OVERVIEW OF CHANGES
FROM CURRENT LITERARY BRAILLE TO UEB

The following is not intended as a comprehensive list of each and every difference between UEB and current braille. However, it covers the most significant changes that will be noted by the general reader of braille.

CHANGES

Nine Contractions Eliminated

by	into	to
ble	com	dd
ation	ally	o'clock

The overarching reasons for deletion of these contractions are the need for accurate automatic forward- and back-translation between print and braille, the need to allow for more symbols without creating conflicts in the code, and the principle of reducing exceptions to braille rules. Here are more specifics:

- **ation** and **ally** were eliminated because they created complications in rules having to do with capital letters in the middle of words.
- **to**, **into**, and **by** were eliminated to allow for greater consistency in usage of other symbols. Also, the special spacing rules closed off options for making new symbols.
- **com** was eliminated to make room for greater flexibility in the placement and usage of hyphens and dashes. In current literary braille, a great deal of attention must be paid to the spacing of dashes etc., slowing down the production of accurate braille.
- **ble** was eliminated to allow for unambiguous reading and writing of numbers wherever they occur in literary contexts.
- **dd** was eliminated to allow for a single way to show the period/dot/decimal point even when it occurs in the middle of words or numbers.
- **o'clock** was eliminated because of a problem with capitalization. The extent of a capitalized word indicator (double dot 6) includes only the actual letters immediately following the indicator. This means that the apostrophe terminates the effect of the double dot 6 (this rule reduces the frequency of the use of the capitals mode terminator). If the short-form word "o'clock" were fully capitalized under this rule, it would look like this:

  O'CLOCK

  which is fairly awkward, and almost as long as the spelled out word. This is the only contraction with this problem and is relatively infrequently used.

Rather than keep this unwieldy construction or make a special rule for the capitalization of “o’clock”, the contraction itself was eliminated.

Changed Punctuation and Other Symbols

The dot formations of these symbols will be different from the ones used in current literary braille. They were changed for various reasons, but most of the changes are designed so that these symbols do not require specific spacing rules as they currently do.

dollar	$	⠈⠎
percent	%	⠨⠴
asterisk	*	⠐⠔
degree	°	⠘⠚
single closing quotation mark	’	⠄⠄
dash	—	⠠⠠
long dash	——	⠐⠠⠠
ellipsis	…	⠨⠨⠨
parentheses, opening and closing	( )	⠐⠣ ⠐⠜
bracket, square, opening and closing	[ ]	⠈⠣ ⠈⠜
brace (curly brackets), opening and closing	{ }	⠸⠣ ⠸⠜
paragraph	¶	⠸⠏
section	§	⠘⠎
transcriber’s note, opening and closing		⠠⠠⠣ ⠠⠠⠜

Note that the “at” sign will be ⠈⠁ as it is in current literary braille, but can be used anywhere, including email addresses. Also, there is no longer a general termination indicator; termination of capitals and other effects is discussed later in this document.

Quotation Marks

In general, quotation marks will appear as they do in current braille, except for the single closing quotation mark which has been changed as mentioned above. However, for times when it may be necessary, there will now be a way to represent the different kinds of quotation marks which appear in print, such as the directional quotes. Here are examples:

quotation marks, nonspecific, opening and closing	⠦ ⠴
quotation marks, double, opening and closing	⠘⠦ ⠘⠴
quotation marks, single, opening and closing	⠠⠦ ⠠⠴

Spacing

A, and, for, of, the, and *with* will no longer be joined together. They will be spaced apart from each other as they are in print. [Note: since the contractions for *to, into*, and *by* have been eliminated, these words are spelled out and spaced as they are in print. The “in” in *into* will still be contracted.]

He ran into the cellar with the rest of a box of chocolates.

⠓⠑ ⠗⠁⠝ ⠊⠝⠞⠕ ⠞⠓⠑ ⠉⠑⠇⠇⠁⠗ ⠷ ⠞⠓⠑ ⠗⠑⠎⠞ ⠷ ⠁ ⠃⠕⠭ ⠷
⠉⠓⠕⠉⠕⠇⠁⠞⠑⠎⠲

Period, Decimal, Dot, Ellipsis

The period, dot, and decimal will always be shown as dots 256. The ellipsis is shown as three of these in a row.

Therefore:

1.5 million people will vote.

⠼⠁⠲⠑ ⠍⠊⠇⠇⠊⠝ ⠏⠑⠕⠏⠇⠑ ⠺⠊⠇⠇ ⠧⠕⠞⠑⠲

www.loc.gov

⠺⠺⠺⠲⠇⠕⠉⠲⠛⠕⠧

The escargot is on sale for $28.50.

⠓⠑ ⠑⠎⠉⠁⠗⠛⠕⠞ ⠊⠎ ⠕⠝ ⠎⠁⠇⠑ ⠋⠕⠗ ⠈⠙⠼⠃⠓⠲⠑⠚

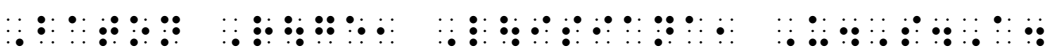
We upgraded to version 15.2.

