ArabXͤTEX   عربزيتخ

An ArabTEX-like interface for typesetting languages in Arabic script with XͤLATEX

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Contents

Abstract

This package provides a convenient ArabTEX-like user-interface for type-setting languages using the Arabic script in X⫶LATEX, with flexible access to font features. Input in ArabTEX notation can be set in three different vocalization modes or in roman transliteration. Direct UTF-8 input is also supported. Since most of the 'real work' – namely parsing and converting ArabTEX input to Unicode – is done at the level of TECkit mappings, ArabX⫶TEX is really performant.

Contents

1   Introduction

Since the early 1990s, TEX users who wished to typeset in Arabic script have relied on Klaus Lagally's excellent ArabTEX system.[1] While ArabTEX's overall qualities and Lagally's masterful TEX-programming abilities are undeniable, the system can hardly hide its 15-odd years of existence. Or to state it otherwise, it is now slowly becoming an archaic piece of sofware (which as a historian who has used ArabTEX for more than eleven years I find a sad thing to admit). First of all, it is monolithic and idiosyncratic, in the sense that everything – from parsing the input encoding, to doing contextual analysis, to assembling all elements of the script and placing them on the page from right to left, in defiance of TEX's natural logic – is taken care of by means of TEX macro programming. Thus before the availability of relatively fast Pentium processors, ArabTEX was really slow, but this is less of an issue nowadays. Another disadvantage is that one is inexorably bound to use the custom Naskh font, which without being necessarily ugly does not meet the standards of fine typesetting. Finally, the collection of very sophisticated TEX code that constitutes the ArabTEX package is not documented at all, which means that even though it is now licensed under the LPPL, its internals are extremely difficult to understand in depth. (It is

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[1] ftp://ftp.informatik.uni-stuttgart.de/pub/arabtex/arabtex.htm. Version 2.00 was released in April 1992 and version 3.00 in November of the following year. The latest stable version (dated 2 July 2006) is 3.11s. Since version 3.02 the Hebrew language is also supported.

only fair to state, however, that Prof. Lagally has been extremely responsive to ideas, suggestions and wishes by users in the past).

The introduction of Omega in *ca.* 1996, a TEX extension for multilingual, multidirectional typesetting based on Unicode, raised of course many hopes, but these have by now completely dissipated since the project has been moribund for several years and is now probably defunct. Aleph, a more humble attempt to reach some of the goals set by Omega, has been equally unsuccessful.[2] Both engines suffered of numerous bugs and never reached a stable and usable state, *at least according to my own subjective experience.*

After completion of the initial alpha version of ArabXƎTEX, I came across the package Arabi by Youssef Jabri on CTAN.[3] This is a pure LaTeX/Babel approach to Arabic typesetting which makes use of TFM hackery (by means of complex sequences of ligature rules) to provide custom contextual analysis for individual fonts. Thus the Arabi only works in combination with the fonts for which support is built in the package.

With the availability of Jonathan Kew's XƎTEX, users can now rely on a very up-to-date typesetting engine based on the integration of ε-TEX, Unicode, and modern font-rendering technology (AAT and ICU), without the complex hassle of font installation.[4]

2   Description

The ArabXƎTEX package consists of a set of **TECkit**[5] mappings for converting internally from ArabTEX's ASCII input convention to Unicode, and a LATEX style file (arabxetex.sty) that provides a convenient user interface for typesetting in those languages. For details on ArabTEX and its input convention the reader is referred to Lagally's detailed manual.[6] ArabXƎTEX introduces several additions, and a few minor modifications, to ArabTEX's conventions. These are documented in tabular form in Section 4. ArabXƎTEX relies on the package bidi which contains the macros necessary for bidirectional typesetting – using ε-TEX's \beginR ...\endR, \beginL ...\endL primitives. The main code in bidi.sty is essentially borrowed, with minor adaptations,

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[2]Based on Omega 1.15 and ε-TEX, Aleph attempted to provide a usable and stable branch. See http://www.tug.org/TUGboat/Articles/tb25-1/bilotta.pdf. Unfortunately the project is currently dormant.

[3]http://www.ctan.org/tex-archive/language/arabic/arabi/

[4]http://scripts.sil.org/xetex. XƎTEX was originally developed for the Mac OS X platform, but Linux and WIN32 ports are now available.

[5]http://scripts.sil.org/TECkit

[6]http://129.69.218.213/arabtex/doc/arabdoc.pdf

from the file rlbabel.def in the Babel distribution (where it serves for typesetting Hebrew). Some improvements in the beta version were inspired by Youssef Jabri's Arabi.

Languages supported at present are the same as in ArabTEX, namely: Arabic, Maghribi Arabic, Farsi (Persian), Urdu, Sindhi, Kashmiri, Ottoman Turkish, Kurdish, Jawi (Malay) and Uighur. ArabXETEX adds support for several additional Unicode characters, so that some more languages are probably supported de-facto as well (such as Western Punjabi).

2.1   The ArabTEX input encoding

Why would one need to type those languages by means of an old-fashioned ASCII representation? Native speakers have access to keyboards that allow to input them directly in Unicode, while non-native scholars who need to type them can use keymaps or keyboard utilities to achieve the same, so why bother? An expert in Arabic mathematical linguistic and author of the Perl module Encode::Arabic::ArabTeX, Otakar Srmž, has this to say about the virtues of ArabTEX ASCII encoding:

> "ArabTeX is an excellent extension to TeX/LaTeX designed for typesetting the right-to-left scripts of the Orient. It comes up with very intuitive and comprehensible lower ASCII transliterations, the expressive power of which is even better than that of the scripts."[Source: http://search.cpan.org/~smrz/Encode-Arabic-1.16/ArabTeX/ArabTeX.pm#DESCRIPTION. See also http://ufal.mff.cuni.cz/~smrz/ICFP2006/icfp-encode.pdf]

There are indeed several advantages in using ArabTEX input convention for typesetting in the Arabic script, besides ease and legibility. First it is possible and even trivial to switch between a representation of the data in the Arabic script and its romanized transliteration, without having to modify it. Second, despite the increasing availability of good Unicode editors that support bidirectionality, editing (La)TEX source files with bidirectional content can be a real pain, for it leads to confusion and distraction. Also, with complex multi-layer documents such as critical editions, where footnotes and annotations abound, the advantage of dealing with a plain ASCII encoding cannot be overstated. Finally, such an input convention allows far greater control of typographical details.

3 Usage

<div style="float:left">\textarab
\textfarsi
etc.</div>

For short insertions (say within a LR text), use \text<language>[option]{...} where <language> is one of the following (alternative names are given in brackets):

- arab (Arabic),[7]
- farsi (persian),
- urdu,
- sindhi,
- pashto,
- ottoman (turk),
- kurdish,
- kashmiri,
- malay (jawi), and
- uighur.

<div style="float:left">\begin{arab}
\begin{farsi}
etc.</div>

For typesetting whole paragraphs in Arabic script, use

    \begin{<language>}[option]

    ...

    \end{<language>}

Most languages can be typeset in one of four modes: non-vocalized, vocalized, fully-vocalized, and transliterated, exactly as in ArabTEX, and these are switched by means of the options novoc, voc, fullvoc and trans, respectively. Note that Kurdish and Uighur only have one vocalization mode. The mode can be determined either globally as an option to the arabxetex package, or as a local option of either the \text<language> commands or \begin{<language>} ...\end{<language>} environments. When no option is set locally, the global option is chosen. The default global option is always *non-vocalized* mode.

There is also an option utf for input in plain UTF-8 encoding. Note that it is also possible to mix ArabTEX input convention and UTF-8 characters, since the latter will not be affected by the font-mapping (except of course in transliteration mode, unless your roman font also contains Arabic characters). There are also advantages of choosing an ArabTEX mapping (*i.e.,* one of the novoc, voc and fullvoc modes) even with UTF-8 encoding, as it provides easy access to special glyphs and some useful features. See further below.

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[7]Since the command \arabic is already defined in LATEX, we chose the environment arab and the command \textarab instead, but the equivalent environment Arabic and the command \textarabic are also available.

Left-to-right insertions in Latin script within an Arabic environment can be

\textLR
→ 1.1.2: New!
\aemph

made by means of the command \textLR{…}. ←[8] Emphasis in Arabic is traditionally indicated by overlining the text, and this can be achieved with the command \aemph:[9]

```
\begin{arab}[novoc]
mi_tAl: \aemph{45} darajaT
\end{arab}
```

مثال: ٤٥ درجة

3.1 Font setup

\arabicfont ArabXƎTEX requires the user to define an \arabicfont in the preamble. The recommended procedure, by means of fontspec, is to define it as follows:

```
\newfontfamily\arabicfont[Script=Arabic]{<fontname>}
```

If not, then a warning is issued and ArabXƎTEX will attempt to load the font **Scheherazade** (designed by Bob Halissy and Jonathan Kew of SIL International).[10]

→ 1.1: New! You can also define specific fonts ← for all other languages, by similarly defining \<language>font, such as for example:

```
\newfontfamily\urdufont[Script=Arabic]{Nafees Pakistani Naskh}
```

So for example if the \texturdu command or the urdu environment is used, ArabXƎTEX will use the \urdufont if it is defined, and the \arabicfont if not. In the same manner one can define \maghribifont, \ottomanfont, \uighurfont, etc.

