

This is file *braille.tex* incl. *boxdef.tex*, *intro.tex*, *listing.tex*, *tables.tex* and *example.tex*

The BRAILLE font

The BRAILLE six dots typesetting characters for blind persons
© composed by UDO HEYL, Germany in January 1999

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1 Introduction

1.1 Reference

The software is founded on *World Braille Usage* by Sir Clutha Mackenzie, New Zealand, 1953. (Revised Edition 1990). Published by the United Nations Educational, Scientific and Cultural Organization, 7 Place de Fontenoy, 75700 Paris, FRANCE and the National Library Service for the Blind and Physically Handicapped, Library of Congress, Washington, D.C., USA

1.2 What is BRAILLE ?

It is a font which can be read with the sense of touch and written via Braille slate or a mechanical Braille writer by blinds and extremely eyesight disabled. The first blind font (a "night writing" code) was an eight dot system invented by CHARLES BARBIER (1767 – 1843) for the French army. The blind LOUIS BRAILLE (1809 –1852) created a six dot system. This system is used in the whole world nowadays.

In the BRAILLE alphabet every character consists of parts of the six dots basic form with two rows of three dots. Number and combination of the dots are different for the several characters and stops (numbers 1 . . . 0 have the same composition as characters a . . . j). Braille is read from left to right with the tips of the forefingers. The left forefinger lightens to find out the next line. Experienced blinds maintain an average reading speed to read aloud.

1.3 The BRAILLE file system

The BRAILLE -package is a file system to typeset Braille typos under L^AT_EX 2_ε. The METAFONT source files of the BRAILLE package are suffixed .mf, .alf, .def, .lig, .num and .stp. There are 22 *.mf-files which produce (when handed over to METAFONT) 22 *.tfm-files (see THE METAFONT BOOK, Chapter 5: Running METAFONT).

Remember that T_EX only reads the TFM files. These TFM files are a part of the package – you don't have to produce them again – just copy them into your TFM directory. For running below L^AT_EX 2_ε the style file *braille.sty* in connection with the national language style files can be used. They don't run under L^AT_EX 2.09 .

1.4 How to install the **BraiiLE** package?

First and foremost you've got to copy the following files

- *.mf, *.alf, *.def, *.lig, *.num and *.stp into your METAFONT directory ¹
- *.tfm into your TFM directory ²
- *.sty into your T_EXinput directory ³

Note, however, that the paths may be different in your L^AT_EX 2_ε implementation (EmT_EX for MS-DOS, web2c for UNIX etc.). L^AT_EX 2_ε is absolutely required, if you want to use **BraiiLE**, which doesn't run with the **ancient** L^AT_EX 2.09 (except you want to write a L^AT_EX 2.09 style file). The example shows you the usage of some **BraiiLE** fonts:

```
\documentclass[10pt]{article}
\usepackage{braille,benglish} %% to include English braille
\begin{document}
  {\tbraille This is a test Braille text: ABCDEFGHIJK.}\
  {\braille This is medium Braille text: ABCDEFGHIJK.}\
  {\bbraille This is a bold Braille text: ABCDEFGHIJK.}
\end{document}
```

THIS IS A TEST BRAILLE TEXT: ABCDEFGHIJK.
THIS IS MEDIUM BRAILLE TEXT: ABCDEFGHIJK.
THIS IS A BOLD BRAILLE TEXT: ABCDEFGHIJK.

1.5 How to use these fonts?

You simply call the **BraiiLE** package using the `\usepackage{braille[,blanguage]}` sequence. The **BraiiLE** family contains the following font shapes:

1. **US/UK Braillecode:**
`\braille, \bbraille, \tbraille` (medium, bold and test font)
2. **Czech Braillecode:**
`\CZbraille, \CZbbraille, \CZtbraille`
3. **Danish Braillecode:**
`\DANbraille, \DANbbraille, \DANTbraille`
4. **European Braillecode:**
`\EUbraille, \EUbbraille, \EUTbraille`
5. **German Braillecode:**
`\GERbraille, \GERbbraille, \GERTbraille`
6. **Polish Braillecode:**
`\POLbraille, \POLbbraille, \POLtbraille`

