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ယူနီကုဒ်စံ နှင့် မြန်မာစာကွန်ပျူတာစနစ် နည်းပညာအစီရင်ခံစာ

မြန်မာနိုင်ငံကွန်ပျူတာအသင်းချုပ်

Dr Tun Thura Thet, PhD

Chairperson, Myanmar NLP Working Group

Joint Secretary General, Myanmar Computer Federation

ယူနီကုဒ်စံ

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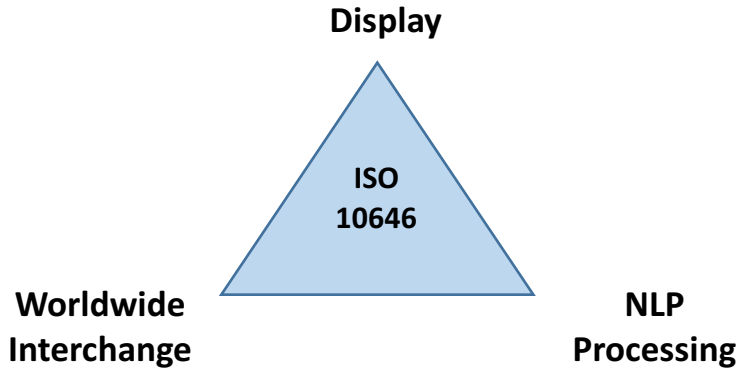
- ယူနီကုဒ်စံသည် နိုင်ငံတကာစံ **ISO 10646** သတ်မှတ်ချက် တစ်ခု ဖြစ်ပါသည်။
- ယူနီကုဒ်စံသည် ကမ္ဘာတစ်ဝန်းရှိ မတူညီသော ဘာသာစကားများကို ရေးသားသည့် အက္ခရာများကို ကုဒ်သတ်မှတ်ပေးသော စံစနစ် ဖြစ်ပါသည်။
- ယူနီကုဒ်စံသည်

  ၁) ပုံနှိပ်ပြသခြင်း

  ၂) ဘာသာစကားအားလုံးနှင့် အပြန်အလှန်တွဲဖက် အသုံးပြုနိုင်ခြင်း နှင့်

  ၃) အဆင့်မြင့်ဆောင်ရွက်မှု processing များ ပြုလုပ်နိုင်ခြင်း

  တို့ရရှိစေရန် ရည်ရွယ်တည်ဆောက်ထားသော စနစ်လည်း ဖြစ်ပါသည်။



The Unicode® Standard is a (character coding system) designed to support the worldwide interchange, processing, and display of the (written texts) of the diverse languages and technical disciplines of the modern world.
Source: unicode.org/standard/standard.html

Universal Coded Character Set

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ယူနီကုဒ်စံသည်
- မည်သည့် အခြေခံစနစ်
- မည်သည့် ပရိဂရမ်
- မည်သည့် ဘာသာစကား အတွက် မဆို

အသုံးပြုနိုင်သော တစ်ခုတည်းသော နိုင်ငံတကာ စံစနစ် ဖြစ်ပါသည်။

Unicode provides a unique number for every character,
no matter what the platform,
no matter what the program,
no matter what the language.

Source: unicode.org/standard/WhatIsUnicode.html

Unicode Character Ranges

0020 – 007F Basic Latin
00A0 – 00FF Latin-1 Supplement
0100 – 017F Latin Extended-A
0180 – 024F Latin Extended-B
0250 – 02AF IPA Extensions
02B0 – 02FF Spacing Modifier Letters
0300 – 036F Combining Diacritical Marks
0370 – 03FF Greek and Coptic
0400 – 04FF Cyrillic
0500 – 052F Cyrillic Supplementary
0530 – 058F Armenian
0590 – 05FF Hebrew
0600 – 06FF Arabic
0700 – 074F Syriac
0780 – 07BF Thaana
0900 – 097F Devanagari
0980 – 09FF Bengali
0A00 – 0A7F Gurmukhi
0A80 – 0AFF Gujarati
0B00 – 0B7F Oriya
0B80 – 0BFF Tamil
0C00 – 0C7F Telugu
0C80 – 0CFF Kannada
0D00 – 0D7F Malayalam
0D80 – 0DFF Sinhala
0E00 – 0E7F Thai
0E80 – 0EFF Lao
0F00 – 0FFF Tibetan
1000 – 109F Myanmar
10A0 – 10FF Georgian
1100 – 11FF Hangul Jamo
1200 – 137F Ethiopic
13A0 – 13FF Cherokee
1400 – 167F Unified Canadian Aboriginal Syllabics
1680 – 169F Ogham
16A0 – 16FF Runic
1700 – 171F Tagalog
1720 – 173F Hanunoo
1740 – 175F Buhid
1760 – 177F Tagbanwa
1780 – 17FF Khmer
1800 – 18AF Mongolian
1900 – 194F Limbu
1950 – 197F Tai Le
19E0 – 19FF Khmer Symbols
1D00 – 1D7F Phonetic Extensions
1E00 – 1EFF Latin Extended Additional
1F00 – 1FFF Greek Extended
2000 – 206F General Punctuation
2070 – 209F Superscripts and Subscripts
20A0 – 20CF Currency Symbols
20D0 – 20FF Combining Diacritical Marks for Symbols
2100 – 214F Letterlike Symbols
2150 – 218F Number Forms
2190 – 21FF Arrows
2200 – 22FF Mathematical Operators
2300 – 23FF Miscellaneous Technical
2400 – 243F Control Pictures
2440 – 245F Optical Character Recognition
2460 – 24FF Enclosed Alphanumerics
2500 – 257F Box Drawing
2580 – 259F Block Elements
25A0 – 25FF Geometric Shapes
2600 – 26FF Miscellaneous Symbols
2700 – 27BF Dingbats
27C0 – 27EF Miscellaneous Mathematical Symbols-A
27F0 – 27FF Supplemental Arrows-A
2800 – 28FF Braille Patterns
2900 – 297F Supplemental Arrows-B
2980 – 29FF Miscellaneous Mathematical Symbols-B
2A00 – 2AFF Supplemental Mathematical Operators
2B00 – 2BFF Miscellaneous Symbols and Arrows
2E80 – 2EFF CJK Radicals Supplement
2F00 – 2FDF Kangxi Radicals
2FF0 – 2FFF Ideographic Description Characters
3000 – 303F CJK Symbols and Punctuation
3040 – 309F Hiragana
30A0 – 30FF Katakana
3100 – 312F Bopomofo
3130 – 318F Hangul Compatibility Jamo
3190 – 319F Kanbun
31A0 – 31BF Bopomofo Extended
31F0 – 31FF Katakana Phonetic Extensions
3200 – 32FF Enclosed CJK Letters and Months
3300 – 33FF CJK Compatibility
3400 – 4DBF CJK Unified Ideographs Extension A
4DC0 – 4DFF Yijing Hexagram Symbols
4E00 – 9FFF CJK Unified Ideographs
A000 – A48F Yi Syllables
A490 – A4CF Yi Radicals
AC00 – D7AF Hangul Syllables
D800 – DB7F High Surrogates
DB80 – DBFF High Private Use Surrogates
DC00 – DFFF Low Surrogates
E000 – F8FF Private Use Area
F900 – FAFF CJK Compatibility Ideographs
FB00 – FB4F Alphabetic Presentation Forms
FB50 – FDFF Arabic Presentation Forms-A
FE00 – FE0F Variation Selectors
FE20 – FE2F Combining Half Marks
FE30 – FE4F CJK Compatibility Forms
FE50 – FE6F Small Form Variants
FE70 – FEFF Arabic Presentation Forms-B
FF00 – FFEF Halfwidth and Fullwidth Forms
FFF0 – FFFF Specials
10000 – 1007F Linear B Syllabary
10080 – 100FF Linear B Ideograms
10100 – 1013F Aegean Numbers
10300 – 1032F Old Italic
10330 – 1034F Gothic
10380 – 1039F Ugaritic
10400 – 1044F Deseret
10450 – 1047F Shavian
10480 – 104AF Osmanya
10800 – 1083F Cypriot Syllabary
1D000 – 1D0FF Byzantine Musical Symbols
1D100 – 1D1FF Musical Symbols
1D300 – 1D35F Tai Xuan Jing Symbols
1D400 – 1D7FF Mathematical Alphanumeric Symbols
20000 – 2A6DF CJK Unified Ideographs Extension B
2F800 – 2FA1F CJK Compatibility Ideographs Supplement
E0000 – E007F Tags

မြန်မာယူနီကုဒ်စံ

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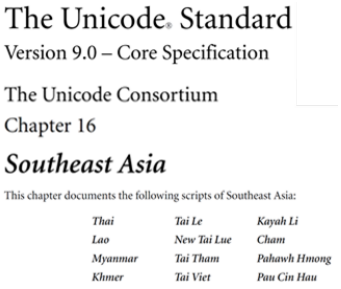
- Understanding “Language” versus “Script”
  - “ဘာသာစကား” နှင့် “အက္ခရာစနစ်”
  - “English”, “French” နှင့် “Latin Script”
- Descendants of Brahmic scripts

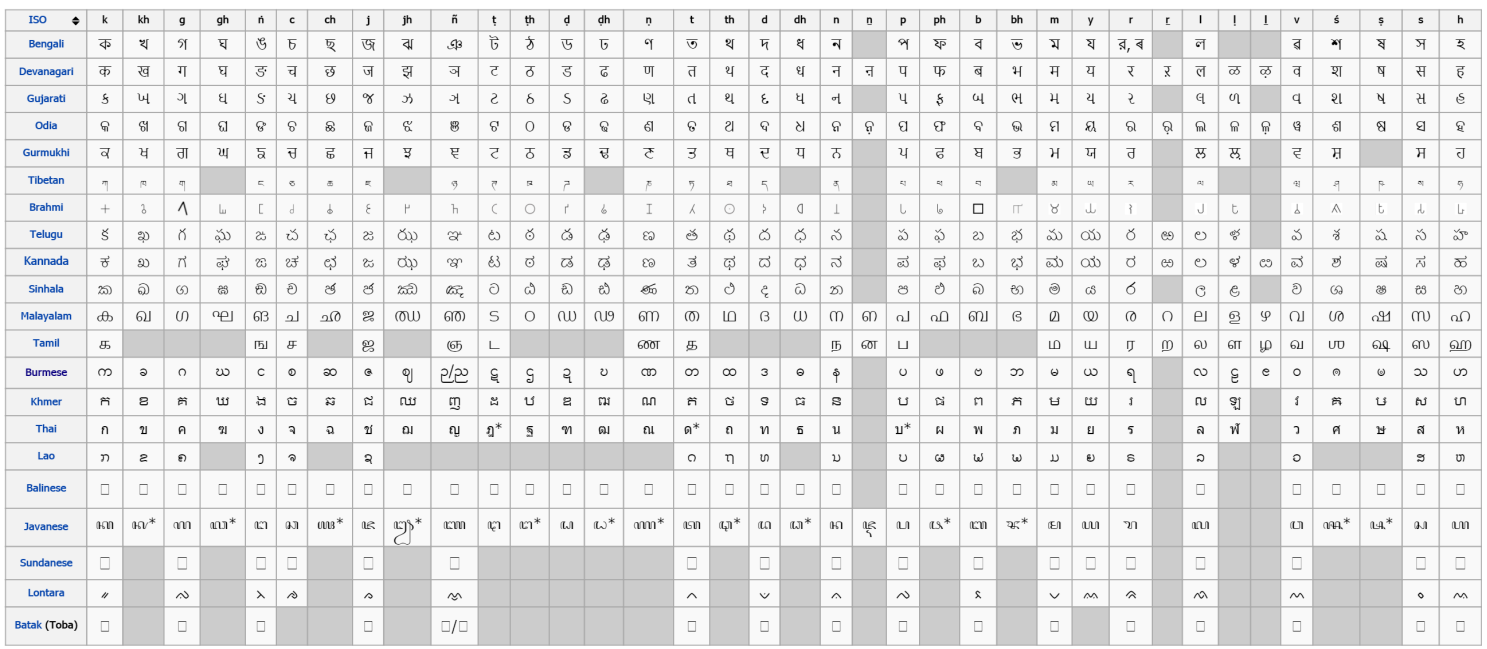

The Unicode® Standard
Version 9.0 – Core Specification

The Unicode Consortium
Chapter 16

Southeast Asia

This chapter documents the following scripts of Southeast Asia:

Thai	*Tai Le*	*Kayah Li*
Lao	*New Tai Lue*	*Cham*
Myanmar	*Tai Tham*	*Pahawh Hmong*
Khmer	*Tai Viet*	*Pau Cin Hau*



Source: en.wikipedia.org/wiki/Brahmic_scripts

ယူနီကုဒ်စံစနစ်

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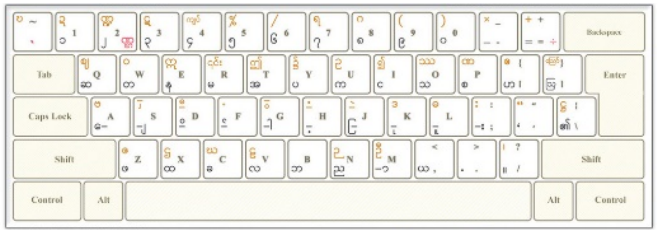
ကီးဘုတ် (မြန်မာစာရေးထုံး)



ကွန်ပျူတာစနစ်

The Unicode

1. Character Coding
2. UTN 11
3. CLDR
4. ICU

ဖောင့်

ကျေးဇူးအထူးတင်ရှိပါတယ်။

ငိဆ်းလူမ်းခွပ်;လ်ငယ့်ဆမ်တေ့တေ့ခါ့ဘေါ့။

တင်ဂုဏ်ဗွဲမလောန်ရအ်

တဉ်ဘျုဒိဉ်မးလီ၊

ကေ့ဇူ့တင်းငါ့မရေးမရာ့ဩ

ယူနီကုဒ်စံစနစ်

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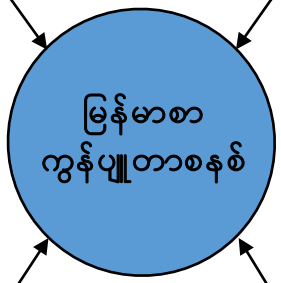
၁) ကုဒ်ပိုင့်သတ်မှတ်ခြင်း
Character Coding System

Myanmar: U+1000–U+109F
Myanmar Extended-A: U+AA60–U+AA7F
Myanmar Extended-B: U+A9E0–U+A9FF

၂) ဘာသာစကားဆိုင်ရာအခြေခံအချက်များ
CLDR - Common Locale Data Repository

ABAS Software, **Adobe**, **Amazon** (Kindle), Amdocs, **Apache**, Appian, **Apple**, Argonne National Laboratory, Avaya, BAE Systems Geospatial eXploitation Products, BEA, BluePhoenix Solutions, BMC Software, Boost, BroadJump, Business Objects, caris, CERN, CouchDB, Debian Linux, Dell, Eclipse, eBay, EMC Corporation, ESRI, Firebird RDBMS, Free BSD, Gentoo Linux, **Google**, GroundWork Open Source, GTK+, Harman/Becker Automotive Systems GmbH, **HP**, Hyperion, **IBM**, Inktomi, Innodata Isogen, Informatica, Intel, Interlogics, IONA, IXOS, Jikes, **Library of Congress**, Mathworks, **Microsoft**, Mozilla, Netezza, Node.js, **OpenOffice**, **Oracle** (Solaris, Java), Lawson Software, Leica Geosystems GIS & Mapping LLC, Mandrake Linux, OCLC, Progress Software, **Python**, QNX, Rogue Wave, **SAP**, SIL, SPSS, Software AG, SuSE, Sybase, **Symantec**, Teradata (NCR), ToolAware, Trend Micro, Virage, webMethods, Wine, WMS Gaming, XyEnterprise, Yahoo!, Vuo, and many others.



၂) နည်းပညာသတ်မှတ်ချက်
UTN -Unicode Technical Notes
UTN11 – Myanmar Unicode

၄) ဘာသာစကားဆိုင်ရာအခြေခံဆော့ဝဲများ
ICU - International Components for Unicode

ယူနီကုဒ်စံစနစ်သည် ၁) ကုဒ်ပိုင့်သတ်မှတ်ခြင်း သာမက ၂) သိမ်းဆည်းခြင့်းနှင့် ပတ်စပ်လျဉ်းသည့် နည်းပညာသတ်မှတ်ချက်များ အပြင် ၃) ဘသာစကားဆိုင်ရာ အခြေခံအချက်များ နှင့် ၄) အခြေခံ ဆော့ဝဲ libraries များဖြင့် စနစ်တကျ ပါဝင်ဖွဲ့စည်းထားသော စံစနစ်ဖြစ်ပါသည်။

ယူနီကုဒ်စံ “is Not”

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- ယူနီကုဒ်စံသည် ဖောင့် မဟုတ်ပါ။
- ယူနီကုဒ်စံသည် ကီးဘုတ် မဟုတ်ပါ။
- ယူနီကုဒ်စံသည် ထုတ်ကုန်တစ်ခု မဟုတ်ပါ။

✓ ယူနီကုဒ်စံသည် ဖောင့်၊ ကီးဘုတ်၊ ဆော့ဝဲများ ရေးသားရာ၌ လိုက်နာရမည့် စံ (သို့မဟုတ်) စည်းကမ်းသတ်မှတ်ချက်သာဖြစ်ပါသည်။

✓ ယူနီကုဒ်စံသည် ကမ္ဘာပေါ်ရှိဘာသာစကားများ တန်းတူတွဲဖက်ရေးသား နိုင်ရန် သတ်မှတ်ပေးထားသော တစ်ခုတည်းသောစံ ဖြစ်ပါသည်။

✓ ထို့ကြောင့် မြန်မာနှင့်တိုင်းရင်းသား ဘာသာစကား များ ကမ္ဘာပေါ်ရှိဘာသာစကားများ တန်းတူ အင်တာနက်ပေါ်တွင် အသုံးပြုနိုင်စေရန် လိုက်နာရန်လိုအပ်သည့် စံစနစ် ဖြစ်ပါသည်။

1) Unicode Character Encoding

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The Unicode Standard Version 9.0 (Extended A & B)

Consonants

1000 MYANMAR LETTER KA
1001 MYANMAR LETTER KHA
1002 MYANMAR LETTER GA
1003 MYANMAR LETTER GHA
1004 MYANMAR LETTER NGA
1005 MYANMAR LETTER CA
1006 MYANMAR LETTER CHA
1007 MYANMAR LETTER JA
1008 MYANMAR LETTER JHA
1009 MYANMAR LETTER NYA
100A MYANMAR LETTER NNYA
100B MYANMAR LETTER TTA
100C MYANMAR LETTER TTHA
100D MYANMAR LETTER DDA
100E MYANMAR LETTER DDHA
100F MYANMAR LETTER NNA
1010 MYANMAR LETTER TA
1011 MYANMAR LETTER THA
1012 MYANMAR LETTER DA
1013 MYANMAR LETTER DHA
1014 MYANMAR LETTER NA
1015 MYANMAR LETTER PA
1016 MYANMAR LETTER PHA
1017 MYANMAR LETTER BA
1018 MYANMAR LETTER BHA
1019 MYANMAR LETTER MA
101A MYANMAR LETTER YA
101B MYANMAR LETTER RA
101C MYANMAR LETTER LA
101D MYANMAR LETTER WA
101E MYANMAR LETTER SA
101F MYANMAR LETTER HA
1020 MYANMAR LETTER LLA

Independent vowels

1021 MYANMAR LETTER A
• also represents the glottal stop as a consonan
1022 MYANMAR LETTER SHAN A
1023 MYANMAR LETTER I
1024 MYANMAR LETTER II
1025 MYANMAR LETTER U
1026 MYANMAR LETTER UU
≡ 1025 102E
1027 MYANMAR LETTER E
1028 MYANMAR LETTER MON E
1029 MYANMAR LETTER O
102A MYANMAR LETTER AU

Dependent vowel signs

102B MYANMAR VOWEL SIGN TALL AA
102C MYANMAR VOWEL SIGN AA
102D MYANMAR VOWEL SIGN I
102E MYANMAR VOWEL SIGN II
102F MYANMAR VOWEL SIGN U
1030 MYANMAR VOWEL SIGN UU
1031 MYANMAR VOWEL SIGN E
• stands to the left of the consonant
1032 MYANMAR VOWEL SIGN AI
1033 MYANMAR VOWEL SIGN MON II
1034 MYANMAR VOWEL SIGN MON O
1035 MYANMAR VOWEL SIGN E ABOVE

Various signs

104C MYANMAR SYMBOL LOCATIVE
104D MYANMAR SYMBOL COMPLETED
104E MYANMAR SYMBOL AFOREMENTIONED
104F MYANMAR SYMBOL GENITIVE

Various signs

1036 MYANMAR SIGN ANUSVARA
1037 MYANMAR SIGN DOT BELOW
= aukmyit
• a tone mark
1038 MYANMAR SIGN VISARGA
1039 MYANMAR SIGN VIRAMA
= killer (when rendered visibly)
103A MYANMAR SIGN ASAT
= killer (always rendered visibly)

Dependent consonant signs

103B MYANMAR CONSONANT SIGN MEDIAL YA
103C MYANMAR CONSONANT SIGN MEDIAL RA
103D MYANMAR CONSONANT SIGN MEDIAL WA
103E MYANMAR CONSONANT SIGN MEDIAL HA

Consonant

103F MYANMAR LETTER GREAT SA

Digits

1040 MYANMAR DIGIT ZERO
1041 MYANMAR DIGIT ONE
1042 MYANMAR DIGIT TWO
1043 MYANMAR DIGIT THREE
1044 MYANMAR DIGIT FOUR
1045 MYANMAR DIGIT FIVE
1046 MYANMAR DIGIT SIX
1047 MYANMAR DIGIT SEVEN
1048 MYANMAR DIGIT EIGHT
1049 MYANMAR DIGIT NINE

Punctuation

104A MYANMAR SIGN LITTLE SECTION
→ 0964 । devanagari danda
104B MYANMAR SIGN SECTION
→ 0965 ॥ devanagari double danda

Pali and Sanskrit extensions

1050 MYANMAR LETTER SHA
1051 MYANMAR LETTER SSA
1052 MYANMAR LETTER VOCALIC R
1053 MYANMAR LETTER VOCALIC RR
1054 MYANMAR LETTER VOCALIC L
1055 MYANMAR LETTER VOCALIC LL
1056 MYANMAR VOWEL SIGN VOCALIC R
1057 MYANMAR VOWEL SIGN VOCALIC RR
1058 MYANMAR VOWEL SIGN VOCALIC L
1059 MYANMAR VOWEL SIGN VOCALIC LL

