fonts) .....	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family cmr (CB fonts), bold .....	<b>χαῖρε, ὦ χαῖρε, Ἐλευθεριά!</b>
Family cmr (CB fonts), italic .....	<i>χαῖρε, ὦ χαῖρε, Ἐλευθεριά!</i>
Family cmr (CB fonts), slanted .....	<i>χαῖρε, ὦ χαῖρε, Ἐλευθεριά!</i>
Family cmr (CB fonts), sans serif .....	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family cmr (CB fonts), typewriter .....	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family cmr (CB fonts), small caps .....	XAIPE, Ω XAIPE, ἘΛΕΥΘΕΡΙΑ!
Family mak (Kerkis fonts) .....	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family mak (Kerkis fonts), slanted .....	<i>χαῖρε, ὦ χαῖρε, Ἐλευθεριά!</i>
Family mak (Kerkis fonts), bold <sup>13</sup> .....	<b>χαῖρε, ὦ χαῖρε, Ἐλευθεριά!</b>
Family mak (Kerkis fonts), italic <sup>13</sup> .....	<i>χαῖρε, ὦ χαῖρε, Ἐλευθεριά!</i>
Family mak (Kerkis fonts), small caps <sup>13</sup> .....	XAPE, XAPE, ΕΛΕΥΘΕΡΙΑ!
Family mak (Kerkis fonts), fontshape ui <sup>13</sup> .....	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family mak (Kerkis fonts), fontshape sco <sup>13</sup> .....	XAPE, XAPE, ΕΛΕΥΘΕΡΙΑ!
Family mak (Kerkis fonts), fontshape cal <sup>13</sup> .....	χαρε, χαρε, Ἐλευθεριά!

#### Some usage example:

```
\usepackage[utf8x]{inputenc}
\usepackage[greek,english]{babel}
\newcommand\greektext[1]{\foreignlanguage{greek}{#1}}
...
\greektext{χαῖρε, ὦ χαῖρε, Ἐλευθεριά!}
```

### Hebrew (עברית)

This language (also biblical, i.e. vowelified) can be typeset using fontencoding LHE<sup>14</sup> or fontencoding MKR. There is also a babel language (`hebrew`), but at least on my system it did not work correctly.

#### Examples:

Fontencoding LHE, Normal (Jerusalem) .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Bold (Dead Sea) .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Italic (Old Jaffa) .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Sans serif (Tel Aviv) .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Family fr (Frank Ruehl), normal .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Family fr (Frank Ruehl), slanted .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Family fr (Frank Ruehl), bold .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Family shold (Shalom Old) .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Family shstk (Shalom Stick) .....	למה הם פשוט לא מדברים עברית
Fontencoding LHE, Family shscr (Shalom Script) .....	למה הם פשוט לא מדברים עברית

<sup>12</sup><http://iris.math.aegean.gr/software/kerkis/>

<sup>13</sup>Some of the Kerkis fontstyles do not support polytonic Greek, they silently drop accented characters (except those just with oxia; see the examples)

<sup>14</sup>Available from `/language/hebrew/hebtex/macros/latex_macros/lheenc.def`. Get also files `lhe*.fd`.

Fontencoding LHE, Family `crml` (Carmel), normal ..... למה הם פשוט לא מדברים עברית  
 Fontencoding LHE, Family `crml` (Carmel), slanted ..... למה הם פשוט לא מדברים עברית  
 Fontencoding LHE, Family `redis` (Redis), normal ..... למה הם פשוט לא מדברים עברית  
 Fontencoding LHE, Family `redis` (Redis), slanted ..... למה הם פשוט לא מדברים עברית  
 Fontencoding LHE, Family `redis` (Redis), bold ..... למה הם פשוט לא מדברים עברית

**Some usage example:**

```
\usepackage[utf8x]{inputenc}
\usepackage[LHE,T1]{fontenc}
% \beginR and \endR need e-LaTeX
\newcommand\hebrewtext[1]{\bgroup\fontencoding{LHE}\selectfont\beginR#1%
  \endR\egroup}
...
% The file should contain the R2L text in logical order, i.e. the rightmost letter first.
\hebrewtext{למה הם פשוט לא מדברים עברית}
```

**Braille ( ⠠ ⠠ ⠠ )**

This script can be typeset using the package `braille.sty`, available from CTAN.<sup>15</sup>

**Examples:**

Normal ..... ⠠ ⠠ ⠠  
 With `puttinydots` ..... ⠠ ⠠ ⠠  
 With `8dots` and `puttinydots` ..... ⠠ ⠠ ⠠  
 With `mirror` and `puttinydots` ..... ⠠ ⠠ ⠠

**Some usage example:**

```
\usepackage[compact]{braille}
% With \brailleunit == 0.75ex, the braille letters will
% approximately match the other letters in size.
\newcommand\brailletext[1]{\setlength\brailleunit{.75ex}#1}
...
\brailletext{⠠ ⠠ ⠠}
```

**IPA ( *ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn* )**

The IPA (International Phonetic Association) alphabet can be written using the fontencoding T3. For some letters you have to load the package `tipa`, possibly with options `extra` or `tone`. Activate the Unicode option `tipa`.