¹e.g. EmT_EX directory `\mfinput\braille\...`

²e.g. EmT_EX directory `\tfm\braille\...`

³e.g. EmT_EX directory `\texinput\braille\...`

7. Portuguese Braillecode:

\PORbraille, \PORbbraille, \PORTbraille

8. Spanish Braillecode:

\SPAbbraille, \SPAbbraille, \SPATbraille

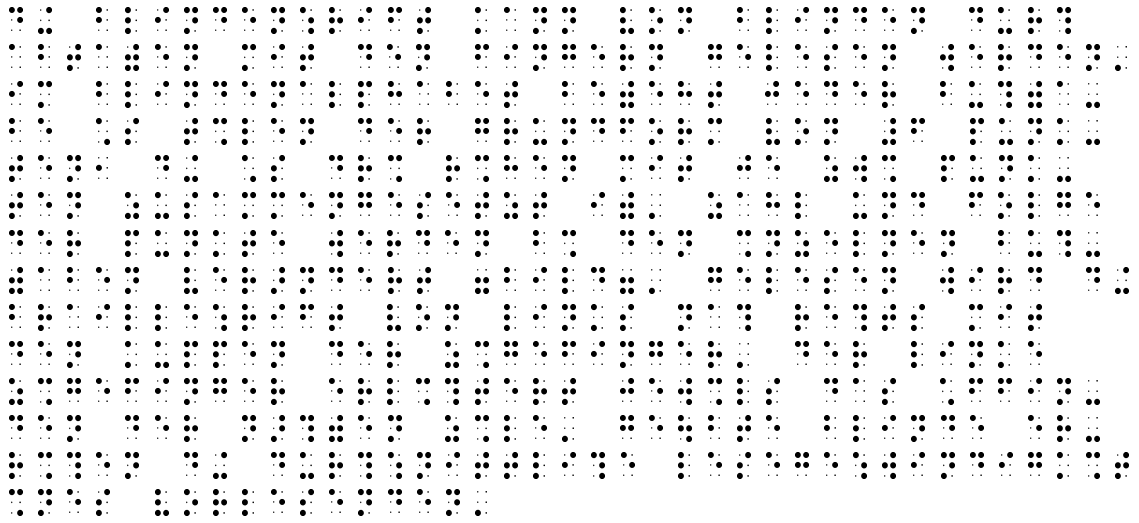
Note that the numbers 1, 2, 3, 4...0 have the same Braille characters as the letters a, b, c, d...j. Therefore the number symbol =: has to be placed before any number (e.g. 1998 = :1:9:9:8:). The next two examples show a German text to you. To test the breaking of the lines, you foremost typeset the text using the \GERTbraille command (testmode). Afterwards this command can be substituted by \GERbbraille (or \GERbraille):

\usepackage{braille,bgerman}

{\Large\GERTbraille Die Blindenschrift kann von Blinden...} %%% 1st example

{\Large\GERbbraille Die Blindenschrift kann von Blinden...} %%% 2nd example

D⁴IE B²L⁹IN⁴D⁵EN SH⁹R⁹I⁶F⁶T K¹A¹NN V⁰ON B²L⁹IN⁴D⁵EN D⁴UR⁴CH
A¹B²T A¹ST⁵EN M⁹I⁹T D⁴EN F⁶IN⁹G⁷E⁵RN G⁷E⁵L⁵ES⁵EN W⁵ER⁴D⁵EN
I⁹M B²L⁹IN⁴D⁵EN A¹L⁸P⁸H¹A²B⁵ET B²E⁵ST⁵EH⁸T J⁰E⁵D⁴ER B²U⁴CH ST¹A¹-
B²E⁵AUS T⁴EIL⁵EN D⁴ER G⁷R⁷UN⁴D⁶FOR⁶M V⁰ON N⁰F P⁶UN⁶K-
T⁵EN, D⁴IE AUS D⁴REI⁴R⁴EI⁸H⁵EN M⁹I⁹T J⁰E⁵Z⁵W⁵EI P⁶UN⁶K-
T⁵EN Z⁵US¹A¹M⁵M⁵EN G⁷E⁵S⁵ET Z⁹T I⁹ST Z¹A⁸H⁸L⁴UN⁴D⁶FO⁶L⁷G⁷E⁵
D⁴ER P⁶UN⁶K T⁵W⁵ER⁴D⁵EN B²EI⁴EN EIN⁵Z⁵EL⁵EN B²U⁴CH-
ST¹A²EN V⁵ER⁴AN⁴D⁵ERT () B²I⁹L⁴() G⁷E⁵L⁵ES⁵EN W⁹IR⁴D⁴IE
B²RA¹I⁹L⁵LE⁵SH⁹R⁹I⁶F⁶T V⁰ON L⁹IN⁹KS N¹A¹CH R⁵E⁵CHT⁵S M⁹I⁹T
D⁴EN K⁴U⁵P⁵PE⁵EN D⁴ER Z⁴EI⁸G⁷E⁵F⁹IN⁹G⁷E⁵R D⁴ER L⁹IN⁹KE⁵
Z⁴EI⁸G⁷E⁵F⁶IN⁹G⁷E⁵R E⁵RL⁴EI⁴CHT⁵ERT J⁰E⁵W⁵EIL⁵S D⁴A¹S AU⁶F⁶IN⁹-
D⁴EN D⁴ER N⁴ACH⁵ST⁵EN Z⁴EIL⁵ G⁷E⁵Ü²B⁵T⁵B²L⁹IN⁴D⁵ER-
R⁴EI⁴CH⁵EN D⁴IE D⁴UR⁴CH SH⁹N⁹I⁹T L⁹ICH⁵ L⁵ES⁵E⁷G⁷ESH⁹W⁹IN⁴I⁹G⁷K⁴EIT
EIN⁵ES V⁰OR⁴L⁵ES⁵EN D⁴EN



