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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	Eĥoŝanĝo ĉiuĵaŭde
Italic	<i>Eĥoŝanĝo ĉiuĵaŭde</i>

Slanted *Eĥoŝanĝo ĉiujaŭde*
 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 Pona¹ 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 **toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.**
 Italic *toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.*
 Slanted *toki pona li pona ala pona? pona, nasin pi toki pona li nasin tawa pona.*
 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 **Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.**
 Italic *Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.*
 Slanted *Falsches Üben von Xylophonmusik quält jeden größeren Zwerg.*
 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.}
```

¹<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	L'élève a dépassé le maître
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	The quick brown fox jumps over the lazy dog.
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	Sự mặc thị của Đức Chúa...
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	Ek kan glas eet, dit maak my nie seer nie.
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	Žluťoučký kůň úpěl ďábelské ódy.
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	Jeg kan spise glas, det gør ikke ondt på mig.
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	Ik kan glas eten. Het doet geen pijn.
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	Öll dýrin í skóginum eiga að vera vinir!
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	Árvíztűrő Tükörfúrógép
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	Tá mé in ann gloine a ithe; Ní chuireann sé isteach nó amach orm.
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	Posso mangiare il vetro, non mi fa male.
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	Vitrum ēdere possum; mihi nōn nocet.
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	Sliņķis izlīdzas ar viltību
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	Jeg kan spise glas. Det gjør meg ikke vondt.
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	Zażółć Gęślą Jaźń
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 JAŹŃ

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	Posso comer vidro, não me fere.
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	Pot minca sticla. Nu ma doare.
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 gloinne ithe; cha ghoirtich i mi.
Bold	'S urrainn dhomh gloinne ithe; cha ghoirtich i mi.
Italic	<i>'S urrainn dhomh gloinne ithe; cha ghoirtich i mi.</i>
Slanted	<i>'S urrainn dhomh gloinne ithe; cha ghoirtich i mi.</i>
Sans serif	'S urrainn dhomh gloinne ithe; cha ghoirtich i mi.
Typewriter	'S urrainn dhomh gloinne ithe; cha ghoirtich i mi.
Small caps	'S URRAINN DHOMH GLOINNE 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 gloinne 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	Rýchla hnedá líška skáče cez lenivého psa
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	La cigüeña tocaba el saxofón detrás del palenque de paja.
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	Östen äter müsli på ett café.
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	Dw i'n gallu bwyta gwydr, dwy e ddim yn gwneud dolur i mi.
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 fontencoding T2A. This language is known to `babel.sty` as `russian`.

Examples:

Normal	Луна. Балкон. Она и он. Вдруг — супруг. «Подлец!» Конец.
Bold	Луна. Балкон. Она и он. Вдруг — супруг. «Подлец!» Конец.
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. ВДУРГ — 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 fontencoding 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^AT_EX 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^AT_EX 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^AT_EX 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[nocjkgb]{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[C10,T1]{fontenc}
\newcommand\chinesesimptext[1]{\bgroup\fontencoding{C10}\fontfamily{ming}\selectfont%
  \SetUnicodeOption{cjkgb}#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 `ckhangu`

Examples:

Family <code>mj</code>	꺆고 기욤어집
Family <code>mj</code> , bold	꺆고 기욤어집
Family <code>dr</code>	꺆고 기욤어집
Family <code>gr</code>	꺆고 기욤어집
Family <code>gs</code>	꺆고 기욤어집
Family <code>gt</code>	꺆고 기욤어집

Some usage example:

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

4 Indian scripts

Thai (ไทย)

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

Examples:

Fontencding LTA, Family <code>arial</code> (<code>arialuni.ttf</code>)	สวัสดีคร์บ, สวัสดีคะ
Fontencding LTA, Family <code>c2000</code> (<code>code2000.ttf</code>)	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).

²install CJK- \LaTeX and Thai \LaTeX to get these

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

⁴Code2000: <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`⁵, 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).

⁵MS 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 LTL⁶ and the TeluguT_EX fonts or fontencoding LTG⁷ and the font `code2000.ttf`⁸.

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}
```

⁶Contributed with `ucs.sty`. Install also TeluguT_EX.

⁷Contributed with `ucs.sty`.

⁸Code2000: <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`⁹, `jiret.ttf`¹⁰ or `code2000.ttf`¹¹. Use `fontencoding LET`.

See section 7.1 for instructions on installing these fonts. The T_EX 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).

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

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

¹¹Code2000: <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 fonts¹²¹³.