3.2 Examples

3.2.1 Contextual analysis of *hamza*

As with ArabTEX, a contextual analysis of the input encoding is performed (at the font-mapping level) to automatically determine the carrier of the *hamza*, as illustrated by the following examples:

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[8]In version 1.0 this was called \textlatin, which was renamed \textromanin version 1.1. But the former conflicted with Babel, and the latter with Beamer. Hopefully \textLR won't be as short-lived!

[9]This macro makes use of the mathematical command \overline, which explains why arabxetex requires the amsmath package. I welcome any suggestion that would make it possible to circumvent this dependency by emulating \overline directly.

[10]Available from http://scripts.sil.org/ArabicFonts. For typesetting Sindhi and Kashmiri, the font **Lateef**, available at the same place, is also recommended.

```
\begin{arab}
'amruN, 'ibiluN, 'u_htuN, '"u_ht"uN, '"Uql"Id"Is, ra'suN, 'ar'asu,
sa'ala, qara'a, bu'suN, 'ab'usuN, ra'ufa, ru'asA'u, bi'ruN, 'as'ilaTuN,
ka'iba, qA'imuN, ri'AsaTuN, su'ila, samA'uN, barI'uN, sU'uN, bad'uN,
^say'uN, ^say'iN, ^say'aN, sA'ala, mas'alaTuN, saw'aTuN, _ha.tI'aTuN,
jA'a, ridA'uN, ridA'aN, jI'a, radI'iN, sU'uN, .daw'uN, qay'iN, .zim'aN
, yatasA'alUna, 'a'dA'akum, 'a'dA'ikum, 'a'dA'ukum maqrU'aT, mU'ibAt,
taw'am, yas'alu, 'a.sdiq^A$\;$'uh_u, ya^g^I'u, s^U'ila
\end{arab}
```

أَمرٌ، إِبِلٌ، أُختٌ، أخت، أوقليديس، رَأسٌ، أَرأسُ، سَأَلَ، قَرَأَ، بُؤسٌ، أَبؤُسٌ، رَؤُفَ، رُؤَسَاءُ،
بِئرٌ، أَسئِلَةٌ، كَئِبَ، قَائِمٌ، رِآسَةٌ، سُئِلَ، سَمَاءٌ، بَرِيءٌ، سُوءٌ، بَدءٌ، شَيءٍ، شَيئاً،
سَاءَلَ، مَسأَلَةٌ، سَوأَةٌ، خَطِيئَةٌ، جَاءَ، رِدَاءٌ، رِدَاءً، جِيئَ، رَدِيءٍ، سُوءٍ، ضَوءٌ، قَيءٍ، ظِمئاً
، يَتَسَاءَلُونَ، أَعدَاءَكُم، أَعدَائِكُم، أَعدَاؤُكُم مَقرُوؤَة، مُوئِبَات، تَوأَم، يَسأَلُ، أَصدِقَآ أُه،
يَجِيءُ، سُوئِلَ

3.2.2 Special orthographies

Some Arabic words, like *mi'a* "hundred", have irregular orthographies. ArabXƎTEX
recognizes them automatically.

```
\begin{arab}[voc]
mi'aT , mi'at"An , sab'ami'"aT        مِائَة ، مِائَتان ، سَبعَمِائة
\end{arab}
```

NB: For the time being only *mi'a* is supported, but more irregular constructs should
be added in later versions.

3.2.3 Typesetting the Holy Qur'ān

High-quality typesetting of the Holy Qur'ān (القُرآن الكَرِيم) is a most complex and
demanding task, which probably should be left to professional typesetters. Neverthe-
less, with Open Type fonts that cover the full Unicode range for the Arabic script,
it is possible to achieve pretty decent results. The following examples represent my
attempt to reproduce, with the font Scheherazade, the various typographic features
of a typical printed edition from Saudi Arabia.
In printed Qur'āns, one frequently encounters typographical oddities that are not
taken into account by Unicode, such as the *hamza* placed directly over the baseline

instead as over the *alif*. But with a TEX macro it is possible to emulate this rather
well:

```
\newcommand{\hamzaB}{\char"200D\char"0640\raise-.95ex\hbox{\char"0654}\char"200D}
```

```
\begin{arab}[fullvoc]
mina 'l-qur'Ani 'l-karImi, sUraTu 'l-ssajdaTi 15--16:
```

```
'innamA yu'minu bi-\hamzaB a|"Ay___atinA 'lla_dIna 'i_dA _dukkirUA bihA
_harrUA sujjadaN wa-sabba.hUA bi-.hamdi rabbihim wa-hum lA yastakbirUna
SAJDA [[15]] tatajAfY_a junUbuhum 'ani 'l-ma.dAji'i yad'Una rabbahum
_hawfaN wa-.tama'aN wa-mimmA razaqn_ahum yunfiqUna [[16]]
\end{arab}
```

```
\begin{arab}[fullvoc]
sUraTu 'l-baqaraTi 71--72:
```

```
qAla 'innahu, yaqUlu 'innahA baqaraTuN llA _dalUluN tu_tIru 'l-'ar.da wa-lA
tasq.I 'l-.har_ta musallamaTuN llA ^siyaTa fIhA|^JIM qAluW" 'l-\hamzaB a___ana
ji'ta bi-'l-.haqqi|^JIM fa_daba.hUhA wa-mA kAdduW" yaf'alUna [[71]] wa-'i_d
qataltum nafsaN fa-udda$\,$_ara|'|_i"tum fIhA|^SLY wa-al-ll_ahu mu_hrijuN mmA
kun"tum taktumUna [[72]]
\end{arab}
```

<div dir="rtl">

مِنَ ٱلْقُرْآنِ ٱلْكَرِيمِ، سُورَةُ ٱلسَّجْدَةِ ١٥–١٦:

إِنَّمَا يُؤْمِنُ بِآيَٰتِنَا ٱلَّذِينَ إِذَا ذُكِّرُوا بِهَا خَرُّوا سُجَّداً وَسَبَّحُوا بِحَمْدِ رَبِّهِمْ وَهُمْ لَا يَسْتَكْبِرُونَ ۩ تَتَجَافَىٰ جُنُوبُهُمْ عَنِ ٱلْمَضَاجِعِ يَدْعُونَ رَبَّهُمْ خَوْفاً وَطَمَعاً وَمِمَّا رَزَقْنَٰهُمْ يُنْفِقُونَ ۝

سُورَةُ ٱلْبَقَرَةِ ٧١–٧٢:

قَالَ إِنَّهُ، يَقُولُ إِنَّهَا بَقَرَةٌ لَّا ذَلُولٌ تُثِيرُ ٱلْأَرْضَ وَلَا تَسْقِى ٱلْحَرْثَ مُسَلَّمَةٌ لَّا شِيَةَ فِيهَا قَالُوا ٱلْـَٰٔنَ جِئْتَ بِٱلْحَقِّ فَذَبَحُوهَا وَمَا كَادُّوا يَفْعَلُونَ ۝ وَإِذْ قَتَلْتُمْ نَفْساً فَٱدَّٰرَءْتُمْ فِيهَا وَٱللّٰهُ مُخْرِجٌ مَّا كُنتُمْ تَكْتُمُونَ ۝

</div>

3.2.4 Farsi

These are some of the Persian examples in the ArabTEX documentation, typeset
with the font Simple Farsi Bold:

```
\begin{farsi}[voc]
_hwAb, xwI^s, _hwod, ^ceH, naH, yal_aH, _hAneH, _hAneHhA, _hAneH-hA,
```

```
ketAb-e, U, rAh-e,    t_U, nAmeH-i, man, bInI-e, An, mard, pA-i, In,
zan, bAzU-i, In, zan, dAr-_i, man, _hU-_i, t_U, nAmeH-_i, sormeH-_i,
gofteH-_i, ketAb-I, rAh-I, nAmeH-I, dAnA-I, pArU-I, dAnA-I-keH,
pArU-I-keH, rafteH-am, rafteH-Im, AnjA-st, U-st, t_U-st, ketAb-I-st,
be-man, be-t_U, be-An, be-In, be-insAn, beU, be-U, .sA.heb"|_hAneH,
pas"|andAz, naw"|AmUz
\end{farsi}
```

خوَاب، خوِیش، خوُد، چِہ، نَہ، یلہٗ، خَانِہ، خَانِہھا، خَانِہ ھاَ، کِتَاب، اُو، رَاہِ، تُو، نَامِٔہ، مَن،
بِینیٖ، آن، مَرد، پَاَی، اِین، ٹَن، بَاٹُوی، اِین، ٹَن، دَارِ مَن، خُوَی، تُو، نَامِٔہ، سُرمِٔہ،
گُفتِہٗ، کِتَابِاَی، رَاھِاَی، نَامِہ اِی، دَانَائی، پَارُوٹی، دَانَائِیکِہ، پَارُوِئیکِہ، رَفتِہ اَم، رَفتِہ اِیم،
آنجَاست، اُوست، تُوست، کِتَابِیست، بِمَن، بِتُو، بِآن، بِاِین، بِانسَان، بِاُو، بِاُو،
صَاحِب خَانِہ، پَسِ نِدَان نَوِاموُز

3.2.5   Urdu

An Urdu example, typeset with Nafees Pakistani Naskh:[11]

```
\begin{urdu}[novoc]
,ham `i^sq kE mArO.n kA itnA ,hI fasAna,h ,hae
rOnE kO na,hI.n kO'I ,ha.nsnE kO zamAna,h ,hae

ya,h kiskA ta.sawwur ,hae ya,h kiskA fasAna,h ,hae
jO a^sk ,hae A.nkhO.n mE.n tasbI.h kA dAnA ,hae
\end{urdu}
```