1.6 Another example

```
\input{benglish.sty} %%%% to switch back to English Braille!!!!
{\tbraille %%%% or at the 2nd time \bbraille after testing!!!!
\capitalsign Ray Bradbury - Driving Blind\\
\blq Did you see that?\brq \\
\blq See what?\brq \\
\blq Why, hell, look there!\brq \\
But the big six-passenger \No{1929} Studebaker was already gone.\\
One of the man standing in front of Fremley's Hardware had stepped
down off the curb to stare after the vehicle.\\
\blq That guy was driving with a hood over his head. Like a hangman's
hood, black, over his head, driving blind!\brq \\
\blq I saw it, I saw it!\brq\ said a boy standing, similarly riven, nearby.
The boy was me, Thomas Quincy Riley, better known as Tom or Quint and
mighty curious. I ran. \blq Hey, wait up! Gosh! Driving blind!\brq }
```

```
RAY BRADBURY - DRIVING BLIND
DID YOU SEE THAT?
SEE WHAT?
WHY, HELL, LOOK THERE!
BUT THE BIG SIX-PASSENGER WAITBI STUDEBAKER WAS ALREADY
GONE.
ONE OF THE MAN STANDING IN FRONT OF FREMLEY'S HARDWARE
HAD STEPPED DOWN OFF THE CURB TO STARE AFTER THE VEHICLE.
THAT GUY WAS DRIVING WITH A HOOD OVER HIS HEAD. LIKE A
HANGMAN'S HOOD, BLACK, OVER HIS HEAD, DRIVING BLIND!
I SAW IT, I SAW IT! SAID A BOY STANDING, SIMILARLY RIVEN,
NEARBY. THE BOY WAS ME, THOMAS QUINCY RILEY, BETTER
KNOWN AS TOM OR QUINT AND MIGHTY CURIOUS. I RAN. HEY,
WAIT UP! GOSH! DRIVING BLIND!
```

```
RAY BRADBURY - DRIVING BLIND
DID YOU SEE THAT?
SEE WHAT?
WHY, HELL, LOOK THERE!
BUT THE BIG SIX-PASSENGER WAITBI STUDEBAKER WAS ALREADY
GONE.
ONE OF THE MAN STANDING IN FRONT OF FREMLEY'S HARDWARE
HAD STEPPED DOWN OFF THE CURB TO STARE AFTER THE VEHICLE.
THAT GUY WAS DRIVING WITH A HOOD OVER HIS HEAD. LIKE A
HANGMAN'S HOOD, BLACK, OVER HIS HEAD, DRIVING BLIND!
I SAW IT, I SAW IT! SAID A BOY STANDING, SIMILARLY RIVEN,
NEARBY. THE BOY WAS ME, THOMAS QUINCY RILEY, BETTER
KNOWN AS TOM OR QUINT AND MIGHTY CURIOUS. I RAN. HEY,
WAIT UP! GOSH! DRIVING BLIND!
```

2 The Braille Country Listings

Languages listed are those predominant in Europe and Overseas. In two cases (Dutch & Spanish), there is no standard national alphabet listet. See the English one in these cases.

2.1 The Czech language

usepackage: `braille, bczech`

fontshapes: `CZbraille, CZbbraille, CZtbraille`

The Czech standard 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

The ligatures and special characters:

input	output	value	input	output	value
a1, A1	⠁	á	c1, C1	⠉	č
d1, D1	⠋	ď	e2, E2	⠑	é
e1, E1	⠑	ě	\ch	⠉⠏	ch
i1, I1	⠇	í	n1, N1	⠝	ň
o1, O1	⠕	ó	r2, R2	⠗	ř
s2, S2	⠑	š	t1, T1	⠞	ť
u1, U1	⠕	ú	u2, U2	⠕	ů
y1, Y1	⠕	ý	z1, Z1	⠵	ž

The Czech standard punctuation:

⠂	⠆	⠄	⠒	⠗	⠑	⠒	⠒	⠒
,	;	:	.	!	?	()	-

Anomalous punctuation:

<code>\blq</code>	⠠	«	levý uvozovky (left quote)
<code>\brq</code>	⠡	»	pravý uvozovky (right quote)
<code>\capitalsign</code>	⠠	ABC	(capital sign)

Note:

The Czech character w is described by double v `⠵⠵` (`\CZbbraille vv`).

2.2 The Danish language

usepackage: braille, bdanish

fontshapes: DANbraille, DANbbraille, DANtbraille

The Danish standard 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

The Danish special characters:

input	output	value	input	output	value
a3, A3	⠠⠠	æ	o1, O1	⠠⠠	ø
a4, A4	⠠⠠	å			

The additional Faroese characters:

input	output	value	input	output	value
a2, A2	⠠⠠	á	i2, I2	⠠⠠	í
o3, O3	⠠⠠	ó	u1, U1	⠠⠠	ú
y1, Y1	⠠⠠	ý	\ei	⠠⠠	ei
\ey	⠠⠠	ey	\oy	⠠⠠	oy
\th	⠠⠠	ð			

The Danish standard punctuation:

⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
,	;	:	.	!	?	()	-	'

Anomalous punctuation:

\blq	⠠⠠	«	(left quote)
\brq	⠠⠠	»	(right quote)
\abbreviation	⠠	.	(abbreviation sign)
\dash	⠠⠠	-	(dash)
\threedots	⠠⠠⠠	...	(ellipse)
\italics	⠠⠠	<i>abc</i>	(italics)
\capitalsign	⠠⠠	ABC	(capital sign)

2.3 The Dutch language

usepackage: `braille`, `bdutch`

fontshapes: `EUbraille`, `EUbbraille`, `EUtbraille`

The ligatures and special characters:

input	output	value	input	output	value
e1, E1	⠠⠠⠠⠠	é	o1, O1	⠠⠠⠠⠠	ö
u4, U4	⠠⠠⠠⠠	ü	a4, A4	⠠⠠⠠⠠	â
e2, E2	⠠⠠⠠⠠	ê	i3, I3	⠠⠠⠠⠠	î
o2, O2	⠠⠠⠠⠠	ô	u3, U3	⠠⠠⠠⠠	û
e3, E3	⠠⠠⠠⠠	è	u2, U2	⠠⠠⠠⠠	ù
a1, A1	⠠⠠⠠⠠	à	e4, E4	⠠⠠⠠⠠	ë
c2, C2	⠠⠠⠠⠠	ç	i4, I4	⠠⠠⠠⠠	í

The Dutch standard punctuation:

⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠
 , ; : . ! ? () * ' -

Anomalous punctuation:

`\blq` ⠠⠠⠠⠠ « (left quote)
`\brq` ⠠⠠⠠⠠ » (right quote)
`\obliquesign` ⠠⠠⠠⠠ / (oblique sign)
`\paragraphsign` ⠠⠠⠠⠠ \$ (paragraph sign)
`\stress` ⠠⠠⠠⠠ á (accent, stress sign)
`\changelanguage` ⠠⠠⠠⠠ ⇔ (change of language)
`\italics` ⠠⠠⠠⠠ *abc* (italics)
`\capitalsign` ⠠⠠⠠⠠ ABC (capital)
`\seriescapital` ⠠⠠⠠⠠ ABC (series capital)

Note:

You can be blind, word-blind, double-blind, stone-blind, gravel-blind, a Persian blind, a Venetian blind, green-blind, moon-blind, snow-blind, a blind-worm, blindfolded, lost in a blind alley or be made unblind.

2.4 The English language

usepackage: `braille`, `[benglish]` (to switch back to English Braille)

fontshapes: `braille`, `bbraille`, `tbraille`

The English standard 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

The English standard punctuation:

,	;	:	.	!	()	?	'	-

and also (United Kingdom and USA):

<code>\blq</code>		‘	(left quote UK – double left quote USA)
<code>\brq</code>		’	(right quote UK – double right quote USA)
<code>\accentsign</code>		á	(accent sign)
<code>\dash</code>		–	(dash)
<code>\asterisk</code>		*	(asterisk)
<code>\italics</code>		<i>abc</i>	(italics)
<code>\capital sign</code>		Abc	(capital)

Additional punctuation for the United States:

<code>\USblq</code>		‘	(left quote USA)
<code>\USbrq</code>		’	(right quote USA)
<code>\USleftbracket</code>		((left bracket)
<code>\USrightbracket</code>)	(right bracket)
<code>\USlowdots</code>		...	(low dots)
<code>\USobliquestroke</code>		-	(oblique stroke / fraction-line sign / bar)

2.5 The French language

usepackage: braille, bfrench

fontshapes: EUbraille, EUbbraille, EUtbraille

The French standard 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		

The ligatures and special characters:

input	output	value	input	output	value
e1, E1	⠑⠃	é	o1, O1	⠕⠉	œ
u4, U4	⠕⠏	ü	a4, A4	⠁⠏	â
e2, E2	⠑⠃	ê	i3, I3	⠏⠃	î
o2, O2	⠕⠉	ô	u3, U3	⠕⠉	û
e3, E3	⠑⠃	è	u2, U2	⠕⠃	ù
a1, A1	⠁⠃	à	e4, E4	⠑⠃	ë
c2, C2	⠉⠃	ç	i4, I4	⠏⠃	ï

The French standard punctuation:

⠂	⠆	⠄	⠒	⠏	⠑	⠒	⠒	⠒	⠒	⠒
,	;	:	.	!	?	()	*	'	-

Anomalous punctuation:

\blq	⠏⠃	«	guillemet gauche (left quote)
\brq	⠏⠃	»	guillemet droit (right quote)
\italics	⠏⠃	<i>abc</i>	(italics)
\capitalsign	⠏⠃	ABC	(capital)

2.6 The German language

usepackage: `braille`, `bgerman`

fontshapes: `GERbraille`, `GERbbraille`, `GERtbraille`

The German standard 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		

The ligatures and special characters:

input	output	value	input	output	value
au, Au	⠁⠥	au	ae, Ae	⠁⠺	ä
aeu, Aeu	⠁⠺⠥	äu	oe, Oe	⠐⠺	ö
ue, Ue	⠥⠥	ü	ei, Ei	⠺⠺	ei
eu, Eu	⠺⠥	eu	ie, Ie	⠺⠺	ie
ch, Ch	⠉⠓	ch	sh, Sh	⠑⠓	sch
sz, Sz	⠑⠑	ß	st, St	⠑⠓	st