⠺⠑ ⠥⠏⠛⠗⠁⠙⠑⠙ ⠞⠕ ⠧⠑⠗⠎⠊⠕⠝ ⠼⠁⠑⠲⠃⠲

Capitalization

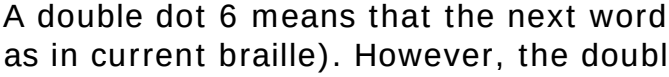
Dot 6 means the next letter is capitalized (just as in current braille).

Baton Rouge, Louisiana, U.S.A.

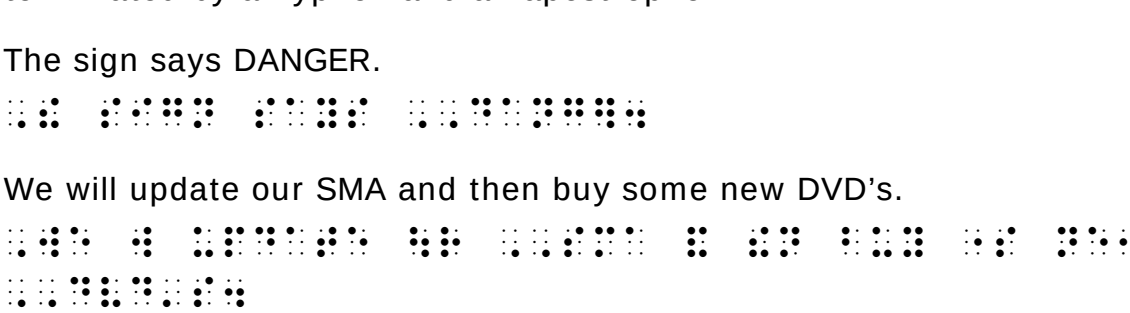


A double dot 6 means that the next word (or string of letters) is capitalized (just as in current braille). However, the double capital affects only letters and is terminated by a hyphen and an apostrophe.

The sign says DANGER.



We will update our SMA and then buy some new DVD's.

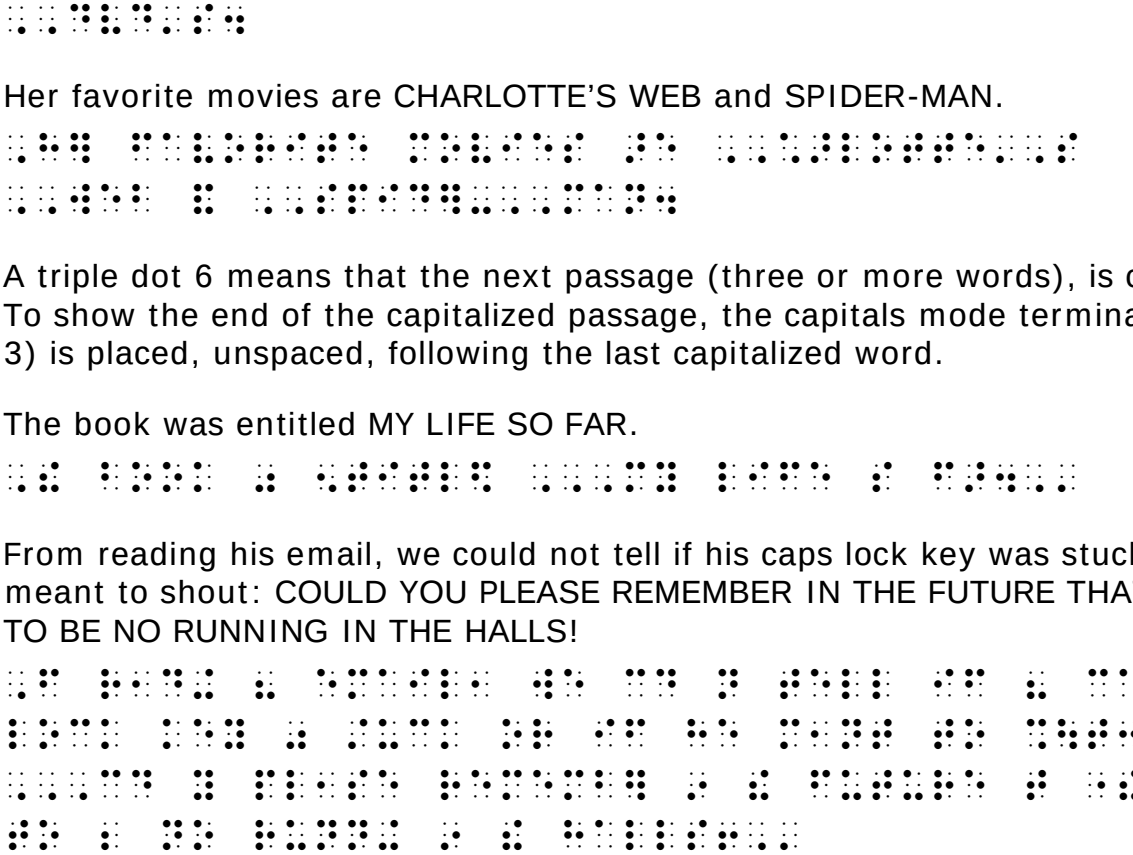


Her favorite movies are CHARLOTTE'S WEB and SPIDER-MAN.