ہم عشق کے ماروں کا اتنا ہی فسانہ ہے
روۓ کو نہیں کوئی ہنسنے کو زمانہ ہے
یہ کسکا تصوّر ہے یہ کسکا فسانہ ہے
جو اشک ہے آنکھوں میں تسبیح کا دانا ہے

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[11]The example is borrowed from http://tabish.freeshell.org/u-trans/urducode.html

9

3.3 Special considerations

3.3.1 The name of God

The glyph FDF2, defined as 'ARABIC LIGATURE ALLAH ISOLATED FORM' by the Unicode Consortium, is a source of great confusion. It is displayed in the Unicode Book with an initial alif and thus represents the name of God, Allāh, which in Arabic is always written as a special ligature (*i.e.,* الله and not الله).[12]

However, a substantial portion of real-world fonts rather represent that ligature *without* the initial alif.[13] The confusion probably has to do with Unicode's omission to include the ALLAH ligature without the initial alif, which is imperatively required for typesetting expressions like *al-ḥamdu li-llāh* الله. Many fonts code the ligature الله in the Private Use Area and make it accessible as a default ligature for the sequence *lām-lām-hāʾ*. In such a case it can be generated from the input \textarab{l|lh} (the vertical bar here tells ArabXƎTEX not to interpret the sequence ll as *lām* with *shadda*).[14] Besides not being a standard ArabTEX input sequence, the trouble is that there is no way to know a priori whether the font provides the glyph الله at all, and whether it is defined as a default ligature from the above input.

To solve this problem with ArabXƎTEX, we had no choice but provide two classes of font mappings, one for each of the above two categories of Arabic fonts.[15] By default we assume the canonical situation where U+FDF2 corresponds to الله, but the user can change this by choosing one of the package options fdf2alif or fdf2noalif; it can also be changed locally by means of the commands \SetAllahWithAlif and \SetAllahWithoutAlif *before* making use of \arabicfont. In a future version we might perhaps implement a database of Arabic fonts within ArabXƎTEX, so that this would work automatically in the most common cases.

\SetAllahWithAlif
\SetAllahWithoutAlif

---

[12]The glyph الله is taken from the font Traditional Arabic. In Scheherazade its design is rather suboptimal: الله.

[13]My research on Arabic fonts available or known to me yields the following picture: The fonts that do not display the initial alif in the ligature FDF2 include those provided by Linotype; the great majority of those licensed to or developed by Microsoft (I could verify it for Times New Roman, Arial, Courier New, Microsoft Sans Serif, Arabic Transparent, Simplified Arabic, Simplified Arabic Fixed, WinSoft Serif Pro, Traditional Arabic, Andalus, Old Antic Bold, Old Antic Decorated and Farsi Simple Bold); the fonts distributed by Arabeyes.org; SIL's Lateef; and the fonts developed by CRULP in Pakistan. The Unicode-conformant fonts, on the other hand, are: SIL's Scheherazade, Adobe Arabic (distributed with the Middle-Eastern version of the latest Adobe Reader 7), Arial Unicode MS, and Arabic Typesetting (distributed with VOLT and with Microsoft Office Proofing Tools 2003).

[14]This currently does not work with Scheharazade, but the developers are aware of the issue.

[15]This has the unfortunate consequence of doubling the number of mappings shipped with ArabXƎTEX. But since their size is small, it is more an esthetic annoyance than a practical one.

The font Adobe Arabic has in addition the ligature *fa-li-llāh*: *fā faṭḥa lām kasra lām hāʾ* → فَلِلّٰه, which can be entered in ArabTEX notation as \textarab{falilh}. In this particular case we also provide the input convention FALILLAH.

3.4 Transliteration

\SetTranslitConvention

At the moment transliteration mappings are provided for Arabic, Persian, Urdu, Sindhi and Pashto. The rest may be provided in a future version. As a rule the default conventions provided are those of the Library of Congress. ←For Arabic the alternative transliteration of the Deutsche Morgenländische Gesellschaft is also available (but should be still considered experimental). You can set it with the command \SetTranslitConvention{dmg}. To switch back to the Library of Congress transliteration, type \SetTranslitConvention{loc}. Additional conventions for other languages, as with ArabTEX, *e.g.,* Encyclopedia of Islam, Encyclopedia Iranica, etc., might be added later.[16]

\SetTranslitStyle
\UC

Transliteration is set in italics by default. This can be changed by declaring, e.g., \SetTranslitStyle{\upshape}. To transliterate proper nouns with capitals, prefix the words to be capitalized with \UC:

```
\begin{arab}[trans]
al-^say_h al-`Alim \UC na.sIr \UC al-dIn \UC al-.tUsI
\end{arab}
```

al-shaykh al-ʿālim Naṣīr al-Dīn al-Ṭūsī
Note that the article *al-* is automatically skipped. Note also that since the transliteration is coded in Unicode at the level of the font-mapping, it is necessary that the font contains all required glyphs.[17]

3.5 Typesetting critical editions with ednotes

In conjunction with bidi, the ednotes package makes it wonderfully easy to typeset critical editions of texts in Arabic script (or other RTL scripts).[18] The direction of each level of footnotes can be controlled by means of \SetFootnoteHook{\setRL} (or \setLR) right before the declaration \DeclareNewFootnote{X}[…]. Here is an

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[16]It is suggested that you contact the author if you have such needs.

[17]See Appendix B for a list of recommended Unicode fonts that cover the full LATIN EXTENDED ADDITIONAL plane.

[18]The package ledmac has not been extensively tested with bidi yet, but our initial trials were not successful.

example preamble that might be used for typesetting a critical edition with ednotes and ArabX E TEX.[19] See the ednotes documentation for more details.[20]

```
\usepackage[modulo,perpage,para*]{ednotes}%this calls manyfoot.sty and lineno.sty
\usepackage{arabxetex}

% make \footnoterule of \textwidth
\makeatletter%
\renewcommand{\footnoterule}{\kern-3\p@
  \hrule width \textwidth \kern 2.6\p@}
\makeatother

\modulolinenumbers[5]
% this is to set linenumbering in Arabic:
\renewcommand{\linenumberfont}{\arabicfont\addfontfeature{Mapping=arabicdigits}\tiny}

\renewcommand{\extrafootnoterule}{}
\SelectFootnoteRule[0]{extra}
\SetFootnoteHook{\unsetRL}%--> must appear immediately before \DeclareNewFootnote
%% For ednotes the command \PrecedeLevelWith{X}{hook} is available
\DeclareNewFootnote{B}[fnsymbol]
\renewcommand*{\differentlines}[2]{\linesfmt{\RL{#1$-$#2}}}%
\renewcommand*{\linesfmt}[1]{\raisebox{1ex}{\linenumberfont #1}~}%
\renewcommand{\lemmafmt}[1]{#1~[ }%
%Custom macros to enter variants, additions, omissions, illegible passages,
% text above the line, marginal notes, lacunae, and restorations:
\newcommand{\VAR}[2]{\Anote{\textarab{#1}}{\textarab{#2}}}
\newcommand{\ADD}{\textroman{\textbf{+}}\,}% or \textarab{zAyid fI}\
\newcommand{\OM}{\textroman{\textbf{\char"2013}}\,}% or \textarab{nAqi.s fI}\
\newcommand{\ILLEG}{\textarab{.gayr maqrU' fI}\ }
\newcommand{\BLANK}{\textarab{bayA.d fI}\ }
\newcommand{\SUPERLIN}{\textarab{ta.ht al-sa.tr fI}\ }
\newcommand{\MARG}{\textarab{bi-al-hAmi^s fI}\ }
\newcommand{\LACUNA}{\textroman{\textlangle~{\dots}~\textrangle}}
\newcommand{\RESTOR}[1]{\textroman{\textrangle}#1\textroman{\textlangle}}
% to separate lemmas in different manuscripts:
\def\SEP{\enskip$\Vert$\enskip}
```

---

[19]Of course if the edition is typed directly in UTF-8 encoding, the use of ArabX E TEX is by no means compulsory. Yet see the remarks in § 2.1 above.

[20]http://www.ctan.org/tex-archive/macros/latex/contrib/ednotes/ednotugb.pdf. See also http://www.webdesign-bu.de/uwe_lueck/critedltx.html.

For a real-life example of how to use ednotes with ArabXƎTEX, see the file
ednotes_example.tex which comes with this package.