The German standard punctuation:

⠂	⠄	⠆	⠇	⠏	⠑	⠒	⠓	⠔	⠕	⠖	⠗	⠘	⠙	⠚
,	;	:	?	!	()	-	*	'					

Anomalous punctuation:

<code>\blq</code>	⠁⠗	”	Anführungszeichen links (left quote)
<code>\brq</code>	⠁⠗	“	Anführungszeichen rechts (right quote)
<code>\italics</code>	⠁⠃⠉	<i>abc</i>	(italics)
<code>\capitalsign</code>	⠁⠃⠉	ABC	(capital)
<code>\seriescapital</code>	⠁⠃⠉	ABC	(series capital)

Remark:

In order to prevent ligatures in compound words you can input e.g. `a\u` instead of `au`. Wrong would be `\GERbbraille Haustier` ⠠⠏⠠⠗⠠⠑⠠⠓⠠⠺⠠⠺ – the right spelling is `\GERbbraille Haus\u-tier` ⠠⠏⠠⠗⠠⠑⠠⠓⠠⠺⠠⠺⠠⠥⠠⠒⠠⠑⠠⠓⠠⠥⠠⠗ – because of the two parts of this word HAUS and TIER. The using of the `\u`-sequence also supports the hyphenation. Note that the former East German Braille (GDR-Braille) is slightly modified.

2.7 The Italian language

usepackage: braille, bitalian

fontshapes: EUbraille, EUbbraille, EUTbraille

The Italian standard 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		

The ligatures and special characters:

input	output	value	input	output	value
e1, E1	⠉⠑	é	o1, O1	⠏⠙	œ
u4, U4	⠕⠎	ü	a4, A4	⠁⠎	â
e2, E2	⠉⠑	ê	i3, I3	⠏⠓	î
o2, O2	⠏⠑	ô	u3, U3	⠕⠓	û
e3, E3	⠉⠑	è	u2, U2	⠕⠒	ù
a1, A1	⠁⠑	à	e4, E4	⠉⠎	ě
c2, C2	⠉⠑	ç	i4, I4	⠏⠎	í
i1, I1	⠏⠑	ì	o4, O4	⠏⠎	ò

The Italian standard punctuation:

⠂	⠆	⠄	⠒	⠒	⠒	⠒	⠒	⠒	⠒	⠒	⠒
,	;	:	.	!	?	()	*	'	-	

Anomalous punctuation:

\blq	⠐⠑	«	(left quote)
\brq	⠐⠑	»	(right quote)

2.8 The Polish language

usepackage: braille, bpolish

fontshapes: POLbraille, POLbbraille, POLtbraille

The Polish standard 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			

The ligatures and special characters:

input	output	value	input	output	value
z2, Z2	⠵	ż	c1, C1	⠴	ć
n1, N1	⠵	ń	s1, S1	⠴	ś
z1, Z1	⠵	ź	a4, A4	⠴	ą
e5, E5	⠵	ę	l1, L1	⠴	ł

As of 1985, braille contractions established by T. Jozefowicz and Z. Saloni of the Warsaw University Institute of Polish language were in the final stages of the approval process for incorporation into the official Polish Braille Code (↗ World Braille Usage. Washington 1990. p. 62).

The Polish standard punctuation:

⠂	⠄	⠆	⠇	⠈	⠉	⠊	⠋	⠌
.	,	?	:	!	()	-	

Anomalous punctuation:

\blq	⠵	«	cudzysłów lewy (left quote)
\brq	⠵	»	cudzysłów prawy (right quote)
\asterisk	⠵	*	(asterisk)

Note:

There is no apostrophe sign.

For more info's please consult:

Polski Związek Niewidomych
 Stowarzyszenie Wyższej Użyteczności
 ul. Konwiktorska 9
 Zarząd, Główny
 00-216 Warsaw.

2.9 The Portuguese language

usepackage: braille, bportug

fontshapes: PORbraille, PORbbraille, PORtbraille

The Portuguese standard 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		

The ligatures and special characters:

input	output	value	input	output	value
a1, A1	⠁⠃	á	e1, E1	⠑⠃	é
i1, I1	⠃⠃	í	o4, O4	⠏⠃	ó
u2, U2	⠕⠃	ú	a3, A3	⠁⠃	ã
o1, O1	⠏⠃	õ	i4, I4	⠃⠃	í
u4, U4	⠕⠃	ü	a4, A4	⠁⠃	â
e2, E2	⠑⠃	ê	o2, O2	⠏⠃	ô
a6, A6	⠁⠃	à	e3, E3	⠑⠃	è
i3, I3	⠃⠃	ì	o5, O5	⠏⠃	ò
u3, U3	⠕⠃	ù	c2, C2	⠉⠃	ç

The Portuguese standard punctuation:

⠂	⠆	⠑	⠏	⠑	⠒	⠓	⠔	⠕	⠖	⠗	⠘	⠙	⠚
.	;	:	?	!	,	()	'	-				

Anomalous punctuation:

\blq	⠂⠃	«	(left quote)
\brq	⠃⠃	»	(right quote)
\abbreviation	⠏⠃	.	(abbreviation)
\italics	⠃⠃	<i>abc</i>	(italics)
\capitalsign	⠉⠃	ABC	(capital)

Remark: Question mark and comma do produce the same Braille character ⠏⠃ ; w and ò do produce the same Braille character ⠏⠃ .