Extensions for Mon

105A MYANMAR LETTER MON NGA
105B MYANMAR LETTER MON JHA
105C MYANMAR LETTER MON BBA
105D MYANMAR LETTER MON BBE
105E MYANMAR CONSONANT SIGN MON MEDIAL NA
105F MYANMAR CONSONANT SIGN MON MEDIAL MA
1060 MYANMAR CONSONANT SIGN MON MEDIAL LA

Extensions for S'gaw Karen

1061 MYANMAR LETTER SGAW KAREN SHA
1062 MYANMAR VOWEL SIGN SGAW KAREN EU
1063 MYANMAR TONE MARK SGAW KAREN HATHI
1064 MYANMAR TONE MARK SGAW KAREN KE PHO

Extensions for Western Pwo Karen

1065 MYANMAR LETTER WESTERN PWO KAREN THA
1066 MYANMAR LETTER WESTERN PWO KAREN PWA
1067 MYANMAR VOWEL SIGN WESTERN PWO KAREN EU
1068 MYANMAR VOWEL SIGN WESTERN PWO KAREN UE
1069 MYANMAR SIGN WESTERN PWO KAREN TONE-1
106A MYANMAR SIGN WESTERN PWO KAREN TONE-2
106B MYANMAR SIGN WESTERN PWO KAREN TONE-3
106C MYANMAR SIGN WESTERN PWO KAREN TONE-4
106D MYANMAR SIGN WESTERN PWO KAREN TONE-5

Extensions for Eastern Pwo Karen

106E MYANMAR LETTER EASTERN PWO KAREN NNA
106F MYANMAR LETTER EASTERN PWO KAREN YWA
1070 MYANMAR LETTER EASTERN PWO KAREN GHWA

Extension for Geba Karen

1071 MYANMAR VOWEL SIGN GEBA KAREN I

Extensions for Kayah

1072 MYANMAR VOWEL SIGN KAYAH OE
1073 MYANMAR VOWEL SIGN KAYAH U
1074 MYANMAR VOWEL SIGN KAYAH EE

Extensions for Shan

1075 MYANMAR LETTER SHAN KA
1076 MYANMAR LETTER SHAN KHA
1077 MYANMAR LETTER SHAN GA
1078 MYANMAR LETTER SHAN CA
1079 MYANMAR LETTER SHAN ZA
107A MYANMAR LETTER SHAN NYA
107B MYANMAR LETTER SHAN DA
107C MYANMAR LETTER SHAN NA
107D MYANMAR LETTER SHAN PHA
107E MYANMAR LETTER SHAN FA
107F MYANMAR LETTER SHAN BA
1080 MYANMAR LETTER SHAN THA
1081 MYANMAR LETTER SHAN HA
1082 MYANMAR CONSONANT SIGN SHAN MEDIAL WA
1083 MYANMAR VOWEL SIGN SHAN AA
1084 MYANMAR VOWEL SIGN SHAN E
1085 MYANMAR VOWEL SIGN SHAN E ABOVE
1086 MYANMAR VOWEL SIGN SHAN FINAL Y
1087 MYANMAR SIGN SHAN TONE-2
1088 MYANMAR SIGN SHAN TONE-3
1089 MYANMAR SIGN SHAN TONE-5
108A MYANMAR SIGN SHAN TONE-6
108B MYANMAR SIGN SHAN COUNCIL TONE-2
108C MYANMAR SIGN SHAN COUNCIL TONE-3
108D MYANMAR SIGN SHAN COUNCIL EMPHATIC TONE

Extensions for Rumai Palaung

108E MYANMAR LETTER RUMAI PALAUNG FA
108F MYANMAR SIGN RUMAI PALAUNG TONE-5

Shan digits

1090 MYANMAR SHAN DIGIT ZERO
1091 MYANMAR SHAN DIGIT ONE
1092 MYANMAR SHAN DIGIT TWO
1093 MYANMAR SHAN DIGIT THREE
1094 MYANMAR SHAN DIGIT FOUR
1095 MYANMAR SHAN DIGIT FIVE
1096 MYANMAR SHAN DIGIT SIX
1097 MYANMAR SHAN DIGIT SEVEN
1098 MYANMAR SHAN DIGIT EIGHT
1099 MYANMAR SHAN DIGIT NINE

Extensions for Khamti Shan

109A MYANMAR SIGN KHAMTI TONE-1
109B MYANMAR SIGN KHAMTI TONE-3

Extensions for Aiton and Phake

109C MYANMAR VOWEL SIGN AITON A
109D MYANMAR VOWEL SIGN AITON AI

Shan symbols

109E MYANMAR SYMBOL SHAN ONE
109F MYANMAR SYMBOL SHAN EXCLAMATION

Khamti Shan consonants

AA60 MYANMAR LETTER KHAMTI GA
AA61 MYANMAR LETTER KHAMTI CA
AA62 MYANMAR LETTER KHAMTI CHA
AA63 MYANMAR LETTER KHAMTI JA
AA64 MYANMAR LETTER KHAMTI JHA
AA65 MYANMAR LETTER KHAMTI NYA
AA66 MYANMAR LETTER KHAMTI TTA
AA67 MYANMAR LETTER KHAMTI TTHA
AA68 MYANMAR LETTER KHAMTI DDA
AA69 MYANMAR LETTER KHAMTI DDHA
AA6A MYANMAR LETTER KHAMTI DHA
AA6B MYANMAR LETTER KHAMTI NA
AA6C MYANMAR LETTER KHAMTI SA
AA6D MYANMAR LETTER KHAMTI HA
AA6E MYANMAR LETTER KHAMTI HHA
AA6F MYANMAR LETTER KHAMTI FA
AA70 MYANMAR MODIFIER LETTER KHAMTI REDUPLICATION
→ A9E6 ꧦ myanmar modifier letter shan reduplication
AA71 MYANMAR LETTER KHAMTI XA
AA72 MYANMAR LETTER KHAMTI ZA
AA73 MYANMAR LETTER KHAMTI RA

Khamti Shan logograms

AA74 MYANMAR LOGOGRAM KHAMTI OAY
AA75 MYANMAR LOGOGRAM KHAMTI QN
AA76 MYANMAR LOGOGRAM KHAMTI HM

Aiton symbols and letters

AA77 MYANMAR SYMBOL AITON EXCLAMATION
AA78 MYANMAR SYMBOL AITON ONE
AA79 MYANMAR SYMBOL AITON TWO
AA7A MYANMAR LETTER AITON RA

Pa'o Karen tone mark

AA7B MYANMAR SIGN PAO KAREN TONE

Tai Laing tone marks

AA7C MYANMAR SIGN TAI LAING TONE-2
AA7D MYANMAR SIGN TAI LAING TONE-5

Shwe Palaung letters

AA7E MYANMAR LETTER SHWE PALAUNG CHA
AA7F MYANMAR LETTER SHWE PALAUNG SHA

Additions for Shan Pali

A9E0 MYANMAR LETTER SHAN GHA
A9E1 MYANMAR LETTER SHAN CHA
A9E2 MYANMAR LETTER SHAN JHA
A9E3 MYANMAR LETTER SHAN NNA
A9E4 MYANMAR LETTER SHAN BHA
A9E5 MYANMAR SIGN SHAN SAW

Reduplication mark

A9E6 ꧦ MYANMAR MODIFIER LETTER SHAN REDUPLICATION
→ AA70 ꩰ myanmar modifier letter khamti reduplication

Tai Laing consonants

A9E7 MYANMAR LETTER TAI LAING NYA
A9E8 MYANMAR LETTER TAI LAING FA
A9E9 MYANMAR LETTER TAI LAING GA
A9EA MYANMAR LETTER TAI LAING GHA
A9EB MYANMAR LETTER TAI LAING JA
A9EC MYANMAR LETTER TAI LAING JHA
A9ED MYANMAR LETTER TAI LAING DDA
A9EE MYANMAR LETTER TAI LAING DDHA
A9EF MYANMAR LETTER TAI LAING NNA

Tai Laing digits

A9F0 MYANMAR TAI LAING DIGIT ZERO
A9F1 MYANMAR TAI LAING DIGIT ONE
A9F2 MYANMAR TAI LAING DIGIT TWO
A9F3 MYANMAR TAI LAING DIGIT THREE
A9F4 MYANMAR TAI LAING DIGIT FOUR
A9F5 MYANMAR TAI LAING DIGIT FIVE
A9F6 MYANMAR TAI LAING DIGIT SIX
A9F7 MYANMAR TAI LAING DIGIT SEVEN
A9F8 MYANMAR TAI LAING DIGIT EIGHT
A9F9 MYANMAR TAI LAING DIGIT NINE

Tai Laing consonants

A9FA MYANMAR LETTER TAI LAING LLA
A9FB MYANMAR LETTER TAI LAING DA
A9FC MYANMAR LETTER TAI LAING DHA
A9FD MYANMAR LETTER TAI LAING BA
A9FE MYANMAR LETTER TAI LAING BHA

160+32+32 (224) code points, V5.2 - V9

2) Unicode Technical Notes UTN11

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UTN 1 Issues in Indic Language Collation
UTN 2 Rendering Combining Marks
UTN 3 Encoding Scripts from the Past
UTN 4 Leaks in the Unicode Pipeline
UTN 5 Canonical Equivalence in Applications
UTN 6 BOCU-1: MIME-Compatible Compression
UTN 7 Migrating Software to Supplementary Characters
UTN 8 Toward a Model for Language Identification
UTN 9 Deterministic Sorting
UTN 10 Introduction to Indic Scripts
UTN 11 Representing Myanmar in Unicode
UTN 12 UTF-16 for Processing
UTN 13 GDP by Language
UTN 14 A Survey of Unicode Compression
UTN 15 Text Conversion From TSCII 1.7 to Unicode
UTN 17 TAB to Unicode Conversion
UTN 18 TAM to Unicode Conversion
UTN 19 Recommendations for Creating New Orthographies
UTN 20 Byzantine Musical Notation
UTN 21 Tamil Numbers
UTN 22 Robust Vertical Text Layout
UTN 23 To the BMP and Beyond! (a Unicode tutorial)
UTN 24 Sample American English Translation of Unicode Names List
UTN 25 Gurmukhi Character Names
UTN 26 On the Encoding of Latin, Greek, Cyrillic, and Han
UTN 27 Known Anomalies in Unicode Character Names
UTN 28 Unicode Nearly Plain-Text Encoding of Mathematics
UTN 29 The Use of Phonetic and Other Symbols in Dictionaries: A Brief Survey
UTN 30 ISCII to Unicode Conversion Issues for Gurmukhi
UTN 31 Fast Compression Algorithm for Unicode Text
UTN 32 Mapping Between Manuel de Codage and Unicode Egyptian Hieroglyphs
UTN 33 List of Dandas in the Unicode Standard
UTN 34 Unicode Collation Case Study: Sorting French Topic Lists
UTN 35 Indonesian and Philippine Scripts and extensions
UTN 36 A Categorization of Unicode Characters
UTN 37 Duployan Shorthand Rendering Model
UTN 39 Bidi Brackets for Dummies
UTN 40 Old Italic Glyph Variation
UTN 41 Church Slavonic Typography in Unicode