4   Tabular overview of ArabTEX encoding conventions

The table is arranged alphabetically following the most signicant letter of the ASCII
input code. Color convention: red means that the glyph is the default for the given
input code, and that it is available in all languages except those where different glyphs
are shown (in black). That default glyph is also displayed in light gray under each
language in which it is featured. Glyphs in blue are archaic forms (*e.g.,* old Urdu).
An asterisk after the Unicode number means that the character was not available
with ArabTEX. Green glyphs are special: either they are used to represent defective
writing or they provide characters for other languages. Those shown in the column
for Arabic are available by default. See the relevant notes at the end.

code	ar	fa	ur	ps	sd	tr	ku	ks	ms	ug
a	◌َ 064E						ئا/ل			
A	ا 0627						ئا/ل			
. a								ء 0654		
. A								أ 0672		
_a	◌ٰ 0670									
_A	ـىَ									
: a										ئه
b	ب 0628	ب	ب	ب	ب	ب	ب	ب	ب	ب
B	ـ 0640									
. b	ب 066E									
: b					ٻ 067B					
bh					ڀ 0680					
c					ڃ 0681	ج 062C			چ 0686	

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code	ar	fa	ur	ps	sd	tr	ku	ks	ms	ug
, c				څ 0685		چ 0686	چ 0686			
^c	چ	چ 0686	چ	چ	چ	چ	چ	چ	چ	چ
^ch					ڇ 0687					
: c				ڂ 0682*						
. ^c	ڿ 06BF*									
d	د 062F	د	د	د	د	د	د	د	د	د
. d	ض 0636	ض	ض	ض	ض	ض	ض	ض	ض	ض
, d			ڈ 0688	ډ 0689	ڊ 068A					
. , d			ڋ 068B* *a*							
^d	ڮ 06EE*				ڎ 068E*					
_d	ذ 0630	ذ	ذ	ذ	ذ	ذ	ذ	ذ	ذ	
: d					ڏ 068F					
: : d			ڐ 0690*							
dh					ڌ 068C					
, dh					ڍ 068D					
e		ِ	ٟ	ٙ 0659	ٕ		ئە/ه	ےٚ 06D2+0658		ې 06D0
E		ﮯ	ے 06D2	ﯦ 06D0			ئئ/ىئ	ے 06D2		
ee				ئ						
ae	ـَي		ـَے	ـَئ	ـَي					
Ee				ـى 06CD						
_e		ٚ								

code	ar	fa	ur	ps	sd	tr	ku	ks	ms	ug
'e							عه			
'E			ئے 06D3							
f	ف 0641	ف	ف	ف	ف	ف	ف	ف	ف	ف
.f	ڡ 06A1									
g		گ 06AF	گ	ګ	گ	گ	گ	گ	ڭ 0762	گ
G				ګ 06AB						
.g	غ 063A	غ	غ	غ	غ	غ	غ	غ	غ	
:g					ڳ 06B3					
.:g					ڴ 06B4*					
,g	ڬ 06AC _b_									
^g	ج 062C	ج	ج	ج	ج	ݝ 06A0	غ 063A	ج	ݝ 06A0	غ 063A
gh					گھ					
h	ه 0647	ه	ھ 06BE	ه	ه	ه	ه	ه	ه	ه
H		ه 0647	ة 06C3	ه 0647						
.h	ح 062D	ح	ح	ح	ح	ح	ح	ح	ح	
,h			ہ 06C1					ه		
_h	خ 062E	خ	خ	خ	خ	خ	خ	خ	خ	
i	ِ 0650									ۮ 066E
I	ي 064A	ی 06CC	ى	ى	ي	ی	ئي/ـي	ى	ي	
.I	ى 06CC*									
_i	ٖ 0656									

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code	ar	fa	ur	ps	sd	tr	ku	ks	ms	ug
j	ج 062C	ج	ج	ج	ج	ژ 0698	ژ 0698	ج	ج	ج
:j					ڄ 0684					
jh					جھ 06A9					
k	ك 0643	ك	ك	ك	ڪ 06AA	ك	ك	ك	ك	ك
.k	ک 06A9					ق 0642				
_k	غ 063A									
kh					ک					
l	ل 0644	ل	ل	ل	ل	ل	ل	ل	ل	ل
.l							ڶ 06B6*			
^l							ڵ 06B5			
m	م 0645	م	م	م	م	م	م	م	م	م
.mIN					۾ 06FE					
'|IN					۽ 06FD					
n	ن 0646	ن	ن	ن	ن	ن	ن	ن	ن	ن
aN	ً 064B									
uN	ٌ 064C									
iN	ٍ 064D									
.n			ں 06BA							
..n					ڲ 06B2*					
,n				ڼ 06BC	ڻ 06BB					
^n					ڃ 0683				ڽ 06BD	ڭ 06AD

code	ar	fa	ur	ps	sd	tr	ku	ks	ms	ug
:n					گؔ 06B1					
o		ـُ		ـٔ 0657			ئۆ/ـۆ	ـۆ 06C6		ـو
0		ـو	ـو	ـُؤ			ئۆ/ـۆ	ـو		
ao			ـَو		ـَو					
.o								ـۈ 06C4		
.0								ـوَاٰ		
_o		ـٔ								
_0		ـُؤ								
:o										ئۆ/ـۆ 06C6
:0	غ 06FC									
p		پ 067E	پ	پ	پ	پ	پ	پ	ڨ 06A8	پ
ph					ڦ 06A6					
q	ق 0642	ق	ق	ق	ق	ق	ق	ق	ق	ق
.q	ڧ 066F									
r	ر 0631	ر	ر	ر	ر	ر	ر	ر	ر	ر
.r	ڔ 0694*						ڕ 0695			
,r			ڑ 0691	ړ 0693	ڙ 0699		ڔ 0694*			
^r	گ 06EF*						ڒ 0692*			
:r	ڗ ^c 0697*									
s	س 0633	س	س	س	س	س	س	س	س	س
.s	ص 0635	ص	ص	ص	ص	ص	ص	ص	ص	

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code	ar	fa	ur	ps	sd	tr	ku	ks	ms	ug
,s				بښ 069A		ش 0634				
^s	ش 0634	ش	ش	ش	ش	ش	ش	ش	ش	ش
_s					ث 062B					
:s	پښ 069B									
t	ت 062A	ت	ت	ت	ت	ت	ت	ت	ت	ت
T	ة 062A							ة		
.t	ط 0637	ط	ط	ط	ط	ط	ط	ط	ط	
,t			ٹ 0679	ٹپ 067C	ٽ 067D					
_t	ث 062B	ث	ث		ث	ث	ث	ث	ث	
th					ٿ 067F					
,th					ٺ 067A					
u	ـُ 064F	ـُ	ـُ	ـُ	ـُ	ـُ	ئو/ـو	ـُ	ـُ	ئۇ/ـۇ 06C7
U	ـُو	ـُو	ـُو	ـُو	ـُو	ـُو	ئوو/ـوو	ماؤ 0648+0657	ـُو	
.u								ٕء 0655		
.U								اٟ 0673		
_u	ـٗ 0657									
:u										ئۆ/ـۆ 06C8
:U	ۇ 06C7 *d*									
v	ڤ 06A4 *e*								ۏ 06CF	
w	و 0648	و	و	و	و	و	و	و	و	ۋ 06CB
W	وا									

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code	ar	fa	ur	ps	sd	tr	ku	ks	ms	ug
^w	وُ 06C9*									
:w	قُ 06CA*									
x	خ 062E	خ	خ	خ	خ	خ	خ	خ	خ	خ
y	ي 064A	ی 06CC	ی	ی	ي	ی	ي	ی	ي	ي
Y	ى 0649									
.y								ِ		
z	ز 0632	ز	ز	ز	ز	ز	ز	ز	ز	ز
.z	ظ 0638	ظ	ظ	ظ	ظ	ظ	ظ	ظ	ظ	
,z				ږ 0696		ض 0636				
^z		ژ 0698	ژ	ژ				ژ		ژ
_z	ذ *f* 0630									
:z								ض 0636		
'	ء 0621	ء	ء	ء	ء	ء	ء	ء	ء	ئ
`	ع 0639	ع	ع	ع	ع	ع	ع	ع	ع	

[a] For Western Punjabi (Lahnda).
[b] Alternative form of ک in Malay.
[c] For Dargwa (language of Dagestan).
[d] For Kirgiz (and Uighur).
[e] To transliterate dialects and foreign words.
[f] Alternative to _d.

Maghribi Arabic is identical to Arabic except for the three letters f, q and v which yield the glyphs ڢ (U+06A2), ڧ (U+06A7), and ڥ (U+06A5), respectively.

5 Unicode-Encoding concordance

060B	ڋ			062E	خ	_h/x
060C	،	,		062F	د	d
060D	؍			0630	ذ	_d
060E	؎			0631	ر	r
060F	؏			0632	ز	z
0610				0633	س	s
0611	ؑ			0634	ش	^s
0612	ؒ			0635	ص	.s
0613	ؓ			0636	ض	.d
0614	ؔ			0637	ط	.t
0615	ؕ			0638	ظ	.z
061B	؛	;		0639	ع	'
061E	؞	::/DOTS		063A	غ	.g
061F	؟	?		0640	ـ	B
0621	ء	|"' *or context*		0641	ف	f
0622	آ	A"' *or context*		0642	ق	q
0623	أ	a"' *or context*		0643	ك	k
0624	ؤ	w"' *or context*		0644	ل	l
0625	إ	i"' *or context*		0645	م	m
0626	ئ	y"' *or context*		0646	ن	n
0627	ا	A		0647	ه	h
0628	ب	b		0648	و	w
0629	ة	T		0649	ى	Y
062A	ت	t		064A	ي	y
062B	ث	_t		064B	ً	aN
062C	ج	^g/j		064C	ٌ	uN
062D	ح	.h		064D	ٍ	iN

064E	َ	a	066A	٪	\^^A	
064F	ُ	u	%			
0650	ِ	i	066B	ر		
0651	ّ		066C	،	,	
0652	ْ	" *after a consonant or* °	066D	★	*	
0653	ٓ	^U	066E	ٮ	.b, *i uighur*	
0654	ٔ	'B	066F	ٯ	.f	
0655	ٕ	.u *kashmiri*	0670	ٰ	_a	
0656	ٖ	I *kashmiri*	0671	ٱ	*automatic*	
0657	ٗ	o *pashto*	0672	ٲ	.A *kashmiri*	
0658	٘	*see kashmiri* e	0673	ٳ	.U *kashmiri*	
0659	ٙ	e *pashto*	0674	ٴ		
065A	ٚ		0675	ٵ		
065B	ٛ		0676	ٶ		
065C	ٜ		0677	ٷ		
065D	ٝ		0678	ٸ		
065E	ٞ		0679	ٹ	,t	
0660	٠	0	067A	ٺ	,th	
0661	١	1	067B	ٻ	:b	
0662	٢	2	067C	ټ	,t	
0663	٣	3	067D	ٽ	,t	
0664	٤	4	067E	پ	p	
0665	٥	5	067F	ٿ	th	
0666	٦	6	0680	ڀ	bh	
0667	٧	7	0681	ځ	c	
0668	٨	8	0682	ڂ	:c	
0669	٩	9	0683	ڃ	^n	

