# Seximal and Niftimal Dedicated Digits

## *Formation Logic and Equivalence*

Digits, from 1 to 15, are formed summing the values of four quadrants; pure seximal digits use only quadrants with values 1 and 2; niftimal digits use also the 10 quadrant; a vertical line indicates that none of those quadrants are used, top or bottom; an open bowl, an angle or a "hook" indicates that only the left or right quadrant is used; a circle indicates that both the left and right quadrants are used; from 20 to 35, a dot above indicates "plus 20" over the digit's value, and, from 40 to 55, two dots above indicate "plus 40."

| 1 | 2 |
|---|---|
| 2 | 10 |

Legend (per cell):

| value with dedicated digits | **dedicated** | *decimal value* |
|---|---|---|
| value with regular digits | **digit** | niftimal value |

Digit table (seximal value with dedicated digits / seximal value with regular digits → decimal value / niftimal value):

| decimal | seximal (dedicated) | seximal (regular) | niftimal |
|---|---|---|---|
| 0 | o | 0 | 0 |
| 1 | 4 | 1 | 1 |
| 2 | P | 2 | 2 |
| 3 | 9 | 3 | 3 |
| 4 | 2 | 4 | 4 |
| 5 | e | 5 | 5 |
| 6 | 4o | 10 | 6 |
| 7 | 44 | 11 | 7 |
| 8 | 4P | 12 | 8 |
| 9 | 49 | 13 | 9 |
| 10 | 42 | 14 | A |
| 11 | 4e | 15 | B |
| 12 | Po | 20 | C |
| 13 | P4 | 21 | D |
| 14 | PP | 22 | E |
| 15 | P9 | 23 | F |
| 16 | P2 | 24 | G |
| 17 | Pe | 25 | H |
| 18 | 9o | 30 | I |
| 19 | 94 | 31 | J |
| 20 | 9P | 32 | K |
| 21 | 99 | 33 | L |
| 22 | 92 | 34 | M |
| 23 | 9e | 35 | N |
| 24 | 2o | 40 | O |
| 25 | 24 | 41 | P |
| 26 | 2P | 42 | Q |
| 27 | 29 | 43 | R |
| 28 | 22 | 44 | S |
| 29 | 2e | 45 | T |
| 30 | eo | 50 | U |
| 31 | e4 | 51 | V |
| 32 | eP | 52 | W |
| 33 | e9 | 53 | X |
| 34 | e2 | 54 | Y |
| 35 | ee | 55 | Z |

Encoding is proposed at the codepoints shown in the following table:

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **F1A0** | F1A00 | F1A01 | F1A02 | F1A03 | F1A04 | F1A05 | F1A06 | F1A07 | F1A08 | F1A09 | F1A0A | F1A0B | F1A0C | F1A0D | F1A0E | F1A0F |
| **F1A1** | F1A10 | F1A11 | F1A12 | F1A13 | F1A14 | F1A15 | F1A16 | F1A17 | F1A18 | F1A19 | F1A1A | F1A1B | F1A1C | F1A1D | F1A1E | F1A1F |
| **F1A2** | F1A20 | F1A21 | F1A22 | F1A23 | F1A24 | F1A25 | F1A26 | F1A27 | F1A28 | F1A29 | F1A2A | F1A2B | F1A2C | F1A2D | F1A2E | F1A2F |
| **F1A3** | F1A30 | F1A31 | F1A32 | F1A33 | F1A34 | F1A35 | F1A36 | F1A37 | F1A38 | F1A39 | F1A3A | F1A3B | F1A3C | F1A3D | F1A3E | F1A3F |
| **F1A4** | F1A40 | F1A41 | F1A42 | F1A43 | F1A44 | F1A45 | F1A46 | F1A47 | F1A48 | F1A49 | F1A4A | F1A4B | F1A4C | F1A4D | F1A4E | F1A4F |
| **F1A5** | F1A50 | F1A51 | F1A52 | F1A53 | F1A54 | F1A55 | F1A56 | F1A57 | F1A58 | F1A59 | F1A5A | F1A5B | F1A5C | F1A5D | F1A5E | F1A5F |
| **F1A6** | F1A60 | F1A61 | F1A62 | F1A63 | F1A64 | F1A65 | F1A66 | F1A67 | F1A68 | F1A69 | F1A6A | F1A6B | F1A6C | F1A6D | F1A6E | F1A6F |

Regular seximal digits are encoded from codepoints U+F1A00 to U+F1A05, and regular niftimal digits from U+F1A06 to U+F1A23; following are the superscript and subscript variants.