Diacritic storage order

Name	Id	Specification	Sample	Constraints
Kinzi	-1	[U+1004, U+101B, U+105A] U+103A U+1039	◌	
Consonant	0	[U+1000 .. U+102A, U+103F, U+1041 .. U+1049, U+104E, U+1050 .. U+1055, U+105A .. U+105D, U+1061, U+1065, U+1066, U+106E .. U+1070, U+1075 .. U+1081, U+108E, U+109F, U+A9E0 .. U+A9E4, U+A9E7 .. U+A9EF, U+A9FA .. U+A9FF, U+AA60 .. U+AA6F, U+AA71 .. U+AA76, U+AA7A, U+AA7E, U+AA7F]	ကခ	required
Stacked	1	U+1039 [U+1000 .. U+101C, U+101E, U+1020, U+1021, U+1050, U+1051, U+105A .. U+105D]	◌္ကခ	
Stacked2	1	U+1039 [U+1000 .. U+101C, U+101E, U+1020, U+1021, U+1050, U+1051, U+105A .. U+105D]	◌္ကခ	
Asat	2	U+103A	◌်	_ [^U+103E, U+1082, U+1037]
Medial Y	3	[U+103B, U+105E, U+105F]	◌ျ◌ြ	
Medial R	4	U+103C	◌ြ	
Medial W	5	[U+103D, U+1082]	◌ွ	
Medial H	6	[U+103E, U+1060]	◌ှ	
Mon Asat	2	U+103A	◌်	[U+103E, U+1082] _ [^U+1037]
E vowel	7	[U+1031, U+1084]	◌ေ	
Shan E vowel	7	U+1031	◌ေ	U+1031 _
Upper Vowel	8	[U+102D, U+102E, U+1032 .. U+1036, U+1071 .. U+1074, U+1085, U+109D, U+A9E5]	◌ိ	[U+1032, U+1036] [^U+102F, U+1030, U+1086][3]
Lower Vowel	9	[U+102F, U+1030, U+1058, U1059]	◌ု	
Karen Vowel	0	U+1062	◌ဝ	[^U+102F, U+1030] _ [^U+1032]
Shan Vowel	10	U+1086	◌ဵ	
Dot Vowel	11	U+1037	◌ံ	[^U+102F, U+1030] _ [^U+1032, U+1036]
A Vowel	0	[U+102B, U+102C, U+1056, U+1057, U+1062, U+1063, U+1067, U+1068, U+1083]	◌ာ	
Mon h	6	U+103E	◌ှ	U+102C _ U+103A
A Asat	2	U+103A	◌်	[*A Vowel*, U+103E[4]]_ [^U+1037]

Anusvara	8	[U+1036, U+1032]	◌ံ	[U+102D, *Lower Vowel, A Vowel*] _
Pwo Tone	0	[U+1064, U+1069 .. U+106D]	◌ဲ	
Lower Dot	11	U+1037	◌့	[*Lower Vowel*, U+1086, *A Vowel*, *Anusvara, Pwo Tone*] _
Visible virama	2	U+103A	◌်	[*Pwo Tone*, U+1037[5]] _
Visarga	12	[U+1038, U+1087 .. U+108D, U+108F, U+109A .. U+109C, U+AA7B .. U+AA7D]	◌း	
Reduplication	13	U+A9E6, U+AA70	ꧦ	

3) ယူနီကုဒ်စံ နှင့် CLDR

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Unicode Common Locale Data Repository

- ယူနီကုဒ်စံကိုသာ အခြေခံထားသော ဘာသာစကားတစ်ခုချင်းအတွက် သတ်မှတ်အသုံးပြုရန်လိုအပ်သည့် အချက်အလက်များစုစည်းထားသည့် စုစည်းရာ ဖြစ်ပါသည်။
- ဘာသာစကား အလိုက် ပုံမှန် သတ်မှတ်ချက်များ၊ ဘာသာပြန်ရာတွင် လိုအပ်သော အမည်များ၊ အရေးအသားပုံစံများ၊ နိုင်ငံအလိုက် သတ်မှတ်ချက်များ နှင့် တခြား သီးခြား သတ်မှတ်ရန် လိုအပ်သော အချက်အလက်များ ပါဝင်ပါသည်။
- ဤအချက်အလက်များကို Operating Systems များ၊ Application ဆော့ဝဲ ထုတ်လုပ်သူများမှ လိုက်နာ အသုံးပြုကြပါသည်။

ABAS Software, Adobe, Amazon (Kindle), Amdocs, Apache, Appian, Argonne National Laboratory, Avaya, Babel (Pocoo library), BAE Systems Geospatial eXploitation Products, BEA, BluePhoenix Solutions, BMC Software, Boost, BroadJump, Business Objects, caris, CERN, Debian Linux, Dell, Eclipse, eBay, EMC Corporation, ESRI, Firebird RDBMS, Free BSD, Gentoo Linux, GroundWork Open Source, GTK+, Harman/Becker Automotive Systems GmbH, HP, Hyperion, Inktomi, Innodata Isogen, Informatica, Intel, Interlogics, IONA, IXOS, Jikes, jQuery, Library of Congress, Mathworks, Mozilla, Netezza, OpenOffice, Oracle (Solaris, Java), Lawson Software, Leica Geosystems GIS & Mapping LLC, Mandrake Linux, OCLC, Perl, Progress Software, Python, QNX, Rogue Wave, SAP, Shutterstock, SIL, SPSS, Software AG, SuSE, Symantec, Teradata (NCR), ToolAware, Trend Micro, Twitter, Virage, webMethods, Wikimedia Foundation (Wikipedia), Wine, WMS Gaming, XyEnterprise, Yahoo!, Yelp

4) ယူနီကုဒ်စံ နှင့် ICU

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International Components for Unicode

- ဆော့ဝဲ များ ရေးသားရာ၌ ဘာသာစကားများ အတွက် လိုအပ်သော အခြေခံ ဆော့ဝဲ libraries များဖြစ်ပါသည်။
- စကားလုံးများ စီစဉ်ရာ၌ လိုအပ်သော collation algorithm များ၊ စကားလုံးများ ရှာဖွေရာ၌ လိုအပ်သော comparison rule များ၊ အစရှိသော ဘာစာကားတိုင်းအတွက်လိုအပ်သည် CLDR မှအချက်အလက်များကို တွဲဖက်အသုံးပြု၍ အကောင်အထည်ဖေါထားသော စနစ်များ ပါဝင်ပါသည်။
- ခေတ်သစ် အင်တာနက် နှင့် မိုဘိုင်း ဆော့ဝဲများ ရေးသားရာ၌ အရေးကြီးသော Internationalization **(i18n)** နှင့် Localization **(l10n)** တို့အတွက် အဓိကကျသော လိုအပ်ချက်များဖြစ်ပါသည်။

ABAS Software, **Adobe**, **Amazon** (Kindle), Amdocs, **Apache**, Appian, **Apple**, Argonne National Laboratory, Avaya, BAE Systems Geospatial eXploitation Products, BEA, BluePhoenix Solutions, BMC Software, Boost, BroadJump, Business Objects, caris, CERN, CouchDB, Debian Linux, Dell, Eclipse, eBay, EMC Corporation, ESRI, Firebird RDBMS, Free BSD, Gentoo Linux, **Google**, GroundWork Open Source, GTK+, Harman/Becker Automotive Systems GmbH, **HP**, Hyperion, **IBM**, Inktomi, Innodata Isogen, Informatica, Intel, Interlogics, IONA, IXOS, Jikes, **Library of Congress**, Mathworks, **Microsoft**, Mozilla, Netezza, Node.js, **OpenOffice**, **Oracle** (Solaris, Java), Lawson Software, Leica Geosystems GIS & Mapping LLC, Mandrake Linux, OCLC, Progress Software, **Python**, QNX, Rogue Wave, **SAP**, SIL, SPSS, Software AG, SuSE, Sybase, **Symantec**, Teradata (NCR), ToolAware, Trend Micro, Virage, webMethods, Wine, WMS Gaming, XyEnterprise, Yahoo!, Vuo, and many others.

ယူနီကုဒ်စံ အသုံးပြုခြင်း၏အကျိုးများ

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၁) နိုင်ငံတကာစံဖြစ်သည့်အတွက် Microsoft, Apple, Google, Facebook, Oracle, SAP အစရှိသော နိုင်ငံတကာကုမ္ပဏီကြီးများ၏ ဆော့ဝဲများတွင် ထောက်ပံ့မှု ရရှိခြင်း။

၂) မြန်မာစာ နှင့် တိုင်းရင်းသား ဘာသာစကားများ ကို အဆိုပါစနစ်များနှင့် အင်တာနက်ပေါ်တွင် နိုင်ငံတကာအဆင့်မီ တန်းတူ ထောက်ပံ့မှု ရရှိခြင်း။

၃) မြန်မာစာ နှင့် တိုင်းရင်းသားစာများ အားလုံးကို Natural Language Processing (NLP) များ အဆင့်မြင့် ပြုလုပ်လာစေနိုင့်ခြင်း။

၄) အမျိုးစုံလင်သော မတူညီသော မြန်မာနှင့်တိုင်းရင်းသား ဖောင့်များတွဲဖက်၍ အဆင်ပြေပြေ အသုံးပြုလာစေနိုင်ခြင်း။

၅) မြန်မာစာရေးထုံးနှင့် မှန်ကန်ကိုက်ညီသော စနစ်များ ပေါ်ထွက်လာစေနိုင်ခြင်း။

Role of Government and Regulator

ယူနီကုဒ်ကို support လုပ်ရန်လိုအပ်သော public information and services providers များ ကို သက်ဆိုင်ရာ Authority မှ regulate ပြုလုပ်ရန်လိုအပ်ရသည့်အချက်များမှာ

၁) အစိုးရဌာနများတွင် အသုံးပြုသော ဆော့ဝဲများ။ *
၂) အစိုးရဌာနများ၊ အများပြည်သူနှင့် သက်ဆိုင်သောအဖွဲ့များ၊ Media သတင်းဌာနများ၏ ဝဘ်ဆိုက်များ၊ Apps များ။
၃) ဆက်သွယ်ရေးအဖွဲ့စည်းများမှ ပေးပို့သော Messages များ။
၄) မိုဘိုင်းနှင့် ကွန်ပျူတာပစ္စည်းများ ထုတ်လုပ်သူ တင်သွင်းသူ ရောင်းချသူများ၏ ပူးပေါင်းဆောင်ရွက်မှုများ။

အခြားနိုင်ငံမှ ဥပမာများ

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The CAMBODIA DAILY
All the News Without Fear or Favor | The Daily Newspaper of Record Since 1993

Gov't Orders That Computers Be Switched to Khmer Unicode

BY CLANCY MCGILLIGAN | JANUARY 12, 2010

Government institutions will soon be required to switch their computers to the Unicode standard, allowing them to display Khmer script, according to a government spokesman.

"All government officials have to be using Unicode," said Council of Ministers spokesman Phay Siphan, who praised the "convenience" of the encoding standard.

A Dec 24 memorandum gives government ministries 60 days to make the switch, according to Mr Siphan, who said the shift is already under way.

Unicode assigns a unique number to a single character, no matter what the language, according to the website of the Unicode Consortium, the organization that maintains the standard.

Khmer Unicode "allows a computer anywhere in the world to recognize a character as Khmer," explained Javier Sola, coordinator for the Khmer OS project, which is run by the Open Institute and is aimed at providing computer tools in Khmer that can be used by anybody.

Before Cambodia had its own version of the international standard, there were as many as 30 ways to encode Khmer script, which Mr Sola described as a "mess."

A non-government committee started work on Khmer Unicode in 1996, and the standard was fixed in 1999, according to Mr Sola, who hailed the government's embrace of the standard as an "important step."