0684	‍	:j	069F	ظ	
0685	خ	,c	06A0	غ	^g *ottoman+malay*
0686	چ	^c, c *malay*	06A1	ڡ	.f
0687	چ	^ch *sindhi*	06A2	ٻ	f
0688	ڈ	,d	06A3	ڣ	
0689	ډ	,d *pashto*	06A4	ڤ	v, p *malay*
068A	ڊ	,d *sindhi*	06A5	ڥ	v *maghribi*
068B	ڋ	.,d	06A6	ڦ	ph *sindhi*
068C	ڌ	dh *sindhi*	06A7	ڧ	q
068D	ڍ	,dh *sindhi*	06A8	ڨ	p
068E	ڎ	^d *sindhi*	06A9	ک	.k
068F	ڏ	:d	06AA	ڪ	k
0690	ڐ	::d *urdu*	06AB	ګ	G
0691	ڑ	,r	06AC	ڬ	,g
0692	ڒ	^r *kurdish*	06AD	ڭ	^n
0693	ړ	,r *pashto*	06AE	ڮ	
0694	ڔ	.r, ,r *kurdish*	06AF	گ	g
0695	ڕ	.r *kurdish*	06B0	ڰ	
0696	ږ	,z	06B1	ڱ	:n
0697	ڗ	:r	06B2	ڲ	..n *sindhi*
0698	ژ	^z, j *ottoman*	06B3	ڳ	:g
0699	ڙ	:s	06B4	ڴ	.:g *sindhi*
069A	ښ	,s	06B5	ڵ	^l
069B	ڛ	:s	06B6	ڶ	.l
069C	ڜ		06B7	ڷ	
069D	ڝ		06B8	ڸ	
069E	ڞ		06B9	ڹ	

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06BA	ں	.n	06D4	۔	.. *urdu*
06BB	ڻ	,n *sindhi*	06D5	ە	
06BC	ڼ	,n	06D6	ۖ	^SLY
06BD	ڽ	^n *malay*	06D7	ۗ	^QLY
06BE	ھ	h *urdu*	06D8	ۘ	^MIM
06BF	ڿ	.^c	06D9	ۙ	^LA
06C0	ۀ	h″' *or context*	06DA	ۚ	^JIM
06C1	ہ	,h	06DB	ۛ	^DOTS
06C2	ۂ	H- (+ *ezafe*)[21] *urdu*	06DC	ۜ	^SIN
06C3	ۃ	H *urdu*	06DD	۝	[[<digits>]]
06C4	ۄ	.o *kashmiri*	06DE	۞	HIZB
06C5	ۅ		06DF	۟	CIRCZERO
06C6	ۆ	o *kashmiri* , :o *uighur*	06E0	۠	RECTZERO
06C7	ۇ	:U, u *uighur*	06E1	ۡ	^JAZM
06C8	ۈ	:u *uighur*	06E2	ۢ	^MIM
06C9	ۉ	^w	06E3	ۣ	_SIN
06CA	ۊ	:w	06E4	ۤ	^MADDA
06CB	ۋ	w *uighur*	06E5	ۥ	WAW
06CC	ی	y/I *farsi, etc.*,	06E6	ۦ	YEH
		.I *arabic, sindhi, malay*	06E7	ۧ	^YEH
06CD	ۍ	Ee *pashto*	06E8	ۨ	^NUN
06CE	ێ		06E9	۩	SAJDA
06CF	ۏ	v *malay*	06EA	۪	_STOP
06D0	ې	E *pashto*, e *uighur*	06EB	۫	^STOP
06D1	ۑ		06EC	۬	^RSTOP
06D2	ے	E *urdu+kashmiri*	06ED	ۭ	_MIM
06D3	ۓ	'E *urdu*	06EE	ۮ	^d

06EF	ۯ	^r	0759	ڙ	
06F0	۰	0 *persian, urdu, etc.*	075A	ښ	
06F1	۱	1 *persian, urdu, etc.*	075B	ڛ	
06F2	۲	2 *persian, urdu, etc.*	075C	ڜ	
06F3	۳	3 *persian, urdu, etc.*	075D	ڝ	
06F4	۴	4 *persian, urdu, etc.*	075E	ڞ	
06F5	۵	5 *persian, urdu, etc.*	075F	ڟ	
06F6	۶	6 *persian, urdu, etc.*	0760	ڠ	
06F7	۷	7 *persian, urdu, etc.*	0761	ڡ	
06F8	۸	8 *persian, urdu, etc.*	0762	ڢ	g *malay*
06F9	۹	9 *persian, urdu, etc.*	0763	ڣ	
06FA	ۺ		0764	ڤ	
06FB	ۻ		0765	ڥ	
06FC	ۼ	:0	0766	ڦ	
06FD	۽	.|IN *sindhi*	0767	ڧ	
06FE	۾	.MIN *sindhi*	0768	ڨ	
06FF	ۿ		0769	ک	

Arabic Supplement

0750	ݐ	076A	ݪ	
0751	ݑ	076B	ݫ	
0752	ݒ	076C	ݬ	
0753	ݓ	076D	ݭ	

Presentation Forms *

0754	ݔ	FD3E	﴾	))
0755	ݕ	FD3F	﴿	((
0756	ݖ	FDF0	ﷰ	SALLASTOP
0757	ݗ	FDF1	ﷱ	QALA
0758	ݘ	FDF2	ﷲ	al-ll_ah or ALLAH **

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FDF3	اكبر	AKBAR	FDFA	ﷺ	SLM
FDF4	محمد	MUHAMMAD	FDFB	ﷻ	JALLA
FDF5	صلعم	SALAM	FDFC	ريال	RIYAL
FDF6	رسول	RASUL or RASOUL	FDFD	﷽	BASMALA
FDF7	عليه	ALAYHI or ALAYHE	**Non-Unicode Ligatures**		
FDF8	وسلم	WASALLAM		لله	ll_ah or LLAH **
FDF9	صلى	SALLA		فَلِلّه	FALILLAH ***

Notes

* Since most of these glyphs are not present in Scheherazade (and, with a few exceptions, are very rarely featured in other fonts), for illustration purposes we have taken FDF0, FDF1, FDF3–FDF9 and FDFB from Arial Unicode MS, FDFA from Adobe Arabic, and FDFD from AGA Arabesque.

** See § 3.3.1

*** Specific to the font Adobe Arabic

A Notes on available free and commercial fonts for the Perso-Arabic script

TO BE COMPLETED
- 'Scheherazade' and 'Lateef' from SIL
- 'Adobe Arabic'
- Free fonts from Arabeyes.org
- ...
- Arabic fonts on Mac OS X: 'Geeza Pro', 'DecoType Naskh', ...more?
  → Help needed to test those fonts!
- 'Arabic Typesetting' and other Arabic fonts licensed to Microsoft
- Commercial fonts by vendors:
  – Linotype GmbH: ...
  – AGFA Monotype: ...
  – ParaType: ...
  – ...

B Recommended Unicode fonts for transliterating Oriental languages

Here follows a list of open source and freeware fonts with full LATIN EXTENDED ADDITIONAL coverage.[22]
- Gentium, Doulos, Charis: http://scripts.sil.org/FontDownloads
- Junicode: http://junicode.sourceforge.net/
- Libertine: http://linuxlibertine.sourceforge.net/
- DejaVu Serif / Sans / Sans Mono: http://dejavu.sourceforge.net/wiki/index.php/Main_Page
- Lucida Grande: Mac OS X
- TITUS Cyberbit Basic: http://titus.fkidg1.uni-frankfurt.de/unicode/tituut.asp
- Thryomanes: ftp://ftp.io.com/pub/usr/hmiller/fonts/Thryomanes12.zip
- jGaramond: http://www.janthor.de/jGaramond/
- Everson Mono Unicode (shareware): http://www.evertype.com/emono/
- Arial Unicode MS: Windows
- Microsoft Sans Serif: Windows
- FreeSerif / FreeSans / FreeMono: http://savannah.nongnu.org/projects/freefont/
- Roman Unicode: http://everywitchway.net/linguistics/fonts/roman.html
- Chrisanthi Unicode: http://everywitchway.net/linguistics/fonts/chrysuni.html
- HindSight Unicode (not very nice): http://dartcanada.tripod.com/Objets/Zips/HindUnic.zip
- AbRoman: http://www.languagegeek.com/font/fontdownload.html

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[22]See this webpage for more details.

