Danish braille, basic translation

This document is a reference sheet for single-character six-dot braille translation in compliance with the official Danish braille code of 1993. The document covers the Unicode tables Basic Latin and Latin-1 Supplement as well as certain other common characters. A question mark in a translation string indicates that there is no suitable (six-dot) translation of a given character.

*Note that the various components of the braille output are separated by spaces, not by characters representing empty braille cells. If a translation calls for a blank cell to be inserted, as is the case with percentages, then a proper blank cell is inserted. Similarly, in the pangram, the spaces are empty braille cells.*

# Letters

The letters q, w, x, z and ü are prefixed by ⠠ in grade 2. This is not reflected in the translation strings below.

## Lowercase alphabet

a b c d e f g h i j k l m n o p q r s t u v w x y z æ ø å

⠁ ⠃ ⠉ ⠙ ⠑ ⠋ ⠛ ⠓ ⠊ ⠚ ⠅ ⠇ ⠍ ⠝ ⠕ ⠏ ⠟ ⠗ ⠎ ⠞ ⠥ ⠧ ⠺ ⠭ ⠽ ⠵ ⠜ ⠪ ⠡

## Uppercase alphabet

Letters prefixed by ⠨. Note that in six-dot braille uppercase letters are generally only used for acronyms, Roman numerals and other situations where the reader must be able to distinguish a sequence of letters from an actual word.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Æ Ø Å

⠨⠁ ⠨⠃ ⠨⠉ ⠨⠙ ⠨⠑ ⠨⠋ ⠨⠛ ⠨⠓ ⠨⠊ ⠨⠚ ⠨⠅ ⠨⠇ ⠨⠍ ⠨⠝ ⠨⠕ ⠨⠏ ⠨⠟ ⠨⠗ ⠨⠎ ⠨⠞ ⠨⠥ ⠨⠧ ⠨⠺ ⠨⠭ ⠨⠽ ⠨⠵ ⠨⠜ ⠨⠪ ⠨⠡

## Sequence of uppercase letters (acronyms)

Acronyms are marked up as such in input files (the markup encompasses only the actual acronym; surrounding letters or punctuation not included). ⠸ denotes the start of the sequence. If a lowercase suffix is present (typically -s or -er), insert ⠠ before that suffix. If the sequence ends with a lowercase suffix preceded by an apostrophe, disregard the previous rule and retain just the apostrophe. Lowercase letters within the sequence are not considered significant.

NATO NATOs FN’s TotPs

⠸⠝⠁⠞⠕ ⠸⠝⠁⠞⠕⠠⠎⠀⠸⠋⠝⠈⠎ ⠸⠞⠕⠞⠏⠎

## Accents and foreign letters

Only some accent-letter combinations are properly accounted for, basically to allow interoperability with German and Swedish: ä, ö and ü. All other accents and semi-common foreign letters (e.g. ß, ð) are represented by a prefix (⠐) and the base letter. This should also apply to accented letters which are outside Latin-1 (e.g. š) and hence are not listed here.

### A

à á ä â ã À Á Ä Â Ã

⠐⠁ ⠐⠁ ⠜ ⠐⠁ ⠐⠁ ⠨⠐⠁ ⠨⠐⠁ ⠨⠜ ⠨⠐⠁ ⠨⠐⠁

### C

ç Ç

⠐⠉ ⠨⠐⠉

### E

è é ë ê È É Ë Ê

⠐⠑ ⠐⠑ ⠐⠑ ⠐⠑ ⠨⠐⠑ ⠨⠐⠑ ⠨⠐⠑ ⠨⠐⠑

### I

ì í ï î Ì Í Ï Î

⠐⠊ ⠐⠊ ⠐⠊ ⠐⠊ ⠨⠐⠊ ⠨⠐⠊ ⠨⠐⠊ ⠨⠐⠊

### N

ñ Ñ

⠐⠝ ⠨⠐⠝

### O

ò ó ö ô õ Ò Ó Ö Ô Õ

⠐⠕ ⠐⠕ ⠪ ⠐⠕ ⠐⠕ ⠨⠐⠕ ⠨⠐⠕ ⠨⠪ ⠨⠐⠕ ⠨⠐⠕

### U

ù ú ü û Ù Ú Ü Û

⠐⠥ ⠐⠥ ⠳ ⠐⠥ ⠨⠐⠥ ⠨⠐⠥ ⠨⠳ ⠨⠐⠥

### Y

ý ÿ Ý

⠐⠽ ⠐⠽ ⠨⠐⠽

### Other

ð Ð þ Þ ß

⠐⠙ ⠨⠐⠙ ⠐⠞ ⠨⠐⠞ ⠐⠎

# Numbers

## Single digits

The prefix ⠼ indicates a number.