**Examples:**

Family `cmr` ..... *ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn*  
 Family `cmr`, bold ..... ***ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn***  
 Family `cmr`, slanted ..... *ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn*  
 Family `cmss` (sans serif) ..... *ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn*  
 Family `ptm` (Times) ..... *ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn*  
 Family `ptm` (Times), bold ..... ***ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn***  
 Family `ptm` (Times), slanted ..... *ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn*  
 Family `phv` (Helvetica, sans serif) ..... *ɪntəˈnæʃənəl fəˈnetɪk əsɔʊsiˈeɪfɪn*

**Some usage example:**

---

<sup>15</sup>/macros/latex/contrib/supported/braille/braille.sty



## Step 2. Run

```
ttf2tfm <fontfilename> <tfmpath>/<latexname>@<subfontencoding>@
```

Here <fontfilename> and <latexname> are as described above. <tfmpath> is your TFM search path.<sup>22</sup> <subfontencoding> is the name of some SFD file<sup>23</sup>, use Unicode unless mentioned otherwise.<sup>24</sup>

**Step 3.** Add the line output at the end of ttf2tfm's output to ttfonts.map. This line should be something like

```
<latexname>@<subfontencoding>@ <fontfilename>
```

If you want to install some font which contains the characters for some fontencoding, you can easily extend the fontencoding as follows (as long as it is some fontencoding for Unicode encoded TrueType fonts):

**Step 1.** Choose some L<sup>A</sup>T<sub>E</sub>X name for the font. If you have different font files in the same font family for e.g. normal, bold, italic etc. you should choose different L<sup>A</sup>T<sub>E</sub>X names, in most cases just use the font's filename (without \*.ttf)

**Step 2.** Choose some L<sup>A</sup>T<sub>E</sub>X font family name for the font. This name should not have more than five letters (all lowercase), take e.g. the first five letters of the font name or some other sufficiently clear, unique and natural abbreviation.

**Step 3.** Create a file <lowercase fontencoding><fontfamily>.fd and containing

```
\ProvidesFile{<lowercase fontencoding><fontfamily>.fd}
\DeclareFontFamily{<fontencoding>}{<fontfamily>}
```

Take care to provide a type the fontencoding using the correct case (lowercase or normal) as told above.

**Step 4.** For each font file in that family add

```
\DeclareFontShape{<fontencoding>}{<fontfamily>}{m}{n}{<-> * <latexname><suffix>}{}
```

to the file created in step 3. To find out which <suffix> to use, look at other font definition files for that fontencoding (i.e. some <fontencoding>\*.fd file). While you are looking at that file anyway, you should look whether there are any other specialities which you may want to reproduce.

## 7.2 Direct access to Unicode fonts

### 7.2.1 The fontencoding LUC

There is a special fontencoding LUC which gives direct access to Unicode fonts by code position. When LUC is activated, just use `\textunicodechar{<number>}` to access code position <number>.

To be used with LUC, a font font must be split into subfonts named fontXX where XX is hexadecimal value from 00 to 16FF (formatted as %02x (printf-style)).

The font fontXX should contain the code positions U+XX00..U+XXFF.

Note that kerning and ligatures do not work with fontencoding LUC.

When you install TrueType fonts as described in 7.1, choose Unicode or UnicodeX<sup>25</sup> as subfont encoding. This will generate font using the above mentioned naming conventions.

---

<sup>22</sup>kpsewhich -expand-var \$TFMFONTS will show this path. You may also set it in texmf.cnf or as an environment variable.

<sup>23</sup>See ttf2tfm's documentation. This is something else than the fontencoding.

<sup>24</sup>You may install a font with different encodings if they have different L<sup>A</sup>T<sub>E</sub>X names. The encodings Unicode and UnicodeT can even coexist with the same L<sup>A</sup>T<sub>E</sub>X name, because all subfont names in UnicodeT are postfixed with t.

<sup>25</sup>UnicodeX supports code positions greater than U+FFFF. It does not work with all versions of ttf2tfm.

## 7.2.2 Using input encoding utf8x to access Unicode fonts

If you have set up a font to be usable with fontencoding LUC<sup>26</sup>, you can directly access it with the input encoding utf8x using the following code:

```
\makeatletter
% \unicar is called by utf8x. Redefine it to call \textunicodechar
\renewcommand\unicar[1]{\textunicodechar{#1}}
% If the active fontencoding does not support direct Unicode access,
% fall back to the normal ucs.sty-mechanism
\ProvideTextCommandDefault{\textunicodechar}[1]{\uni@char{#1}}
```

Now a Unicode character in your document will use \textunicodechar in all fontencodings with support it (e.g. LUC), and the normal mechanism otherwise.

Therefore you will be able to access characters not yet supported by ucs.sty directly using fontencoding LUC.

A full example using code2000.ttf<sup>27</sup> would be:

```
\documentclass{article}
\usepackage[utf8x]{inputenc}
\usepackage[LUC,T1]{fontenc}
\makeatletter
\renewcommand\unicar[1]{\textunicodechar{#1}}
\ProvideTextCommandDefault{\textunicodechar}[1]{\uni@char{#1}}

\begin{document}
{
\fontfamily{c2000}\fontencoding{LUC}\selectfont
PǻMǻ| % U+E0A6 U+E086 U+E096 U+E085 U+E0A7
}
\end{document}
```

Note that this example would not show in an editor otherwise unless code2000.ttf<sup>28</sup> or some similarly encoded font is used to display the source.

---

<sup>26</sup>See 7.2.1

<sup>27</sup>Code2000: <http://home.att.net/~jameskass/>

<sup>28</sup>Code2000: <http://home.att.net/~jameskass/>



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