- Garava: http://www.aimwell.org/Fonts/fonts.html
- Verajja (based on Bitstream Vera Sans, so very similar to DejaVu Sans): http://www.aimwell.org/Fonts/fonts.html
- Legendum: http://home.kabelfoon.nl/~slam/fonts/fonts.html
- Code2000 (shareware): http://www.code2000.net

C   Implementation

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{arabxetex}
3   [2008/07/16 v1.1.2 ArabTeX-like interface for XeLaTeX]
4 %
5 \DeclareOption{fullvoc}{\def\ax@mode{fullvoc}}
6 \DeclareOption{voc}{\def\ax@mode{voc}}
7 \DeclareOption{novoc}{\def\ax@mode{novoc}}
8 \DeclareOption{trans}{\def\ax@mode{trans}}
9 \DeclareOption{utf}{\def\ax@mode{utf}}
10 \DeclareOption{fdf2alif}{\def\ax@font@allah{fdf2alif}}
11 \DeclareOption{fdf2noalif}{\def\ax@font@allah{fdf2noalif}}
12 \newif\ifmirror@punct\mirror@punctfalse
13 \DeclareOption{mirrorpunct}{\mirror@puncttrue}
14 \ExecuteOptions{novoc,fdf2alif}
15 \ProcessOptions
16 \def\ax@mode@fullvoc{fullvoc}
17 \def\ax@mode@voc{voc}
18 \def\ax@mode@novoc{novoc}
19 \def\ax@mode@trans{trans}
20 \def\ax@mode@utf{utf}
21 \newif\ifax@mode@defined
22 \def\ax@ismode@defined#1{%
23 \ifcsname ax@mode@#1\endcsname%
24 \ax@mode@definedtrue%
25 \else%
26 \ax@mode@definedfalse%
27 \fi}
28 \def\ax@lang{arab}%default language (for macros like \aemph)
29 \RequirePackage{bidi}
30 \RequirePackage{amsmath}%because of macro \overline used in \aemph
31 \RequirePackage{fontspec}
32 \AtBeginDocument{\ifdefined\arabicfont\relax\else%
33 \PackageWarning{arabxetex}{\string\arabicfont\ is not defined!^^JI will try to load Scheherazade}%
34 \newfontfamily\arabicfont[Script=Arabic,Scale=2]{Scheherazade}%
```

```
35 \let\tmp@baselineskip=\baselineskip%
36 \baselineskip=2*\tmp@baselineskip%
37 \fi%
38 }%
39 \def\ax@trans@style{\itshape}%
40 \newcommand{\SetTranslitStyle}[1]{\def\ax@trans@style{#1}}
41 \newcommand{\SetTranslitConvention}[1]{\def\ax@trans@convention{#1}}
42 \def\ax@trans@convention{loc}% Library of Congress is default
43 \newcommand{\SetAllahWithAlif}{\def\ax@font@allah{fdf2alif}}
44 \newcommand{\SetAllahWithoutAlif}{\def\ax@font@allah{fdf2noalif}}
45 \def\utf@fontfeature{\ifmirror@punct\addfontfeature{Mapping=mirrorpunct}\else\relax\fi}
46 \def\arabtex@codes{\catcode'^=11\relax\catcode'_=11\relax}
47 \def\UC{\char"E000} % This is used to capitalize the following letter (ig-
   noring
48     % article al-) in transliteration mode
49 %%%Font setup
50 \def\ax@farsi@font{\ifdefined\farsifont\farsifont\else\arabicfont\fi}
51 \def\ax@urdu@font{\ifdefined\urdufont\urdufont\else\arabicfont\fi}
52 \def\ax@pashto@font{\ifdefined\pashtofont\pashtofont\else\arabicfont\fi}
53 \def\ax@maghribi@font{\ifdefined\maghribifont\maghribifont\else\arabicfont\fi}
54 \def\ax@sindhi@font{\ifdefined\sindhifont\sindhifont\else\arabicfont\fi}
55 \def\ax@kashmiri@font{\ifdefined\kashmirifont\kashmirifont\else\arabicfont\fi}
56 \def\ax@ottoman@font{\ifdefined\ottomanfont\ottomanfont\else\arabicfont\fi}
57 \def\ax@kurdish@font{\ifdefined\kurdishfont\kurdishfont\else\arabicfont\fi}
58 \def\ax@malay@font{\ifdefined\malayfont\malayfont\else\arabicfont\fi}
59 \def\ax@uighur@font{\ifdefined\uighurfont\uighurfont\else\arabicfont\fi}
60 \def\ax@urdu@font{\ifdefined\urdufont\urdufont\else\arabicfont\fi}
61
62 \newenvironment{arab}[1][\ax@mode]%
63 {\edef\@tempa{#1}%
64 \def\ax@lang{arab}%
65 \ax@ismode@defined{\@tempa}%
66 \ifax@mode@defined%
67 \ifx\@tempa\ax@mode@trans%
68 \par\arabtex@codes\ax@trans@style%
69 \addfontfeature{Mapping=arabtex-trans-\ax@trans@convention}%
70 \else%
71 \ifx\@tempa\ax@mode@utf%
72 \par\setRL\arabicfont\utf@fontfeature%
73 \else%
74 \par\setRL\arabicfont\arabtex@codes%
75 \addfontfeature{Mapping=arabtex-\ax@font@allah-\@tempa}%
76 \fi\fi%
```

```
77 \else%
78 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
79 \par\setRL\arabicfont\arabtex@codes%
80 \addfontfeature{Mapping=arabtex-\ax@font@allah-\ax@mode}%
81 \fi}
82 {\ifx\@tempa\ax@mode@trans\relax\else\unsetRL\fi\par}
83 \let\Arabic=\arab%
84 %%%
85 \newenvironment{maghribi}[1][\ax@mode]%
86 {\edef\@tempa{#1}%
87 \def\ax@lang{maghribi}%
88 \ax@ismode@defined{\@tempa}%
89 \ifax@mode@defined%
90 \ifx\@tempa\ax@mode@trans%
91 \par\arabtex@codes\ax@trans@style%
92 \addfontfeature{Mapping=arabtex-trans-\ax@trans@convention}%
93 \else%
94 \ifx\@tempa\ax@mode@utf%
95 \par\setRL\ax@maghribi@font\utf@fontfeature%
96 \else%
97 \par\setRL\ax@maghribi@font\arabtex@codes%
98 \addfontfeature{Mapping=arabtex-\ax@font@allah-maghribi-\@tempa}%
99 \fi\fi%
100 \else%
101 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
102 \par\setRL\ax@maghribi@font\arabtex@codes%
103 \addfontfeature{Mapping=arabtex-\ax@font@allah-maghribi-\ax@mode}%
104 \fi}
105 {\ifx\@tempa\ax@mode@trans\relax\else\unsetRL\fi\par}
106 %%%
107 \newenvironment{farsi}[1][\ax@mode]%
108 {\edef\@tempa{#1}%
109 \def\ax@lang{farsi}%
110 \ax@ismode@defined{\@tempa}%
111 \ifax@mode@defined%
112 \ifx\@tempa\ax@mode@trans%
113 \par\arabtex@codes\ax@trans@style%
114 \addfontfeature{Mapping=arabtex-farsi-trans-\ax@trans@convention}%
115 \else%
116 \ifx\@tempa\ax@mode@utf%
117 \par\setRL\ax@farsi@font\utf@fontfeature%
118 \else%
119 \par\setRL\ax@farsi@font\arabtex@codes%
```

```
120 \addfontfeature{Mapping=arabtex-\ax@font@allah-farsi-\@tempa}%
121 \fi\fi%
122 \else%
123 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
124 \par\setRL\ax@farsi@font\arabtex@codes%
125 \addfontfeature{Mapping=arabtex-\ax@font@allah-farsi-\ax@mode}%
126 \fi}
127 {\ifx\@tempa\ax@mode@trans\relax\else\unsetRL\fi\par}
128 \let\persian=\farsi
129 %%%
130 \newenvironment{urdu}[1][\ax@mode]%
131 {\edef\@tempa{#1}%
132 \def\ax@lang{urdu}%
133 \ax@ismode@defined{\@tempa}%
134 \ifax@mode@defined%
135 \ifx\@tempa\ax@mode@trans%
136 \par\arabtex@codes\ax@trans@style%
137 \addfontfeature{Mapping=arabtex-urdu-trans-\ax@trans@convention}%
138 \else%
139 \ifx\@tempa\ax@mode@utf%
140 \par\setRL\ax@urdu@font\addfontfeature{Language=Urdu}%Mapping=arabtex-utf}%
141 \else%
142 \par\setRL\ax@urdu@font\arabtex@codes%
143 \addfontfeature{Mapping=arabtex-\ax@font@allah-urdu-\@tempa}%
144 \fi\fi%
145 \else%
146 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
147 \par\setRL\ax@urdu@font\arabtex@codes%
148 \addfontfeature{Mapping=arabtex-\ax@font@allah-urdu-\ax@mode}%
149 \fi}
150 {\ifx\@tempa\ax@mode@trans\relax\else\unsetRL\fi\par}
151 %%%
152 \newenvironment{pashto}[1][\ax@mode]%
153 {\edef\@tempa{#1}%
154 \def\ax@lang{pashto}%
155 \ax@ismode@defined{\@tempa}%
156 \ifax@mode@defined%
157 \ifx\@tempa\ax@mode@trans%
158 \par\arabtex@codes\ax@trans@style%
159 \addfontfeature{Mapping=arabtex-pashto-trans-\ax@trans@convention}%
160 \else%
161 \ifx\@tempa\ax@mode@utf%
162 \par\setRL\ax@pashto@font\utf@fontfeature%
```