1 2 3 4 5 6 7 8 9 0

⠼⠁ ⠼⠃ ⠼⠉ ⠼⠙ ⠼⠑ ⠼⠋ ⠼⠛ ⠼⠓ ⠼⠊ ⠼⠚

## Combined digits

24 365

⠼⠃⠙ ⠼⠉⠋⠑

## Decimal numbers

Traditionally, in Danish, a comma is used to separate the fractional part of a number while a period may be used to group digits by threes. However, due to the increasing influence of English, we often encounter the inverse situation: separation by period and grouping by comma. The braille code follows the traditional rules only, but I think we have to allow the other case on equal terms.

3,14159 9.999,99 2.71828 9,999.99

⠼⠉⠂⠁⠙⠁⠑⠊ ⠼⠊⠄⠊⠊⠊⠂⠊⠊ ⠼⠃⠄⠛⠁⠓⠃⠓ ⠼⠊⠂⠊⠊⠊⠄⠊⠊

## Fractions

When a number is combined with a fraction, insert a second number prefix (with no leading space) before the fractional part. Obviously, this rule can only be applied when the fractional part is an actual character.

½ 4/5 20,11/45 89½

⠼⠁⠌⠃ ⠼⠙⠌⠑ ⠼⠃⠚⠂⠁⠁⠌⠙⠑ ⠼⠓⠊⠼⠁⠌⠃

## Percentages

If necessary, insert a space before the percentage mark to avoid ambiguity with 0.

10% 20,5 %

⠼⠁⠚⠀⠚⠴ ⠼⠃⠚⠂⠑⠀⠚⠴

## Numbers mixed with letters

Insert ⠠ at every intersection, whether from letters to numbers or from numbers to letters.

24syv Radio24 Radio24syv

⠼⠃⠙⠠⠎⠽⠧ ⠗⠁⠙⠊⠕⠠⠼⠃⠙ ⠗⠁⠙⠊⠕⠠⠼⠃⠙⠠⠎⠽⠧

## Roman numerals

Prefix ⠠ for lowercase, ⠨ for single-character uppercase, ⠸ for multi-character uppercase. Will obviously require markup in input files, but we do that currently.

v vii V VII

⠠⠧ ⠠⠧⠊⠊ ⠨⠧ ⠸⠧⠊⠊

# Other characters

## Punctuation

, . ! ? ; :

⠂ ⠄ ⠖ ⠢ ⠆ ⠒

## Hyphens and dashes

Note that the hyphen (⠤) should be doubled to a dash padded by empty cells (⠀⠤⠤⠀) when surrounded by whitespace in real-world input.

- – —

⠤ ⠤⠤ ⠤⠤

## Parentheses

( ) [ ] { }

⠦ ⠴ ⠐⠦ ⠐⠴ ⠘⠪ ⠘⠕

## Apostrophes and quotation marks

' ‘ ’ ‚ ‛ " “ ” „ ‟ » «

⠈ ⠈ ⠈ ⠈ ⠈ ⠶ ⠶ ⠶ ⠶ ⠶ ⠶ ⠶

## Basic maths

Note that a colon has one representation in maths (⠲, the division operator) and another in normal text (⠒). We will have to solve this somehow. Marking up maths will be tricky, so we may have to discard the mathematical representation entirely. There are other issues with maths as well: the ambiguity of ÷ (can mean subtraction or division), the increasing use of \* for multiplication and / for division, etc.

+ - ÷ ∙ × : = % ‰ √ °

⠖ ⠤ ⠤ ⠄ ⠄ ⠲ ⠶ ⠚⠴ ⠚⠴⠴ ⠩ ⠈⠴

## Computing

\ | @ ~ # ^ \_

⠘⠡ ⠘⠇ ⠘⠁ ⠘⠠ ⠘⠼ ⠘⠰ ⠘⠤

## Currencies

$ £ €

⠘⠲ ⠘⠇ ⠘⠑

## Other

& § © ®

⠯ ⠬ ⠘⠉ ⠘⠗

# Formatting

## Emphasis

Emphasised text is surrounded by ⠰ with no spaces. This pattern is used for all forms of emphasis: italics, bold type, underlined text and the like. Punctuation is generally included, although markup varies in this regard.

*Sid ned!* råbte han.

⠰⠎⠊⠙⠀⠝⠑⠙⠖⠰⠀⠗⠡⠃⠞⠑⠀⠓⠁⠝⠄

# Pangram

Quizdeltagerne spiste jordbær med fløde, mens cirkusklovnen Walther spillede på xylofon.

⠟⠥⠊⠵⠙⠑⠇⠞⠁⠛⠑⠗⠝⠑⠀⠎⠏⠊⠎⠞⠑⠀⠚⠕⠗⠙⠃⠜⠗⠀⠍⠑⠙⠀⠋⠇⠪⠙⠑⠂⠀⠍⠑⠝⠎⠀⠉⠊⠗⠅⠥⠎⠅⠇⠕⠧⠝⠑⠝⠀⠺⠁⠇⠞⠓⠑⠗⠀⠎⠏⠊⠇⠇⠑⠙⠑⠀⠏⠡⠀⠭⠽⠇⠕⠋⠕⠝⠄