Khmer Unicode, like any version of Unicode, is supposed to work on many operating systems, and on all Web browsers. However, Mr Sola said sometimes it runs into problems, such as on older Microsoft operating systems, like Windows XP. "Windows XP by default didn't support it," he said. "We actually created some software to support it."

Still, Unicode potentially allows a single computer product or a single website to be used across different computers, languages and countries.

Mr Sola said you need to install free software and learn to use the keyboard with a new script to start typing with Khmer Unicode.

It has been used in Cambodian schools since 2007, according to Sok Tha, head of the Ministry of Education's office of information communication technology in education.

Source: www.cambodiadaily.com/archives/govt-orders-that-computers-be-switched-to-khmer-unicode-68673/

National ICT Policy -2008

The Ministry of Science and Information & Communication Technology
Government of the People's Republic of Bangladesh
September, 2008

No.	Action Item	Primary Actors (govt, prvt. sector, NGO, DPs)	Expected Deliverables & Benefits	Short Term	Mid Term	Long Term
Strategic Theme 3.1: Ensure the use of Bangla in all ICT activities						
51	Promote the use of standard Bangla keyboard and resolve related issues, if any.	BSTI, BCC, Industry Associations	Anyone using Bangla can expect to have a standard keyboard	✔		
52	Update Bangla encoding standard to align it with Unicode and ISO	BCC, BSTI, Copyright Office, Industry Associations	Encourage software vendors to use the standard encoding	✔		
53	Digitally publish all govt. publications in Bangla using a standard encoding to guarantee document portability.	MoEst	All Bangla documents will be portable across platforms, applications, and time		✔	
54	Join the Unicode Consortium as an Institutional Member	BCC, MoSICT	Bangladesh will have a direct voice in Bangla script encoding issues in Unicode		✔	

Source: unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan041046.pdf

နိဂုံးချုပ်

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- ယူနီကုဒ်သည် တစ်ကမ္ဘာလုံးရှိ ဘာသာစကားများ အားလုံးအသုံးပြုနိုင်ရန် သတ်မှတ်ပေးထားသော တစ်ခုတည်းသော နိုင်ငံတကာစံ (ISO 10646) ဖြစ်ပါသည်။
- မြန်မာစာရေးထုံးကို မှန်ကန်စွာ အခြေခံပြီး တိုင်းရင်းသားဘာသာများ အားလုံးပါဝင်သော၊ နိုင်ငံတကာစံ နှင့် အပြည့်အဝ ကိုက်ညီသော၊ NLP ပြုလုပ်ရန်အဆင့်မြင့်မှန်ကန်သော မြန်မာစာ ကွန်ပျူတာစနစ်များကို အောင်မြင်စွာ အမြန်ဆုံး အကောင်အထည်ဖော်အသုံးပြုနိုင်ရန် အရေးကြီး လိုအပ်ပါသည်။
- မြန်မာနိုင်ငံ ကွန်ပျူတာအသင်းချုပ်၊ မြန်မာနိုင်ငံ ကွန်ပျူတာပညာရှင်အသင်း၊ မြန်မာနိုင်ငံ ကွန်ပျူတာ လုပ်ငန်းရှင်အသင်း နှင့် အခြားသက်ဆိုင်ရာပညာရှင်များ တာဝန်ရှိသူများ မှလာနည်းပညာ အကောင်ထည်ဖော်ဆောင်ရွက် မှုများ အကြံပေးမှုများ အပြည့်အဝ ပံ့ပိုးပေးသွားမည်ဖြစ်ပါသည်။

ကျေးဇူးအထူးတင်ရှိပါတယ်။

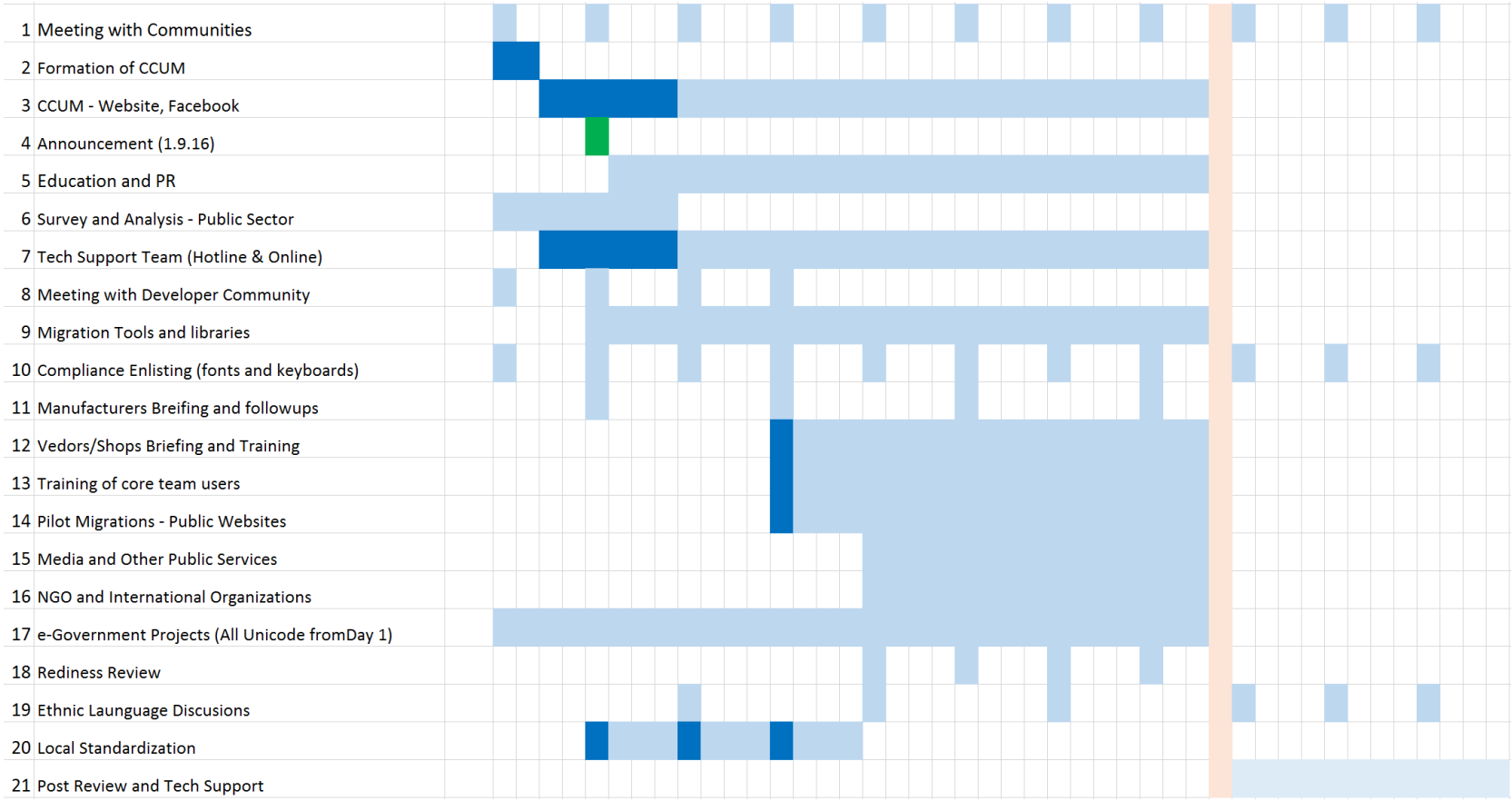
ငိဆ်းလူမ်းခွပ်;ထွ်ယ့်,ဆမ်တေ့တေ့ခါ;ဘေါ;။

တင့်ဂုဏ်ဗွဲမလောန်ရအ်

တဉ်ဘျုဒိဉ်မးလီ၊

ကေ့ဇူ့တင်;ငါ;မရေ;မရာ;သြ

Proposed Implementation Schedule



Useful Links

MCF

- Unicode
  - http://unicode.org/standard/standard.html
  - http://cldr.unicode.org/
  - http://site.icu-project.org/
- ICU Myanmar Words
  - http://code.metager.de/source/xref/lib/icu/icu/source/data/brkitr/burmesedict.txt
- Collation and Code Chart
  - http://unicode.org/faq/collation.html
  - http://unicode.org/reports/tr10/#Collation_And_Code_Chart_Order

The Unicode Consortium

MCF

- **Unicode Technical Committee:**
  - Responsible for the creation, maintenance, and quality of the Unicode Standard, and related software globalization standards and documents.
- **Unicode CLDR Technical Committee:**
  - Responsible for the Unicode Locales Project, the Common Locale Data Repository, and related software localization standards and documents.
- **Unicode Localization Interoperability Technical Committee:**
  - The ULITC provides needed data interchange formats for localization-related assets, with a focus on XLIFF, SRX, and TMX.
- **Unicode Editorial Committee:**
  - Responsible for editing the Consortium's publications and web pages.

What could not be the Standard?

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အောက်ပါအကြောင်းအချက်များနှင့် အကျုံးဝင်သော ပြောင်းလဲမှုမျိုးကို Unicode Consortium မှ လက်ခံနိုင်ရန် မဖြစ်နိုင်ပါ။

၁) ဗျည်းတွဲ အသွင်ပြောင်း နှင့် အတွဲ ဖေါင်းပွမှုကြောင့် အခြား တိုင်းရင်းသားများ၏ ကုဒ်ပွိုင့်များကို မှားယွင်း သုံးဆွဲထားခြင်း။

၂) ဗျည်းတွဲ နှင့် အခြား ကုဒ်ပွိုင့်များကို နေရာမှားယွင်း သုံးစွဲထားခြင်း။

- "Unicode's Registered Stability Policies"
- Once a code is assigned, it will not be reallocated, removed, or reassigned.

  Source: www.unicode.org/policies/reg_stability_policy.html

၃) ဗျည်း-ဗျည်းတွဲ-သရ (Consonant-medial-vowel) နှင့် မကိုက်ညီသော မှားယွင်း သိမ်းဆည်းထားခြင်း။

- မြန်မာစာ ကီးဘုတ်ရိုက်ရာတွင် မြန်မာရေးထုံးကို လိုက်နာရန်လိုအပ်ပြီး အက္ခရာများကို သိမ်းဆည်းရာတွင်မူ ယူနီကုဒ်စံ အတိုင်း သိမ်းဆည်းရန်လိုအပ်ပါသည်။

ယူနီကုဒ်စံစနစ်များ ၏အဆင်သင့်ဖြစ်မှုများ

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- အသင့်ပါဝင်သော Operating Systems များ
  - Windows 8, 10
  - Android
  - iOS
  - Mac

- အသင့်ပါဝင်သော ဆော့ဝဲများ နှင့် Apps များ
  - Microsoft Office, Open Office, Google Maps, Google Translate, Facebook

- အခြား Third Party ဖောင့်များ
  - Pyidaungsu, Myanmar3, Masterpiece Uni Sans, Parabaik, Padauk, Thanlwin, Win Uni Innwa, Xenotype, MyMyanmar, Yunghkio, Panglong, Tharlon, Noto Sans Myanmar, Yoe Yar, KhmerType, Myanmar Text, Myanmar Sangam MN and 100 + Fonts

- အခြား Third Party ကီးဘုတ်များ
  - Key Magic, TT Keyboard
  - My Myanmar
  - Myanmar 3