```
163 \else%
164 \par\setRL\ax@pashto@font\arabtex@codes%
165 \addfontfeature{Mapping=arabtex-\ax@font@allah-pashto-\@tempa}%
166 \fi\fi%
167 \else%
168 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
169 \par\setRL\ax@pashto@font\arabtex@codes%
170 \addfontfeature{Mapping=arabtex-\ax@font@allah-pashto-\ax@mode}%
171 \fi}
172 {\ifx\@tempa\ax@mode@trans\relax\else\unsetRL\fi\par}
173 %%%
174 \newenvironment{sindhi}[1][\ax@mode]%
175 {\edef\@tempa{#1}%
176 \def\ax@lang{sindhi}%
177 \ax@ismode@defined{\@tempa}%
178 \ifax@mode@defined%
179 \ifx\@tempa\ax@mode@trans%
180 \par\arabtex@codes\ax@trans@style%
181 \addfontfeature{Mapping=arabtex-sindhi-trans-\ax@trans@convention}%
182 \else%
183 \ifx\@tempa\ax@mode@utf%
184 \par\setRL\ax@sindhi@font\addfontfeature{Language=Sindhi}%Mapping=arabtex-utf}%
185 \else%
186 \par\setRL\ax@sindhi@font\arabtex@codes%
187 \addfontfeature{Mapping=arabtex-\ax@font@allah-sindhi-\@tempa,Language=Sindhi}%
188 \fi\fi%
189 \else%
190 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
191 \par\setRL\ax@sindhi@font\arabtex@codes%
192 \addfontfeature{Mapping=arabtex-\ax@font@allah-sindhi-\ax@mode,Language=Sindhi}%
193 \fi}
194 {\ifx\@tempa\ax@mode@trans\relax\else\unsetRL\fi\par}
195 %%%
196 \newenvironment{ottoman}[1][\ax@mode]%
197 {\edef\@tempa{#1}%
198 \def\ax@lang{ottoman}%
199 \ax@ismode@defined{\@tempa}%
200 \ifax@mode@defined%
201 %\ifx\@tempa\ax@mode@trans%
202 % \par\arabtex@codes\ax@trans@style%
203 % \addfontfeature{Mapping=arabtex-turk-trans-\ax@trans@convention}%
204 %\else%
205 \ifx\@tempa\ax@mode@utf%
```

```
206 \par\setRL\ax@ottoman@font\utf@fontfeature%
207 \else%
208 \par\setRL\ax@ottoman@font\arabtex@codes%
209 \addfontfeature{Mapping=arabtex-\ax@font@allah-turk-\@tempa}%
210 \fi%\fi%
211 \else%
212 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
213 \par\setRL\ax@ottoman@font\arabtex@codes%
214 \addfontfeature{Mapping=arabtex-\ax@font@allah-turk-\ax@mode}%
215 \fi}
216 {%\ifx\@tempa\ax@mode@trans\relax\else
217 \unsetRL%\fi
218 \par}
219 \let\turk=\ottoman
220 %%%
221 \newenvironment{kurdish}[1][]%
222 {\def\ax@lang{kurdish}%
223 %\edef\@tempa{#1}%
224 %\ifx\@tempa\ax@mode@trans%
225 % \par\arabtex@codes\ax@trans@style%
226 % \addfontfeature{Mapping=arabtex-kurdish-trans-\ax@trans@convention}%
227 %\else%
228 \ifx\@tempa\ax@mode@utf%
229 \par\setRL\ax@kurdish@font\addfontfeature{Language=Kurdish}%Mapping=arabtex-
       utf}%
230 \else%
231 \par\setRL\ax@kurdish@font\arabtex@codes%
232 \addfontfeature{Mapping=arabtex-\ax@font@allah-kurdish,Language=Kurdish}%
233 \fi}
234 {%\ifx\@tempa\ax@mode@trans\relax\else
235 \unsetRL%\fi
236 \par}
237 %%%
238 \newenvironment{kashmiri}[1][\ax@mode]%
239 {\edef\@tempa{#1}%
240 \def\ax@lang{kashmiri}%
241 \ax@ismode@defined{\@tempa}%
242 \ifax@mode@defined%
243 %\ifx\@tempa\ax@mode@trans%
244 % \par\arabtex@codes\ax@trans@style%
245 % \addfontfeature{Mapping=arabtex-\ax@font@allah-kashmiri-trans-\ax@trans@convention}%
246 %\else%
247 \ifx\@tempa\ax@mode@utf%
```

```
248 \par\setRL\ax@kashmiri@font\utf@fontfeature%
249 \else%
250 \par\setRL\ax@kashmiri@font\arabtex@codes%
251 \addfontfeature{Mapping=arabtex-\ax@font@allah-kashmiri-\@tempa}%
252 \fi%\fi%
253 \else%
254 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
255 \par\setRL\ax@kashmiri@font\arabtex@codes%
256 \addfontfeature{Mapping=arabtex-\ax@font@allah-kashmiri-\ax@mode}%
257 \fi}
258 {%\ifx\@tempa\ax@mode@trans\relax\else
259 \unsetRL%\fi
260 \par}
261 %%%
262 \newenvironment{malay}[1][\ax@mode]%
263 {\edef\@tempa{#1}%
264 \def\ax@lang{malay}%
265 \ax@ismode@defined{\@tempa}%
266 \ifax@mode@defined%
267 %\ifx\@tempa\ax@mode@trans%
268 % \par\arabtex@codes\ax@trans@style%
269 % \addfontfeature{Mapping=arabtex-malay-trans-\ax@trans@convention}%
270 %\else%
271 \ifx\@tempa\ax@mode@utf%
272 \par\setRL\ax@malay@font\utf@fontfeature%
273 \else%
274 \par\setRL\ax@malay@font\arabtex@codes%
275 \addfontfeature{Mapping=arabtex-\ax@font@allah-malay-\@tempa}%
276 \fi%\fi%
277 \else%
278 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
279 \par\setRL\ax@malay@font\arabtex@codes%
280 \addfontfeature{Mapping=arabtex-\ax@font@allah-malay-\ax@mode}%
281 \fi}
282 {%\ifx\@tempa\ax@mode@trans\relax\else
283 \unsetRL%\fi
284 \par}
285 \let\jawi=\malay
286 %%%
287 \newenvironment{uighur}[1]%
288 {%\edef\@tempa{#1}%
289 \def\ax@lang{uighur}%
290 %\ifx\@tempa\ax@mode@trans%
```

33

```
291 % \par\arabtex@codes\ax@trans@style%
292 % \addfontfeature{Mapping=arabtex-uighur-trans-\ax@trans@convention}%
293 %\else%
294 \ifx\@tempa\ax@mode@utf%
295 \par\setRL\ax@uighur@font\utf@fontfeature%
296 \else%
297 \par\setRL\ax@uighur@font\arabtex@codes%
298 \addfontfeature{Mapping=arabtex-\ax@font@allah-uighur}%
299 \fi}
300 {%\ifx\@tempa\ax@mode@trans\relax\else
301 \unsetRL%\fi
302 \par}
303 %%%
304 \def\textarab{\bgroup\arabtex@codes\text@arab}
305 \let\textarabic=\textarab
306 \def\textmaghribi{\bgroup\arabtex@codes\text@maghribi}
307 \def\textfarsi{\bgroup\arabtex@codes\text@farsi}
308 \let\textpersian=\textfarsi
309 \def\texturdu{\bgroup\arabtex@codes\text@urdu}
310 \def\textsindhi{\bgroup\arabtex@codes\text@sindhi}
311 \def\textpashto{\bgroup\arabtex@codes\text@pashto}
312 \def\textottoman{\bgroup\arabtex@codes\text@ottoman}
313 \let\textturk=\textottoman
314 \def\textkurdish{\bgroup\arabtex@codes\text@kurdish}
315 \def\textkashmiri{\bgroup\arabtex@codes\text@kashmiri}
316 \def\textmalay{\bgroup\arabtex@codes\text@malay}
317 \let\textjawi=\textmalay
318 \def\textuighur{\bgroup\arabtex@codes\text@uighur}
319 \newcommand\text@arab[2][\ax@mode]{%
320 \edef\@tempa{#1}%
321 \def\ax@lang{arab}%
322 \ax@ismode@defined{\@tempa}%
323 \ifax@mode@defined%
324 \ifx\@tempa\ax@mode@trans%
325 {\ax@trans@style\addfontfeature{Mapping=arabtex-trans-\ax@trans@convention}#2}%
326 \else%
327 \ifx\@tempa\ax@mode@utf%
328 \RL{\arabicfont\utf@fontfeature #2}%
329 \else%
330 \RL{\arabicfont\addfontfeature{Mapping=arabtex-\ax@font@allah-\@tempa}#2}%
331 \fi\fi%
332 \else%
333 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
```