Examples:

Family cmr (CB fonts)	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family cmr (CB fonts), bold	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
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 ¹³	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family mak (Kerkis fonts), italic ¹³	<i>χαῖρε, ὦ χαῖρε, Ἐλευθεριά!</i>
Family mak (Kerkis fonts), small caps ¹³	XAPE, XAPE, ΕΛΕΥΘΕΡΙΑ!
Family mak (Kerkis fonts), fontshape ui ¹³	χαῖρε, ὦ χαῖρε, Ἐλευθεριά!
Family mak (Kerkis fonts), fontshape sco ¹³	XAPE, XAPE, ΕΛΕΥΘΕΡΙΑ!
Family mak (Kerkis fonts), fontshape cal ¹³	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 LHE¹⁴ 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

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

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

¹⁴Available 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.¹⁵

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

Some usage example:

¹⁵/macros/latex/contrib/supported/braille/braille.sty

```

\usepackage[notipa]{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[T3,T1]{fontenc}
\newcommand\ipatext[1]{\bgroup\fontencoding{T3}\selectfont\SetUnicodeOption{tipa}#1\egroup}
...
\ipatext{mtə'næʃənəl fə'nɛtɪk əsoʊsi'eɪn}

```

Klingon (ᑭᑭᑦᑭᑭ ᑭᑭ / ᑭᑭᑭᑭ)

We deal here with Klingon using the writing system often (incorrectly) attributed to Michael Okuda¹⁶. It can be typeset using fontencoding LKL and the font pIq.mf¹⁷. You have to activate the Unicode option `privatecsur` in order to use Klingon characters. The characters are encoded in `ucs.sty` according to the CSUR Registry¹⁸.

Examples:

Normal ᑭᑭᑭᑭᑭᑭ ᑭᑭ ᑭᑭᑭᑭᑭᑭ

Some usage example:

```

\usepackage[noprivatecsur]{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[LKL,T1]{fontenc}
\newcommand\klingontext[1]{\bgroup\fontencoding{LKL}\fontfamily{kli}\selectfont%
\SetUnicodeOption{privatecsur}#1\egroup}
...
\klingontext{ᑭᑭᑭᑭᑭᑭ ᑭᑭ ᑭᑭᑭᑭᑭᑭ}

```

7 Technical Details

7.1 How To Install TrueType Fonts

This section describes how to use a TrueType font with L^AT_EX. We will concentrate on fonts which are Unicode encoded.

The explanations here are valid for t_EX, but the necessary actions should be similar in other distributions.

You need the following prerequisites to use the font:

- A fontencoding supporting that font.
- The font file (*.ttf).
- A L^AT_EX name for the font.
- A L^AT_EX distribution which supports TrueType fonts¹⁹ and automatic generation of PK files²⁰.

In this document, when some language section proposes some font, the fontencoding, the font file and the L^AT_EX name are given. If you want to install some other font for some language, see below.

Step 1. Put the font file somewhere into your TTF search path.²¹ Take care to change the filename to contain only lowercase letters.

¹⁶<http://www.kli.org/tlh/pIqaD.html>

¹⁷Available from `//fonts/okuda/pIq.mf`

¹⁸ConScript Unicode Registry: <http://www.evertype.com/standards/csur/>; this registry coordinates the assignment of blocks out of the Unicode Private Use Area to constructed/artificial scripts.

¹⁹We assume that this is done via `ttf2tfm` and `ttf2pk` or some programs of equivalent configuration syntax.

²⁰The latter is not strictly necessary, but we will not consider the additional measures to take if this is not the case.

²¹`xpsewhich -expand-var $TTFONTS` will show this path. You may also set it in `texmf.cnf` or as an environment variable.

Step 2. Run

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

Here <fontfilename> and <latexname> are as described above. <tfmpath> is your TFM search path.²² <subfontencoding> is the name of some SFD file²³, use Unicode unless mentioned otherwise.²⁴

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^AT_EX 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^AT_EX names, in most cases just use the font's filename (without *.ttf)

Step 2. Choose some L^AT_EX 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 UnicodeX²⁵ as subfont encoding. This will generate font using the above mentioned naming conventions.

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

²³See ttf2tfm's documentation. This is something else than the fontencoding.

²⁴You may install a font with different encodings if they have different L^AT_EX names. The encodings Unicode and UnicodeT can even coexist with the same L^AT_EX name, because all subfont names in UnicodeT are postfixed with t.

²⁵UnicodeX 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 LUC²⁶, 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.ttf²⁷ 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.ttf²⁸ or some similarly encoded font is used to display the source.

²⁶See 7.2.1

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

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

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