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Consonants

1000 က MYANMAR LETTER KA
1001 ခ MYANMAR LETTER KHA
1002 ဂ MYANMAR LETTER GA
1003 ဃ MYANMAR LETTER GHA
1004 င MYANMAR LETTER NGA
1005 စ MYANMAR LETTER CA
1006 ဆ MYANMAR LETTER CHA
1007 ဇ MYANMAR LETTER JA
1008 ဈ MYANMAR LETTER JHA
1009 ဉ MYANMAR LETTER NYA
100A ည MYANMAR LETTER NNYA
100B ဋ MYANMAR LETTER TTA
100C ဌ MYANMAR LETTER TTHA
100D ဍ MYANMAR LETTER DDA
100E ဎ MYANMAR LETTER DDHA
100F ဏ MYANMAR LETTER NNA
1010 တ MYANMAR LETTER TA
1011 ထ MYANMAR LETTER THA
1012 ဒ MYANMAR LETTER DA
1013 ဓ MYANMAR LETTER DHA
1014 န MYANMAR LETTER NA
1015 ပ MYANMAR LETTER PA
1016 ဖ MYANMAR LETTER PHA
1017 ဗ MYANMAR LETTER BA
1018 ဘ MYANMAR LETTER BHA
1019 မ MYANMAR LETTER MA
101A ယ MYANMAR LETTER YA
101B ရ MYANMAR LETTER RA
101C လ MYANMAR LETTER LA
101D ဝ MYANMAR LETTER WA
101E သ MYANMAR LETTER SA
101F ဟ MYANMAR LETTER HA
1020 ဠ MYANMAR LETTER LLA

Independent vowels

1021 အ MYANMAR LETTER A
• also represents the glottal stop as a consonan
1022 ဢ MYANMAR LETTER SHAN A
1023 ဣ MYANMAR LETTER I
1024 ဤ MYANMAR LETTER II
1025 ဥ MYANMAR LETTER U
1026 ဦ MYANMAR LETTER UU
≡ 1025 ဥ 102E ေ
1027 ဧ MYANMAR LETTER E
1028 ဨ MYANMAR LETTER MON E
1029 ဩ MYANMAR LETTER O
102A ဪ MYANMAR LETTER AU

Dependent vowel signs

102B ါ MYANMAR VOWEL SIGN TALL AA
102C ာ MYANMAR VOWEL SIGN AA
102D ိ MYANMAR VOWEL SIGN I
102E ီ MYANMAR VOWEL SIGN II
102F ု MYANMAR VOWEL SIGN U
1030 ူ MYANMAR VOWEL SIGN UU
1031 ေ MYANMAR VOWEL SIGN E
• stands to the left of the consonant
1032 ဲ MYANMAR VOWEL SIGN AI
1033 ံ MYANMAR VOWEL SIGN MON II
1034 း MYANMAR VOWEL SIGN MON O
1035 ် MYANMAR VOWEL SIGN E ABOVE

Various signs

104C ၌ MYANMAR SYMBOL LOCATIVE
104D ၍ MYANMAR SYMBOL COMPLETED
104E ၎ MYANMAR SYMBOL AFOREMENTIONED
104F ၏ MYANMAR SYMBOL GENITIVE

Various signs

1036 ◌ံ MYANMAR SIGN ANUSVARA
1037 ◌့ MYANMAR SIGN DOT BELOW
= aukmyit
• a tone mark
1038 ◌း MYANMAR SIGN VISARGA
1039 ◌္ MYANMAR SIGN VIRAMA
= killer (when rendered visibly)
103A ◌် MYANMAR SIGN ASAT
= killer (always rendered visibly)

Dependent consonant signs

103B ◌ျ MYANMAR CONSONANT SIGN MEDIAL YA
103C ◌ြ MYANMAR CONSONANT SIGN MEDIAL RA
103D ◌ွ MYANMAR CONSONANT SIGN MEDIAL WA
103E ◌ှ MYANMAR CONSONANT SIGN MEDIAL HA

Consonant

103F ဿ MYANMAR LETTER GREAT SA

Digits

1040 ၀ MYANMAR DIGIT ZERO
1041 ၁ MYANMAR DIGIT ONE
1042 ၂ MYANMAR DIGIT TWO
1043 ၃ MYANMAR DIGIT THREE
1044 ၄ MYANMAR DIGIT FOUR
1045 ၅ MYANMAR DIGIT FIVE
1046 ၆ MYANMAR DIGIT SIX
1047 ၇ MYANMAR DIGIT SEVEN
1048 ၈ MYANMAR DIGIT EIGHT
1049 ၉ MYANMAR DIGIT NINE

Punctuation

104A ၊ MYANMAR SIGN LITTLE SECTION
→ 0964 । devanagari danda
104B ။ MYANMAR SIGN SECTION
→ 0965 ॥ devanagari double danda

Pali and Sanskrit extensions

1050 ဏ MYANMAR LETTER SHA
1051 ဤ MYANMAR LETTER SSA
1052 ဥ MYANMAR LETTER VOCALIC R
1053 ဦ MYANMAR LETTER VOCALIC RR
1054 ဧ MYANMAR LETTER VOCALIC L
1055 ဩ MYANMAR LETTER VOCALIC LL
1056 ◌ၖ MYANMAR VOWEL SIGN VOCALIC R
1057 ◌ၗ MYANMAR VOWEL SIGN VOCALIC RR
1058 ◌ၘ MYANMAR VOWEL SIGN VOCALIC L
1059 ◌ၙ MYANMAR VOWEL SIGN VOCALIC LL

Extensions for Mon

105A ၚ MYANMAR LETTER MON NGA
105B ၛ MYANMAR LETTER MON JHA
105C ၜ MYANMAR LETTER MON BBA
105D ၝ MYANMAR LETTER MON BBE
105E ◌ၞ MYANMAR CONSONANT SIGN MON MEDIAL NA
105F ◌ၟ MYANMAR CONSONANT SIGN MON MEDIAL MA
1060 ◌ၠ MYANMAR CONSONANT SIGN MON MEDIAL LA

Extensions for S'gaw Karen

1061 ၡ MYANMAR LETTER SGAW KAREN SHA
1062 ◌ၢ MYANMAR VOWEL SIGN SGAW KAREN EU
1063 ◌ၣ MYANMAR TONE MARK SGAW KAREN HATHI
1064 ◌ၤ MYANMAR TONE MARK SGAW KAREN KE PHO

Extensions for Western Pwo Karen

1065 ဥ MYANMAR LETTER WESTERN PWO KAREN THA
1066 ဦ MYANMAR LETTER WESTERN PWO KAREN PWA
1067 ◌ၧ MYANMAR VOWEL SIGN WESTERN PWO KAREN EU
1068 ◌ၨ MYANMAR VOWEL SIGN WESTERN PWO KAREN UE
1069 ◌ၩ MYANMAR SIGN WESTERN PWO KAREN TONE-1
106A ◌ၪ MYANMAR SIGN WESTERN PWO KAREN TONE-2
106B ◌ၫ MYANMAR SIGN WESTERN PWO KAREN TONE-3
106C ◌ၬ MYANMAR SIGN WESTERN PWO KAREN TONE-4
106D ◌ၭ MYANMAR SIGN WESTERN PWO KAREN TONE-5

Extensions for Eastern Pwo Karen

106E ဿ MYANMAR LETTER EASTERN PWO KAREN NNA
106F ◌ၯ MYANMAR LETTER EASTERN PWO KAREN YWA
1070 ◌ၰ MYANMAR LETTER EASTERN PWO KAREN GHWA

Extension for Geba Karen

1071 ◌ၱ MYANMAR VOWEL SIGN GEBA KAREN I

Extensions for Kayah

1072 ◌ၲ MYANMAR VOWEL SIGN KAYAH OE
1073 ◌ၳ MYANMAR VOWEL SIGN KAYAH U
1074 ◌ၴ MYANMAR VOWEL SIGN KAYAH EE

Extensions for Shan

1075 ၵ MYANMAR LETTER SHAN KA
1076 ၶ MYANMAR LETTER SHAN KHA
1077 ၷ MYANMAR LETTER SHAN GA
1078 ၸ MYANMAR LETTER SHAN CA
1079 ၹ MYANMAR LETTER SHAN ZA
107A ၺ MYANMAR LETTER SHAN NYA
107B ၻ MYANMAR LETTER SHAN DA
107C ၼ MYANMAR LETTER SHAN NA
107D ၽ MYANMAR LETTER SHAN PHA
107E ၾ MYANMAR LETTER SHAN FA
107F ၿ MYANMAR LETTER SHAN BA
1080 ႀ MYANMAR LETTER SHAN THA
1081 ႁ MYANMAR LETTER SHAN HA
1082 ◌ႂ MYANMAR CONSONANT SIGN SHAN MEDIAL WA
1083 ◌ႃ MYANMAR VOWEL SIGN SHAN AA
1084 ◌ဳ MYANMAR VOWEL SIGN SHAN E
1085 ◌ဴ MYANMAR VOWEL SIGN SHAN E ABOVE
1086 ◌ဵ MYANMAR VOWEL SIGN SHAN FINAL Y
1087 ◌ႄ MYANMAR SIGN SHAN TONE-2
1088 ◌ႅ MYANMAR SIGN SHAN TONE-3
1089 ◌ႆ MYANMAR SIGN SHAN TONE-5
108A ◌ႇ MYANMAR SIGN SHAN TONE-6
108B ◌ႈ MYANMAR SIGN SHAN COUNCIL TONE-2
108C ◌ႉ MYANMAR SIGN SHAN COUNCIL TONE-3
108D ◌ႊ MYANMAR SIGN SHAN COUNCIL EMPHATIC TONE

Extensions for Rumai Palaung

108E ဿ MYANMAR LETTER RUMAI PALAUNG FA
108F ◌ႋ MYANMAR SIGN RUMAI PALAUNG TONE-5

Shan digits

1090 ႐ MYANMAR SHAN DIGIT ZERO
1091 ႑ MYANMAR SHAN DIGIT ONE
1092 ႒ MYANMAR SHAN DIGIT TWO
1093 ႓ MYANMAR SHAN DIGIT THREE
1094 ႔ MYANMAR SHAN DIGIT FOUR
1095 ႕ MYANMAR SHAN DIGIT FIVE
1096 ႖ MYANMAR SHAN DIGIT SIX
1097 ႗ MYANMAR SHAN DIGIT SEVEN
1098 ႘ MYANMAR SHAN DIGIT EIGHT
1099 ႙ MYANMAR SHAN DIGIT NINE

Extensions for Khamti Shan

109A ◌ၚ MYANMAR SIGN KHAMTI TONE-1
109B ◌ၛ MYANMAR SIGN KHAMTI TONE-3

Extensions for Aiton and Phake

109C ◌ၜ MYANMAR VOWEL SIGN AITON A
109D ◌ၝ MYANMAR VOWEL SIGN AITON AI

Shan symbols

109E ၞ MYANMAR SYMBOL SHAN ONE
109F ၟ MYANMAR SYMBOL SHAN EXCLAMATION

Khamti Shan consonants

AA60 ꩠ MYANMAR LETTER KHAMTI GA
AA61 ꩡ MYANMAR LETTER KHAMTI CA
AA62 ꩢ MYANMAR LETTER KHAMTI CHA
AA63 ꩣ MYANMAR LETTER KHAMTI JA
AA64 ꩤ MYANMAR LETTER KHAMTI JHA
AA65 ꩥ MYANMAR LETTER KHAMTI NYA
AA66 ꩦ MYANMAR LETTER KHAMTI TTA
AA67 ꩧ MYANMAR LETTER KHAMTI TTHA
AA68 ꩨ MYANMAR LETTER KHAMTI DDA
AA69 ꩩ MYANMAR LETTER KHAMTI DDHA
AA6A ꩪ MYANMAR LETTER KHAMTI DHA
AA6B ꩫ MYANMAR LETTER KHAMTI NA
AA6C ꩬ MYANMAR LETTER KHAMTI SA
AA6D ꩭ MYANMAR LETTER KHAMTI HA
AA6E ꩮ MYANMAR LETTER KHAMTI HHA
AA6F ꩯ MYANMAR LETTER KHAMTI FA
AA70 ꩰ MYANMAR MODIFIER LETTER KHAMTI REDUPLICATION
→ A9E6 ꧦ myanmar modifier letter shan reduplication
AA71 ꩱ MYANMAR LETTER KHAMTI XA
AA72 ꩲ MYANMAR LETTER KHAMTI ZA
AA73 ꩳ MYANMAR LETTER KHAMTI RA