```
334 \RL{\arabicfont\addfontfeature{Mapping=arabtex-\ax@font@allah-\ax@mode}#2}%
335 \fi\egroup}
336 \newcommand\text@maghribi[2][\ax@mode]{%
337 \edef\@tempa{#1}%
338 \def\ax@lang{maghribi}%
339 \ax@ismode@defined{\@tempa}%
340 \ifax@mode@defined%
341 \ifx\@tempa\ax@mode@trans%
342 {\ax@trans@style\addfontfeature{Mapping=arabtex-trans-\ax@trans@convention}#2}%
343 \else%
344 \ifx\@tempa\ax@mode@utf%
345 \RL{\ax@maghribi@font\utf@fontfeature #2}%
346 \else%
347 \RL{\ax@maghribi@font%
348 \addfontfeature{Mapping=arabtex-\ax@font@allah-maghribi-\@tempa}#2}%
349 \fi\fi%
350 \else%
351 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
352 \RL{\ax@maghribi@font\addfontfeature{Mapping=arabtex-\ax@font@allah-maghribi-
      \ax@mode}#2}%
353 \fi\egroup}
354 \newcommand\text@farsi[2][\ax@mode]{%
355 \edef\@tempa{#1}%
356 \def\ax@lang{farsi}%
357 \ax@ismode@defined{\@tempa}%
358 \ifax@mode@defined%
359 \ifx\@tempa\ax@mode@trans%
360 {\ax@trans@style\addfontfeature{Mapping=arabtex-farsi-trans-\ax@trans@convention}#2}%
361 \else%
362 \ifx\@tempa\ax@mode@utf%
363 \RL{\ax@farsi@font\utf@fontfeature #2}%
364 \else%
365 \RL{\ax@farsi@font%
366 \addfontfeature{Mapping=arabtex-\ax@font@allah-farsi-\@tempa}#2}%
367 \fi\fi%
368 \else%
369 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
370 \RL{\ax@farsi@font\addfontfeature{Mapping=arabtex-\ax@font@allah-farsi-\ax@mode}#2}%
371 \fi\egroup}
372 \newcommand\text@urdu[2][\ax@mode]{%
373 \edef\@tempa{#1}%
374 \def\ax@lang{urdu}%
375 \ax@ismode@defined{\@tempa}%
```

```
376 \ifax@mode@defined%
377 \ifx\@tempa\ax@mode@trans%
378 {\ax@trans@style\addfontfeature{Mapping=arabtex-urdu-trans-\ax@trans@convention}#2}%
379 \else%
380 \ifx\@tempa\ax@mode@utf%
381 \RL{\ax@urdu@font\addfontfeature{Language=Urdu}#2}%eventually Mapping=arabtex-
    utf
382 \else%
383 \RL{\ax@urdu@font%
384 \addfontfeature{Mapping=arabtex-\ax@font@allah-urdu-\@tempa,Language=Urdu}#2}%
385 \fi\fi%
386 \else%
387 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
388 \RL{\ax@urdu@font\addfontfeature{Mapping=arabtex-\ax@font@allah-urdu-\ax@mode,Language=Urdu}#2}%
389 \fi\egroup}
390 \newcommand\text@sindhi[2][\ax@mode]{%
391 \edef\@tempa{#1}%
392 \def\ax@lang{sindhi}%
393 \ax@ismode@defined{\@tempa}%
394 \ifax@mode@defined%
395 \ifx\@tempa\ax@mode@trans%
396 {\ax@trans@style\addfontfeature{Mapping=arabtex-sindhi-trans-\ax@trans@convention}#2}%
397 \else%
398 \ifx\@tempa\ax@mode@utf%
399 \RL{\ax@sindhi@font\addfontfeature{Language=Sindhi} #2}%eventually Mapping=arabtex-
    utf
400 \else%
401 \RL{\ax@sindhi@font%
402 \addfontfeature{Mapping=arabtex-\ax@font@allah-sindhi-\@tempa,Language=Sindhi}#2}%
403 \fi\fi%
404 \else%
405 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
406 \RL{\ax@sindhi@font\addfontfeature{Mapping=arabtex-\ax@font@allah-sindhi-\ax@mode,Language=Sindhi}#2
407 \fi\egroup}
408 \newcommand\text@pashto[2][\ax@mode]{%
409 \edef\@tempa{#1}%
410 \def\ax@lang{pashto}%
411 \ax@ismode@defined{\@tempa}%
412 \ifax@mode@defined%
413 \ifx\@tempa\ax@mode@trans%
414 {\ax@trans@style\addfontfeature{Mapping=arabtex-pashto-trans-\ax@trans@convention}#2}%
415 \else%
416 \ifx\@tempa\ax@mode@utf%
```

```
417 \RL{\ax@pashto@font\utf@fontfeature #2}%
418 \else%
419 \RL{\ax@pashto@font%
420 \addfontfeature{Mapping=arabtex-\ax@font@allah-pashto-\@tempa}#2}%
421 \fi\fi%
422 \else%
423 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
424 \RL{\ax@pashto@font\addfontfeature{Mapping=arabtex-\ax@font@allah-pashto-\ax@mode}#2}%
425 \fi\egroup}
426 \newcommand\text@ottoman[2][\ax@mode]{%
427 \edef\@tempa{#1}%
428 \def\ax@lang{ottoman}%
429 \ax@ismode@defined{\@tempa}%
430 \ifax@mode@defined%
431 % UNCOMMENT when transliteration mapping is done
432 %\ifx\@tempa\ax@mode@trans%
433 % {\ax@trans@style\addfontfeature{Mapping=arabtex-turk-trans-\ax@trans@convention}#2}%
434 %\else%
435 \ifx\@tempa\ax@mode@utf%
436 \RL{\ax@ottoman@font\utf@fontfeature #2}%
437 \else%
438 \RL{\ax@ottoman@font%
439 \addfontfeature{Mapping=arabtex-\ax@font@allah-turk-\@tempa}#2}%
440 \fi%\fi%
441 \else%
442 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
443 \RL{\ax@ottoman@font\addfontfeature{Mapping=arabtex-\ax@font@allah-turk-\ax@mode}#2}%
444 \fi\egroup}
445 \newcommand\text@kurdish[2][]{%
446 \edef\@tempa{#1}%
447 \def\ax@lang{kurdish}%
448 % UNCOMMENT when transliteration mapping is done
449 %\ifx\@tempa\ax@mode@trans%
450 % {\ax@trans@style\addfontfeature{Mapping=arabtex-kurdish-trans-\ax@trans@convention}#2}%
451 %\else%
452 \ifx\@tempa\ax@mode@utf%
453 \RL{\ax@kurdish@font\utf@fontfeature #2}%
454 \else%
455 \RL{\ax@kurdish@font%
456 \addfontfeature{Mapping=arabtex-\ax@font@allah-kurdish,Language=Kurdish}#2}%
457 \fi%\fi%
458 \egroup}
459 \newcommand\text@kashmiri[2][\ax@mode]{%
```

```
460 \edef\@tempa{#1}%
461 \def\ax@lang{kashmiri}%
462 \ax@ismode@defined{\@tempa}%
463 \ifax@mode@defined%
464 % UNCOMMENT when transliteration mapping is done
465 %\ifx\@tempa\ax@mode@trans%
466 % {\ax@trans@style\addfontfeature{Mapping=arabtex-kashmiri-trans-\ax@trans@convention}#2}%
467 %\else%
468 \ifx\@tempa\ax@mode@utf%
469 \RL{\ax@kashmiri@font\utf@fontfeature #2}%
470 \else%
471 \RL{\ax@kashmiri@font%
472 \addfontfeature{Mapping=arabtex-\ax@font@allah-kashmiri-\@tempa}#2}%
473 \fi%\fi%
474 \else%
475 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \@ax@mode}%
476 \RL{\ax@kashmiri@font\addfontfeature{Mapping=arabtex-\ax@font@allah-kashmiri-
    \ax@mode}#2}%
477 \fi\egroup}
478 \newcommand\text@malay[2][\ax@mode]{%
479 \edef\@tempa{#1}%
480 \def\ax@lang{malay}%
481 \ax@ismode@defined{\@tempa}%
482 \ifax@mode@defined%
483 % UNCOMMENT when transliteration mapping is done
484 %\ifx\@tempa\ax@mode@trans%
485 % {\ax@trans@style\addfontfeature{Mapping=arabtex-malay-trans-\ax@trans@convention}#2}%
486 %\else%
487 \ifx\@tempa\ax@mode@utf%
488 \RL{\ax@malay@font\utf@fontfeature #2}%
489 \else%
490 \RL{\ax@malay@font%
491 \addfontfeature{Mapping=arabtex-\ax@font@allah-malay-\@tempa}#2}%
492 \fi%\fi%
493 \else%
494 \PackageWarning{arabxetex}{Mode \@tempa\ not defined, defaulting to \ax@mode}%
495 \RL{\ax@malay@font\addfontfeature{Mapping=arabtex-\ax@font@allah-malay-\ax@mode}#2}%
496 \fi\egroup}
497 \newcommand\text@uighur[2][]{%
498 \edef\@tempa{#1}%
499 \def\ax@lang{uighur}%
500 % UNCOMMENT when transliteration mapping is done
501 %\ifx\@tempa\ax@mode@trans%
```

```
502 % {\ax@trans@style\addfontfeature{Mapping=arabtex-uighur-trans-\ax@trans@convention}#2}%
503 %\else%
504 \ifx\@tempa\ax@mode@utf%
505 \RL{\ax@uighur@font\utf@fontfeature #2}%
506 \else%
507 \RL{\ax@uighur@font%
508 \addfontfeature{Mapping=arabtex-\ax@font@allah-uighur}#2}%
509 \fi%\fi%
510 \egroup}
511 %
512 \newcommand{\textLR}[1]{\LR{\rmfamily #1}}
513 \newcommand{\aemph}[1]{%
514   \edef\@tempb{\expandafter\noexpand\csname text\ax@lang\endcsname}%
515   $\overline{\text{\@tempb{#1}}}$}
516 %
517 % experimental: this surely does not work!
518 % I want a mechanism to enable defining commands that accept args contain-
     ing \arabtex@codes
519 %\def\newarabxetexcommand#1#2{%
520 % \edef\ax@tcomm@nd{\expandafter\relax\csname #1@\endcsname}
521 % \expandafter\def\string#1{%
522 % \bgroup\arabtex@codes\ax@tcomm@nd}
523 % \def\ax@tcomm@nd{#2\egroup}}
```

C.1   Some notes on the TECkit mappings

TO BE DONE …