2.10 The Slovak language

usepackage: braille, bslovak

fontshapes: CZbraille, CZbbraille, CZtbraille

The Slovak standard alphabet:

⠁	⠃	⠉	⠋	⠏	⠑	⠒	⠓	⠔	⠕	⠖	⠗	⠘	⠙	⠚
a	b	c	d	e	f	g	h	i	j	k	l	m		
⠛	⠜	⠝	⠞	⠟	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
n	o	p	q	r	s	t	u	v	x	y	z			

The ligatures and special characters:

input	output	value	input	output	value
a1, A1	⠁	á	a2, A2	⠁	ä
c1, C1	⠉	č	d1, D1	⠋	ď
e2, E2	⠑	é	\ch	⠉⠏	ch
i1, I1	⠏	í	l2, L2	⠌	ľ
l1, L1	⠌	ĺ	n1, N1	⠝	ň
o2, O2	⠕	ó	o3, O3	⠕	ô
\ou	⠕⠕	ou	r1, R1	⠗	r
r2, R2	⠗	ř	s1, S1	⠎	š
t1, T1	⠞	ť	u1, U1	⠥	ú
z1, Z1	⠵	ž			

The Slovak standard punctuation:

⠂	⠆	⠄	⠔	⠗	⠑	⠏	⠏	⠏	⠏
,	;	:	.	!	?	()	-	

Anomalous punctuation:

\blq	⠠	«	(left quote)
\brq	⠡	»	(right quote)
\capitalsign	⠠	ABC	(capital sign)

Note:

The Slovak r is different – you’ve got to input r1 ⠗ .

2.11 The Spanish language

usepackage: braille, bspanish

fontshapes: SPAbraile, SPAbbraille, SPAtbraile

The Spanish ligatures:

input	output	value	input	output	value
a1, A1	⠠⠁	á	e3, E3	⠠⠑	é
i1, I1	⠠⠇	í	o4, O4	⠠⠕	ó
u2, U2	⠠⠥	ú	u4, U4	⠠⠦	ü
n2, N2	⠠⠨	ñ			

The special Catalan ligatures:

input	output	value	input	output	value
e1, E1	⠠⠑	é	i1, I1	⠠⠇	í
o1, O1	⠠⠕	ó	u2, U2	⠠⠥	ú
a1, A1	⠠⠁	à	e3, E3	⠠⠑	è
o4, O4	⠠⠕	ò	c2, C2	⠠⠘	ç
\ll	⠠⠇⠠⠇	ll	i4, I4	⠠⠇	ï

The Spanish and Catalan standard punctuation:

⠠⠠⠠⠠⠠⠠
 . , ; : * -

Anomalous punctuation:

?? or \questionmark	⠠⠠⠠	¿ ?	punto de interrogación (question mark)
!! or \exclamation	⠠⠠⠠	¡ !	punto de admiración (exclamation mark)
\parentheses	⠠⠠⠠	()	paréntesis (parentheses)
\quotemarks	⠠⠠⠠	”	comillas (quote marks)
\apostrophe	⠠⠠⠠	’	apóstrofo (apostrophe followed by letter)
\italics	⠠⠠⠠	<i>abc</i>	(italics)
\capitalsign	⠠⠠⠠	ABC	(capital)
\dash	⠠⠠⠠	—	(dash)
\poetryline	⠠⠠⠠		(poetry line)

Note: Nobody ever expects the Spanish Inquisition. (Monty Python)

3 The fonts of the package

3.1 The whole tbraille & bbraille font shape

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
030				⠠						⠠
040	⠠	⠠	⠠		⠠	⠠			⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060			⠠	⠠		⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠						⠠	⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠							
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
030				⠠						⠠
040	⠠	⠠	⠠		⠠	⠠			⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060			⠠	⠠		⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠						⠠	⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠							
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of UK/US Braille in `\normalsize` [10pt].

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{. .number . .}`, e.g. `\No{2001}`. The output sequence would be

⠠⠠⠠²⠠⁰⠠⁰⠠¹ or ⠠⠠⠠⠠⠠

These are Braille standards set by the Braille Authority of North America (BANA).