Khamti Shan logograms

AA74 ꩴ MYANMAR LOGOGRAM KHAMTI OAY
AA75 ꩵ MYANMAR LOGOGRAM KHAMTI QN
AA76 ꩶ MYANMAR LOGOGRAM KHAMTI HM

Aiton symbols and letters

AA77 ꩷ MYANMAR SYMBOL AITON EXCLAMATION
AA78 ꩸ MYANMAR SYMBOL AITON ONE
AA79 ꩹ MYANMAR SYMBOL AITON TWO
AA7A ꩺ MYANMAR LETTER AITON RA

Pa'o Karen tone mark

AA7B ◌ꩻ MYANMAR SIGN PAO KAREN TONE

Tai Laing tone marks

AA7C ◌ꩼ MYANMAR SIGN TAI LAING TONE-2
AA7D ◌ꩽ MYANMAR SIGN TAI LAING TONE-5

Shwe Palaung letters

AA7E ꩾ MYANMAR LETTER SHWE PALAUNG CHA
AA7F ꩿ MYANMAR LETTER SHWE PALAUNG SHA

Additions for Shan Pali

A9E0 ꧀ MYANMAR LETTER SHAN GHA
A9E1 ꧁ MYANMAR LETTER SHAN CHA
A9E2 ꧂ MYANMAR LETTER SHAN JHA
A9E3 ꧃ MYANMAR LETTER SHAN NNA
A9E4 ꧄ MYANMAR LETTER SHAN BHA
A9E5 ◌꧅ MYANMAR SIGN SHAN SAW

Reduplication mark

A9E6 ꧦ MYANMAR MODIFIER LETTER SHAN REDUPLICATION
→ AA70 ꩰ myanmar modifier letter khamti reduplication

Tai Laing consonants

A9E7 ꧇ MYANMAR LETTER TAI LAING NYA
A9E8 ꧈ MYANMAR LETTER TAI LAING FA
A9E9 ꧉ MYANMAR LETTER TAI LAING GA
A9EA ꧊ MYANMAR LETTER TAI LAING GHA
A9EB ꧋ MYANMAR LETTER TAI LAING JA
A9EC ꧌ MYANMAR LETTER TAI LAING JHA
A9ED ꧍ MYANMAR LETTER TAI LAING DDA
A9EE ꧎ MYANMAR LETTER TAI LAING DDHA
A9EF ꧏ MYANMAR LETTER TAI LAING NNA

Tai Laing digits

A9F0 ꧐ MYANMAR TAI LAING DIGIT ZERO
A9F1 ꧑ MYANMAR TAI LAING DIGIT ONE
A9F2 ꧒ MYANMAR TAI LAING DIGIT TWO
A9F3 ꧓ MYANMAR TAI LAING DIGIT THREE
A9F4 ꧔ MYANMAR TAI LAING DIGIT FOUR
A9F5 ꧕ MYANMAR TAI LAING DIGIT FIVE
A9F6 ꧖ MYANMAR TAI LAING DIGIT SIX
A9F7 ꧗ MYANMAR TAI LAING DIGIT SEVEN
A9F8 ꧘ MYANMAR TAI LAING DIGIT EIGHT
A9F9 ꧙ MYANMAR TAI LAING DIGIT NINE

Tai Laing consonants

A9FA ꧚ MYANMAR LETTER TAI LAING LLA
A9FB ꧛ MYANMAR LETTER TAI LAING DA
A9FC ꧜ MYANMAR LETTER TAI LAING DHA
A9FD ꧝ MYANMAR LETTER TAI LAING BA
A9FE ꧞ MYANMAR LETTER TAI LAING BHA

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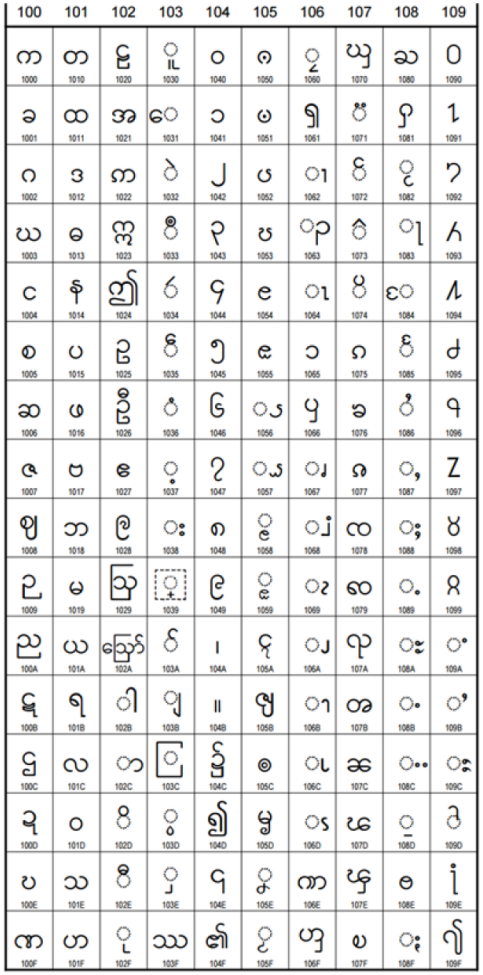

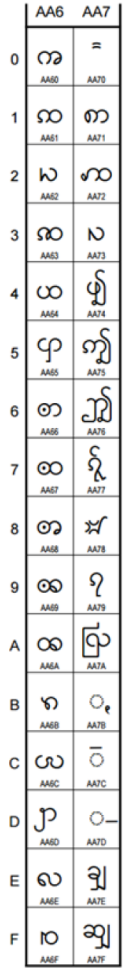

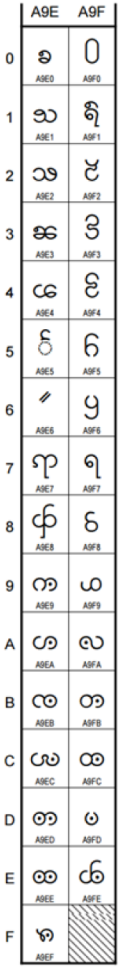

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Consonants

1000 က MYANMAR LETTER KA
1001 ခ MYANMAR LETTER KHA
1002 ဂ MYANMAR LETTER GA
1003 ဃ MYANMAR LETTER GHA
1004 င MYANMAR LETTER NGA
1005 စ MYANMAR LETTER CA
1006 ဆ MYANMAR LETTER CHA
1007 ဇ MYANMAR LETTER JA
1008 ဈ MYANMAR LETTER JHA
1009 ဉ MYANMAR LETTER NYA
100A ည MYANMAR LETTER NNYA
100B ဋ MYANMAR LETTER TTA
100C ဌ MYANMAR LETTER TTHA
100D ဍ MYANMAR LETTER DDA
100E ဎ MYANMAR LETTER DDHA
100F ဏ MYANMAR LETTER NNA
1010 တ MYANMAR LETTER TA
1011 ထ MYANMAR LETTER THA
1012 ဒ MYANMAR LETTER DA
1013 ဓ MYANMAR LETTER DHA
1014 န MYANMAR LETTER NA
1015 ပ MYANMAR LETTER PA
1016 ဖ MYANMAR LETTER PHA
1017 ဗ MYANMAR LETTER BA
1018 ဘ MYANMAR LETTER BHA
1019 မ MYANMAR LETTER MA
101A ယ MYANMAR LETTER YA
101B ရ MYANMAR LETTER RA
101C လ MYANMAR LETTER LA
101D ဝ MYANMAR LETTER WA
101E သ MYANMAR LETTER SA
101F ဟ MYANMAR LETTER HA
1020 ဠ MYANMAR LETTER LLA

Independent vowels

1021 အ MYANMAR LETTER A
• also represents the glottal stop as a consonan
1022 ဣ MYANMAR LETTER SHAN A
1023 ဤ MYANMAR LETTER I
1024 ဥ MYANMAR LETTER II
1025 ဦ MYANMAR LETTER U
1026 ဧ MYANMAR LETTER UU
≡ 1025 ဥ 102E ိ
1027 ဧ MYANMAR LETTER E
1028 ဩ MYANMAR LETTER MON E
1029 ဪ MYANMAR LETTER O
102A ဿ MYANMAR LETTER AU

Dependent vowel signs

102B ◌ါ MYANMAR VOWEL SIGN TALL AA
102C ◌ာ MYANMAR VOWEL SIGN AA
102D ◌ိ MYANMAR VOWEL SIGN I
102E ◌ီ MYANMAR VOWEL SIGN II
102F ◌ု MYANMAR VOWEL SIGN U
1030 ◌ူ MYANMAR VOWEL SIGN UU
1031 ◌ေ MYANMAR VOWEL SIGN E
• stands to the left of the consonant
1032 ◌ဲ MYANMAR VOWEL SIGN AI
1033 ◌ဳ MYANMAR VOWEL SIGN MON II
1034 ◌ဴ MYANMAR VOWEL SIGN MON O
1035 ◌ဵ MYANMAR VOWEL SIGN E ABOVE

Various signs

104C ၌ MYANMAR SYMBOL LOCATIVE
104D ၍ MYANMAR SYMBOL COMPLETED
104E ၎ MYANMAR SYMBOL AFOREMENTIONED
104F ၏ MYANMAR SYMBOL GENITIVE

Various signs

1036 ◌ံ MYANMAR SIGN ANUSVARA
1037 ◌့ MYANMAR SIGN DOT BELOW
= aukmyit
• a tone mark
1038 ◌း MYANMAR SIGN VISARGA
1039 ◌္ MYANMAR SIGN VIRAMA
= killer (when rendered visibly)
103A ◌် MYANMAR SIGN ASAT
= killer (always rendered visibly)

Dependent consonant signs

103B ◌ျ MYANMAR CONSONANT SIGN MEDIAL YA
103C ◌ြ MYANMAR CONSONANT SIGN MEDIAL RA
103D ◌ွ MYANMAR CONSONANT SIGN MEDIAL WA
103E ◌ှ MYANMAR CONSONANT SIGN MEDIAL HA

Consonant

103F ဿ MYANMAR LETTER GREAT SA

Digits

1040 ၀ MYANMAR DIGIT ZERO
1041 ၁ MYANMAR DIGIT ONE
1042 ၂ MYANMAR DIGIT TWO
1043 ၃ MYANMAR DIGIT THREE
1044 ၄ MYANMAR DIGIT FOUR
1045 ၅ MYANMAR DIGIT FIVE
1046 ၆ MYANMAR DIGIT SIX
1047 ၇ MYANMAR DIGIT SEVEN
1048 ၈ MYANMAR DIGIT EIGHT
1049 ၉ MYANMAR DIGIT NINE