### Fonts and how to type

There've been made two fonts:

1. Andika-Regular.ttf – a copy of Andika (created by SIL International), version 6.200, with the dedicated digits at the codepoints indicated previously;

2. AndikaBase6-Regular.ttf – a copy of Andika (created by SIL International), version 6.200, with regular digits from 0 to 5 replaced by the regular seximal dedicated digits ○ to ℮, and digits 6 to 9 replaced by the niftimal dedicated digits Ƅ to 9; the dozenal digits Ꙅ (U+218A) and Ɛ (U+218B) also have been replaced by ə and 8; the

superscript and subscript variants also have been replaced, so that ⁰¹²³⁴⁵⁶⁷⁸⁹ yields ᴼᴴᴾᴾᴢᴇᴸᴸᴼᴬᴴ and ₀₁₂₃₄₅₆₇₈₉ yields ₒᵤₚₚᵤₑₗₗₒₐₕ;

Both fonts have niftimal digit ligatures activated, using the Zero Width Joiner (U+200D, &zwj;), as the trigger, as following:

| Type | Andika | AndikaBase6 |
|---|---|---|
| *Regular* | | |
| 0 1 2 3 4 5 6 7 8 9 ﻉ ﻻ | 0 1 2 3 4 5 6 7 8 9 ﻉ ﻻ | o ५ ९ ९ ﻉ ﻉ ५ ५ ९ ﻭ ﻭ |
| ZWJ + 00 01 02 03 04 05 | o ५ ९ ९ ﻉ ﻉ | o ५ ९ ९ ﻉ ﻉ |
| ZWJ + 10 11 12 13 14 15 | ५ ५ ۶ ﻭ ﻭ ﻻ | ५ ५ ۶ ﻭ ﻭ ﻻ |
| ZWJ + 20 21 22 23 24 25 | ò ५́ ९̀ ९̀ ﻉ̀ ﻉ̀ | ò ५́ ९̀ ९̀ ﻉ̀ ﻉ̀ |
| ZWJ + 30 31 32 33 34 35 | ५́ ५̌ ۶̀ ﻭ̀ ﻭ̀ ﻻ̀ | ५́ ५̌ ۶̀ ﻭ̀ ﻭ̀ ﻻ̀ |
| ZWJ + 40 41 42 43 44 45 | ö ५̈ ९̈ ९̈ ﻉ̈ ﻉ̈ | ö ५̈ ९̈ ९̈ ﻉ̈ ﻉ̈ |
| ZWJ + 50 51 52 53 54 55 | ५̆ ५̆ ۶̆ ﻭ̆ ﻭ̆ ﻻ̆ | ५̆ ५̆ ۶̆ ﻭ̆ ﻭ̆ ﻻ̆ |
| *Superscript* | | |
| 0 1 2 3 4 5 6 7 8 9 | 0 1 2 3 4 5 6 7 8 9 | o ५ ९ ९ ﻉ ﻉ ५ ५ ﻭ |
| ZWJ + 00 01 02 03 04 05 | o ५ ९ ९ ﻉ ﻉ | o ५ ९ ९ ﻉ ﻉ |
| ZWJ + 10 11 12 13 14 15 | ५ ५ ۶ ﻭ ﻭ ﻻ | ५ ५ ۶ ﻭ ﻭ ﻻ |
| ZWJ + 20 21 22 23 24 25 | ò ५́ ९̀ ९̀ ﻉ̀ ﻉ̀ | ò ५́ ९̀ ९̀ ﻉ̀ ﻉ̀ |
| ZWJ + 30 31 32 33 34 35 | ५́ ५̌ ۶̀ ﻭ̀ ﻭ̀ ﻻ̀ | ५́ ५̌ ۶̀ ﻭ̀ ﻭ̀ ﻻ̀ |
| ZWJ + 40 41 42 43 44 45 | ö ५̈ ९̈ ९̈ ﻉ̈ ﻉ̈ | ö ५̈ ९̈ ९̈ ﻉ̈ ﻉ̈ |
| ZWJ + 50 51 52 53 54 55 | ५̆ ५̆ ۶̆ ﻭ̆ ﻭ̆ ﻻ̆ | ५̆ ५̆ ۶̆ ﻭ̆ ﻭ̆ ﻻ̆ |
| *Subscript* | | |
| 0 1 2 3 4 5 6 7 8 9 | 0 1 2 3 4 5 6 7 8 9 | o ५ ९ ९ ﻉ ﻉ ५ ५ ﻭ |
| ZWJ + 00 01 02 03 04 05 | o ५ ९ ९ ﻉ ﻉ | o ५ ९ ९ ﻉ ﻉ |
| ZWJ + 10 11 12 13 14 15 | ५ ५ ۶ ﻭ ﻭ ﻻ | ५ ५ ۶ ﻭ ﻭ ﻻ |
| ZWJ + 20 21 22 23 24 25 | ò ५́ ९̀ ९̀ ﻉ̀ ﻉ̀ | ò ५́ ९̀ ९̀ ﻉ̀ ﻉ̀ |
| ZWJ + 30 31 32 33 34 35 | ५́ ५̌ ۶̀ ﻭ̀ ﻭ̀ ﻻ̀ | ५́ ५̌ ۶̀ ﻭ̀ ﻭ̀ ﻻ̀ |
| ZWJ + 40 41 42 43 44 45 | ö ५̈ ९̈ ९̈ ﻉ̈ ﻉ̈ | ö ५̈ ९̈ ९̈ ﻉ̈ ﻉ̈ |
| ZWJ + 50 51 52 53 54 55 | ५̆ ५̆ ۶̆ ﻭ̆ ﻭ̆ ﻻ̆ | ५̆ ५̆ ۶̆ ﻭ̆ ﻭ̆ ﻻ̆ |