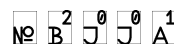
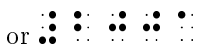
3.2 The whole CZtbraille & CZbbraille font shape

Code	0	1	2	3	4	5	6	7	8	9
000	□	◌	◌	№	□	ó	ř	á	í	é
010	◌	◌	š	ů	□	□	□	□	□	á
020	◌	é	◌	z	ů	□	◌	ý	□	
030				ı						◌
040	◌	◌	*		◌	◌			◌ ⁰	◌ ¹
050	◌ ²	◌ ³	◌ ⁴	◌ ⁵	◌ ⁶	◌ ⁷	◌ ⁸	◌ ⁹	◌	◌
060			◌ ²	◌ ²		◌ ¹	◌ ²	◌ ³	◌ ⁴	◌ ⁵
070	◌ ⁶	◌ ⁷	◌ ⁸	◌ ⁹	◌ ⁰	◌	◌	◌	◌	◌
080	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
090	◌							◌ ¹	◌ ²	◌ ³
100	◌ ⁴	◌ ⁵	◌ ⁶	◌ ⁷	◌ ⁸	◌ ⁹	◌ ⁰	◌	◌	◌
110	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
120	◌	◌	◌							
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	
030				⠠						⠠
040	⠠	⠠	⠠		⠠	⠠			⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060			⠠	⠠		⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠							⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠							
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of Czech and Slovak Braille in `\normalsize [10pt]`.

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{.number.}`, e.g. `\No{2001}`. The output sequence would be


 or
 

Note that certain different Czech/Slovak characters use one Braille code together (see country listings). Czech/Slovak Braille makes use of an anomalous question-mark `⠠` and hyphen `⠠`. The Slovak letter `Ľ` has the same Braille code as `\capital{sign}`.

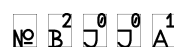

3.3 The whole DANtbraille & DANbbraille font shape

Code	0	1	2	3	4	5	6	7	8	9
000	☐	☐	☐	№	Æ	☐	☐	Å	Å	í
010	☐	ø	☐	☐	☐	☐	☐	☐	☐	☐
020	☐	☐	☐	☐	ó	☐	☐	☐	☐	☐
030	☐	☐	☐	!	☐	☐	☐	☐	☐	☐
040	o	o	*	☐	☐	☐	☐	☐	U ⁰	A ¹
050	B ²	C ³	D ⁴	E ⁵	F ⁶	G ⁷	H ⁸	I ⁹	☐	☐
060	☐	☐	?	?	☐	A ¹	B ²	C ³	D ⁴	E ⁵
070	F ⁶	G ⁷	H ⁸	I ⁹	U ⁰	k	L	M	N	o
080	p	q	r	s	t	u	v	w	x	y
090	z	☐	☐	☐	☐	☐	☐	A ¹	B ²	C ³
100	b ⁴	e ⁵	f ⁶	g ⁷	h ⁸	i ⁹	U ⁰	k	L	M
110	n	o	p	q	r	s	t	u	v	w
120	x	y	z	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
030	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
040	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of Danish and Faroese Braille in `\normalsize [10pt]`.

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{. .number. .}`, e.g. `\No{2001}`. The output sequence would be


 or
 

Note that some Faroese additional characters use Braille code of Danish standard characters (see country listings). Danish/Faroese Braille makes use of an anomalous question-mark `⠠`.

3.4 The whole EUTbraille & EUBbraille font shape

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
010	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
020	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
030				⠣						⠩
040	⠡	⠢	⠣		⠤	⠥	⠦		⠨	⠩
050	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
060			⠢	⠣		⠥	⠦	⠧	⠨	⠩
070	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
080	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
090	⠠	⠡	⠢	⠣	⠤			⠥	⠦	⠧
100	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩	⠪
110	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
120	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
010	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
020	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
030				⠣						⠩
040	⠡	⠢	⠣		⠤	⠥	⠦		⠨	⠩
050	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
060			⠢	⠣		⠥	⠦	⠧	⠨	⠩
070	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
080	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
090	⠠	⠡	⠢	⠣	⠤			⠥	⠦	⠧
100	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩	⠪
110	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
120	⠠	⠡	⠢	⠣	⠤	⠥	⠦	⠧	⠨	⠩
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of European Braille (to be used in Italy, Netherlands, Belgium, France, Luxembourg, French and Italian Switzerland etc. – not in Germany!) in `\normalsize` [10pt].

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{.number.}`, e.g. `\No{2001}`. The output sequence would be

⠠⠨⠠⠠⠠⠠ or ⠠⠠⠠⠠⠠

Note that there is an anomalous question-mark `⠠` in European Braille. See national language lists for special characters.

3.5 The whole GERTbraille & GERbbraille font shape




Code	0	1	2	3	4	5	6	7	8	9
000	□	□	□	№	Ä	ö	ü	au	äu	eu
010	ET	CH	SH	IE	□	□	□	□	□	□
020	□	□	□	□	□	□	□	□	□	□
030				!						□
040	o	o	*		□	□	□	□	U ⁰	A ¹
050	B ²	C ³	D ⁴	E ⁵	F ⁶	G ⁷	H ⁸	I ⁹	□	□
060			?	?		A ¹	B ²	C ³	D ⁴	E ⁵
070	F ⁶	G ⁷	H ⁸	I ⁹	U ⁰	k	l	m	n	o
080	p	q	r	s	t	u	v	w	x	y
090	z							A ¹	B ²	C ³
100	b ⁴	e ⁵	f ⁶	g ⁷	h ⁸	i ⁹	u ⁰	k	l	m
110	n	o	p	q	r	s	t	u	v	w
120	x	y	z							
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
030				⠠						⠠
040	⠠	⠠	⠠		⠠	⠠	⠠		⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060			⠠	⠠		⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠							⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠							
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of German Braille in `\normalsize [10pt]` to be used in Germany, Austria and German Switzerland.