Punctuation

104A ၊ MYANMAR SIGN LITTLE SECTION
→ 0964 । devanagari danda
104B ။ MYANMAR SIGN SECTION
→ 0965 ॥ devanagari double danda

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Pali and Sanskrit extensions

1050 ဈ MYANMAR LETTER SHA
1051 ဗ MYANMAR LETTER SSA
1052 ဟ MYANMAR LETTER VOCALIC R
1053 ဠ MYANMAR LETTER VOCALIC RR
1054 ဢ MYANMAR LETTER VOCALIC L
1055 ဣ MYANMAR LETTER VOCALIC LL
1056 ◌ၘ MYANMAR VOWEL SIGN VOCALIC R
1057 ◌ၙ MYANMAR VOWEL SIGN VOCALIC RR
1058 ◌ၚ MYANMAR VOWEL SIGN VOCALIC L
1059 ◌ၛ MYANMAR VOWEL SIGN VOCALIC LL

Extensions for Mon

105A ၚ MYANMAR LETTER MON NGA
105B ၛ MYANMAR LETTER MON JHA
105C ၜ MYANMAR LETTER MON BBA
105D ၝ MYANMAR LETTER MON BBE
105E ◌ၞ MYANMAR CONSONANT SIGN MON MEDIAL NA
105F ◌ၟ MYANMAR CONSONANT SIGN MON MEDIAL MA
1060 ◌ၠ MYANMAR CONSONANT SIGN MON MEDIAL LA

Extensions for S'gaw Karen

1061 ၡ MYANMAR LETTER SGAW KAREN SHA
1062 ◌ၢ MYANMAR VOWEL SIGN SGAW KAREN EU
1063 ◌ၣ MYANMAR TONE MARK SGAW KAREN HATHI
1064 ◌ၤ MYANMAR TONE MARK SGAW KAREN KE PHO

Extensions for Western Pwo Karen

1065 ၥ MYANMAR LETTER WESTERN PWO KAREN THA
1066 ၦ MYANMAR LETTER WESTERN PWO KAREN PWA
1067 ◌ၧ MYANMAR VOWEL SIGN WESTERN PWO KAREN EU
1068 ◌ၨ MYANMAR VOWEL SIGN WESTERN PWO KAREN UE
1069 ◌ၩ MYANMAR SIGN WESTERN PWO KAREN TONE-1
106A ◌ၪ MYANMAR SIGN WESTERN PWO KAREN TONE-2
106B ◌ၫ MYANMAR SIGN WESTERN PWO KAREN TONE-3
106C ◌ၬ MYANMAR SIGN WESTERN PWO KAREN TONE-4
106D ◌ၭ MYANMAR SIGN WESTERN PWO KAREN TONE-5

Extensions for Eastern Pwo Karen

106E ၮ MYANMAR LETTER EASTERN PWO KAREN NNA
106F ၯ MYANMAR LETTER EASTERN PWO KAREN YWA
1070 ၰ MYANMAR LETTER EASTERN PWO KAREN GHWA

Extension for Geba Karen

1071 ◌ၱ MYANMAR VOWEL SIGN GEBA KAREN I

Extensions for Kayah

1072 ◌ၲ MYANMAR VOWEL SIGN KAYAH OE
1073 ◌ၳ MYANMAR VOWEL SIGN KAYAH U
1074 ◌ၴ MYANMAR VOWEL SIGN KAYAH EE

Extensions for Shan

1075 ၵ MYANMAR LETTER SHAN KA
1076 ၶ MYANMAR LETTER SHAN KHA
1077 ၷ MYANMAR LETTER SHAN GA
1078 ၸ MYANMAR LETTER SHAN CA
1079 ၹ MYANMAR LETTER SHAN ZA
107A ၺ MYANMAR LETTER SHAN NYA
107B ၻ MYANMAR LETTER SHAN DA
107C ၼ MYANMAR LETTER SHAN NA
107D ၽ MYANMAR LETTER SHAN PHA
107E ၾ MYANMAR LETTER SHAN FA
107F ၿ MYANMAR LETTER SHAN BA
1080 ႀ MYANMAR LETTER SHAN THA
1081 ႁ MYANMAR LETTER SHAN HA
1082 ◌ႂ MYANMAR CONSONANT SIGN SHAN MEDIAL WA
1083 ◌ႃ MYANMAR VOWEL SIGN SHAN AA
1084 ◌ႄ MYANMAR VOWEL SIGN SHAN E
1085 ◌ႅ MYANMAR VOWEL SIGN SHAN E ABOVE
1086 ◌ႆ MYANMAR VOWEL SIGN SHAN FINAL Y
1087 ◌ႇ MYANMAR SIGN SHAN TONE-2
1088 ◌ႈ MYANMAR SIGN SHAN TONE-3
1089 ◌ႉ MYANMAR SIGN SHAN TONE-5
108A ◌ႊ MYANMAR SIGN SHAN TONE-6
108B ◌ႋ MYANMAR SIGN SHAN COUNCIL TONE-2
108C ◌ႌ MYANMAR SIGN SHAN COUNCIL TONE-3
108D ◌ႍ MYANMAR SIGN SHAN COUNCIL EMPHATIC TONE

Extensions for Rumai Palaung

108E ဎ MYANMAR LETTER RUMAI PALAUNG FA
108F ◌ႏ MYANMAR SIGN RUMAI PALAUNG TONE-5

Shan digits

1090 ႐ MYANMAR SHAN DIGIT ZERO
1091 ႑ MYANMAR SHAN DIGIT ONE
1092 ႒ MYANMAR SHAN DIGIT TWO
1093 ႓ MYANMAR SHAN DIGIT THREE
1094 ႔ MYANMAR SHAN DIGIT FOUR
1095 ႕ MYANMAR SHAN DIGIT FIVE
1096 ႖ MYANMAR SHAN DIGIT SIX
1097 ႗ MYANMAR SHAN DIGIT SEVEN
1098 ႘ MYANMAR SHAN DIGIT EIGHT
1099 ႙ MYANMAR SHAN DIGIT NINE

Extensions for Khamti Shan

109A ◌ၚ MYANMAR SIGN KHAMTI TONE-1
109B ◌ၛ MYANMAR SIGN KHAMTI TONE-3

Extensions for Aiton and Phake

109C ◌ၜ MYANMAR VOWEL SIGN AITON A
109D ◌ၝ MYANMAR VOWEL SIGN AITON AI

Shan symbols

109E ၞ MYANMAR SYMBOL SHAN ONE
109F ၟ MYANMAR SYMBOL SHAN EXCLAMATION

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Khamti Shan consonants

AA60 ꩠ MYANMAR LETTER KHAMTI GA
AA61 ꩡ MYANMAR LETTER KHAMTI CA
AA62 ꩢ MYANMAR LETTER KHAMTI CHA
AA63 ꩣ MYANMAR LETTER KHAMTI JA
AA64 ꩤ MYANMAR LETTER KHAMTI JHA
AA65 ꩥ MYANMAR LETTER KHAMTI NYA
AA66 ꩦ MYANMAR LETTER KHAMTI TTA
AA67 ꩧ MYANMAR LETTER KHAMTI TTHA
AA68 ꩨ MYANMAR LETTER KHAMTI DDA
AA69 ꩩ MYANMAR LETTER KHAMTI DDHA
AA6A ꩪ MYANMAR LETTER KHAMTI DHA
AA6B ꩫ MYANMAR LETTER KHAMTI NA
AA6C ꩬ MYANMAR LETTER KHAMTI SA
AA6D ꩭ MYANMAR LETTER KHAMTI HA
AA6E ꩮ MYANMAR LETTER KHAMTI HHA
AA6F ꩯ MYANMAR LETTER KHAMTI FA
AA70 ꩰ MYANMAR MODIFIER LETTER KHAMTI REDUPLICATION
→ A9E6 ꧦ myanmar modifier letter shan reduplication
AA71 ꩱ MYANMAR LETTER KHAMTI XA
AA72 ꩲ MYANMAR LETTER KHAMTI ZA
AA73 ꩳ MYANMAR LETTER KHAMTI RA

Khamti Shan logograms

AA74 ꩴ MYANMAR LOGOGRAM KHAMTI OAY
AA75 ꩵ MYANMAR LOGOGRAM KHAMTI QN
AA76 ꩶ MYANMAR LOGOGRAM KHAMTI HM

Aiton symbols and letters

AA77 ꩷ MYANMAR SYMBOL AITON EXCLAMATION
AA78 ꩸ MYANMAR SYMBOL AITON ONE
AA79 ꩹ MYANMAR SYMBOL AITON TWO
AA7A ꩺ MYANMAR LETTER AITON RA

Pa'o Karen tone mark

AA7B ꩻ MYANMAR SIGN PAO KAREN TONE

Tai Laing tone marks

AA7C ꩼ MYANMAR SIGN TAI LAING TONE-2
AA7D ꩽ MYANMAR SIGN TAI LAING TONE-5

Shwe Palaung letters

AA7E ꩾ MYANMAR LETTER SHWE PALAUNG CHA
AA7F ꩿ MYANMAR LETTER SHWE PALAUNG SHA

Additions for Shan Pali

A9E0 ꧠ MYANMAR LETTER SHAN GHA
A9E1 ꧡ MYANMAR LETTER SHAN CHA
A9E2 ꧢ MYANMAR LETTER SHAN JHA
A9E3 ꧣ MYANMAR LETTER SHAN NNA
A9E4 ꧤ MYANMAR LETTER SHAN BHA
A9E5 ꧥ MYANMAR SIGN SHAN SAW

Reduplication mark

A9E6 ꧦ MYANMAR MODIFIER LETTER SHAN REDUPLICATION
→ AA70 ꩰ myanmar modifier letter khamti reduplication

Tai Laing consonants

A9E7 ꧧ MYANMAR LETTER TAI LAING NYA
A9E8 ꧨ MYANMAR LETTER TAI LAING FA
A9E9 ꧩ MYANMAR LETTER TAI LAING GA
A9EA ꧪ MYANMAR LETTER TAI LAING GHA
A9EB ꧫ MYANMAR LETTER TAI LAING JA
A9EC ꧬ MYANMAR LETTER TAI LAING JHA
A9ED ꧭ MYANMAR LETTER TAI LAING DDA
A9EE ꧮ MYANMAR LETTER TAI LAING DDHA
A9EF ꧯ MYANMAR LETTER TAI LAING NNA

Tai Laing digits

A9F0 ꧰ MYANMAR TAI LAING DIGIT ZERO
A9F1 ꧱ MYANMAR TAI LAING DIGIT ONE
A9F2 ꧲ MYANMAR TAI LAING DIGIT TWO
A9F3 ꧳ MYANMAR TAI LAING DIGIT THREE
A9F4 ꧴ MYANMAR TAI LAING DIGIT FOUR
A9F5 ꧵ MYANMAR TAI LAING DIGIT FIVE
A9F6 ꧶ MYANMAR TAI LAING DIGIT SIX
A9F7 ꧷ MYANMAR TAI LAING DIGIT SEVEN
A9F8 ꧸ MYANMAR TAI LAING DIGIT EIGHT
A9F9 ꧹ MYANMAR TAI LAING DIGIT NINE

Tai Laing consonants

A9FA ꧺ MYANMAR LETTER TAI LAING LLA
A9FB ꧻ MYANMAR LETTER TAI LAING DA
A9FC ꧼ MYANMAR LETTER TAI LAING DHA
A9FD ꧽ MYANMAR LETTER TAI LAING BA
A9FE ꧾ MYANMAR LETTER TAI LAING BHA