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{. .number. .}`, e.g. `\No{2001}`. The output sequence would be


 or
 

For using of the German ligatures please consult the language list. Note that German Braille uses the following different punctuation signs: period , question-mark  and apostrophe .

3.6 The whole POLtbraille & POLbbraille font shape

Code	0	1	2	3	4	5	6	7	8	9
000	□	□	□	№	□	Ś	□	Ą	□	Ł
010	Ć	Ń	Ę	□	□	□	□	□	□	□
020	□	□	□	Z	□	□	□	Z	□	□
030	□	□	□	!	□	□	□	□	□	□
040	o	o	*	□	□	□	□	U ⁰	A ¹	□
050	B ²	C ³	D ⁴	E ⁵	F ⁶	G ⁷	H ⁸	I ⁹	□	□
060	□	□	? ²	? ³	□	A ¹	B ²	C ³	D ⁴	E ⁵
070	F ⁶	G ⁷	H ⁸	I ⁹	U ⁰	k	l	m	n	o
080	p	q	r	s	t	u	v	w	x	y
090	z	□	□	□	□	□	□	A ¹	B ²	C ³
100	D ⁴	E ⁵	F ⁶	G ⁷	H ⁸	I ⁹	U ⁰	k	l	m
110	n	o	p	q	r	s	t	u	v	w
120	x	y	z	□	□	□	□	□	□	□
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
030	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
040	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of Polish Braille in `\normalsize` [10pt].

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{. .number. .}`, e.g. `\No{2001}`. The output sequence would be


 or
 

Note that Polish Braille uses different period  and question-mark .

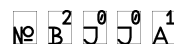

3.7 The whole PORtbraille & PORbbraille font shape

Code	0	1	2	3	4	5	6	7	8	9
000	É	◌	◌	№	Á	õ	ú	À	í	ê
010	í	õ	ú	ó	◌	◌	◌	◌	◌	◌
020	ê	◌	◌	É	ú	À	À	Ç	Ï	◌
030	◌	◌	◌	í	◌	◌	◌	◌	◌	◌
040	ó	ó	*	◌	◌	◌	◌	◌	◌ ⁰	Á ¹
050	B ²	C ³	D ⁴	E ⁵	F ⁶	G ⁷	H ⁸	I ⁹	◌	◌
060	◌	◌	◌	◌	◌	Á ¹	B ²	C ³	D ⁴	E ⁵
070	F ⁶	G ⁷	H ⁸	I ⁹	◌ ⁰	k	L	M	N	o
080	p	q	r	s	t	u	v	w	x	y
090	z	◌	◌	◌	◌	◌	◌	◌	◌	◌
100	b ⁴	e ⁵	f ⁶	g ⁷	h ⁸	i ⁹	◌ ⁰	k	L	M
110	n	o	p	q	r	s	t	u	v	w
120	x	y	z	◌	◌	◌	◌	◌	◌	◌
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
030	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
040	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of Portuguese Braille in `\normalsize [10pt]`.

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{.number.}`, e.g. `\No{2001}`. The output sequence would be


 or
 

There is different comma ⠠ and question-mark ⠠ in Portuguese Braille.

3.8 The whole SPAtbraille & SPAbbraille font shape

Code	0	1	2	3	4	5	6	7	8	9
000	É	◌	◌	№	◌	ó	ú	◌	í	◌
010	◌	◌	◌	ó	◌	◌	◌	◌	◌	◌
020	◌	◌	◌	É	Ú	Á	◌	◌	◌	◌
030	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
040	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
050	◌ ²	◌ ³	◌ ⁴	◌ ⁵	◌ ⁶	◌ ⁷	◌ ⁸	◌ ⁹	◌	◌
060	◌	◌	◌	◌	◌	◌ ⁴	◌ ²	◌ ³	◌ ⁴	◌ ⁵
070	◌ ⁶	◌ ⁷	◌ ⁸	◌ ⁹	◌ ⁰	◌	◌	◌	◌	◌
080	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
090	◌	◌	◌	◌	◌	◌	◌	◌ ¹	◌ ²	◌ ³
100	◌ ⁴	◌ ⁵	◌ ⁶	◌ ⁷	◌ ⁸	◌ ⁹	◌ ⁰	◌	◌	◌
110	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
120	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
	0	1	2	3	4	5	6	7	8	9

Code	0	1	2	3	4	5	6	7	8	9
000	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
010	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
020	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
030	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
040	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
050	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
060	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
070	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
080	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
090	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
100	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
110	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
120	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠	⠠
	0	1	2	3	4	5	6	7	8	9

The tables show the the test & bold (not the medium) font shapes of Spanish Braille in `\normalsize` [10pt].

Because numbers and characters use the same Braille typos, the input sequence for numbers is `\No{. .number. .}`, e.g. `\No{2001}`. The output sequence would be

⠠⠨⠠²⠠⁰⠠⁰⠠¹ or ⠠⠠⠠⠠⠠

Note that Spanish Braille uses a different period ⠠.

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