A triple dot 6 means that the next passage (three or more words), is capitalized. To show the end of the capitalized passage, the capitals mode terminator (dot 6, 3) is placed, unspaced, following the last capitalized word.

The book was entitled MY LIFE SO FAR.

From reading his email, we could not tell if his caps lock key was stuck or if he meant to shout: COULD YOU PLEASE REMEMBER IN THE FUTURE THAT THERE IS TO BE NO RUNNING IN THE HALLS!



New Symbols

Here are some of the symbols not currently available in literary braille. Some of these have been represented in different ways in computer braille code or in textbooks, but to have included them in the current base code would have caused conflicts. Now they will be part of our base code and can be used wherever they occur in literary contexts. This is not a complete list but covers the most common symbols.

backslash	\	⠸⠡
bullet	•	⠸⠔
tilde	~	⠈⠈⠱
underscore	_	⠨⠤
equals	=	⠐⠶
plus	+	⠐⠖
minus	–	⠐⠤
multiplication	×	⠐⠦
division	÷	⠐⠌
angle brackets, opening and closing (or less than and greater than signs)	< >	⠈⠣ ⠈⠜
dagger	†	⠈⠈⠱⠄
double dagger	‡	⠈⠈⠱⠆

Yellow + blue = green.

⠽⠑⠇⠇⠕⠺ ⠖ ⠃⠇⠥⠑ ⠶ ⠛⠗⠑⠑⠝

Should we get tickets to see Florence + The Machine, Ke$ha, or Deadmau5—or all three?

⠠⠠⠠ ⠺⠑ ⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠ ⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠ ⠠⠠
⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠
⠠⠠⠠⠠⠠⠠

All of them, please! You are the best! <3

⠠⠠⠠⠠ ⠠ ⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠ ⠠⠠ ⠠⠠ ⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠

Some Contractions Used More Often

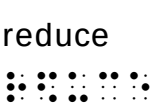
To reduce exceptions and complexity in the contraction rules, contractions that stand for a group of letters will be used in some cases in which they are not used in current braille.

professor

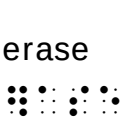
⠠⠠⠠⠠⠠⠠⠠⠠

atmosphere

reduce



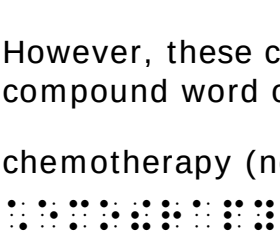
erase



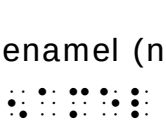
renewed

However, these contractions are not used when they carry over the two parts of a compound word or when they would adversely affect pronunciation:

chemotherapy (no “mother” contraction)

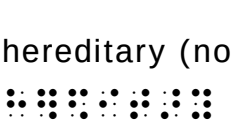


enamel (no “name” contraction)



doghouse (no “gh” contraction)

hereditary (no “here” contraction)

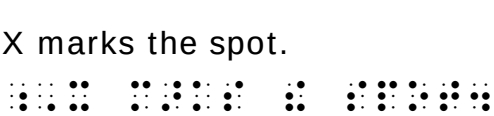


Grade 1

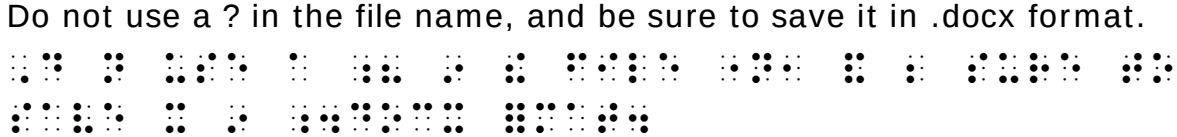
Dots 56, currently known as the letter sign, will be called the grade 1 symbol indicator and will mean that the character following it is not a contraction. Dots 56 will be used more consistently when a letter stands by itself (such as in a person’s middle initial). Dots 56 is not required before a single a, I, or o, which do not have contraction forms.

A double dot 56 means that the next word is in grade 1, and a triple dot 56 signals the beginning of a passage that will not include any contractions. The grade 1 passage is terminated with dots 56, 3.

X marks the spot.

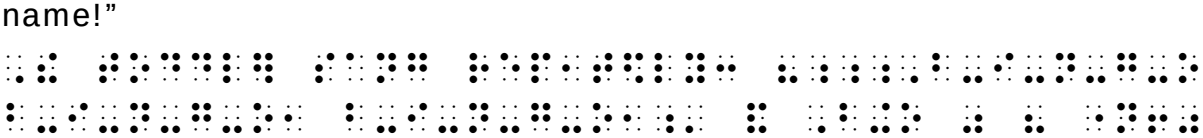


Do not use a ? in the file name, and be sure to save it in .docx format.



John F. Kennedy

The toddler sang repeatedly: “B-i-n-g-o, b-i-n-g-o, b-i-n-g-o, and Bingo was his name!”



Italics, Bold, Underline

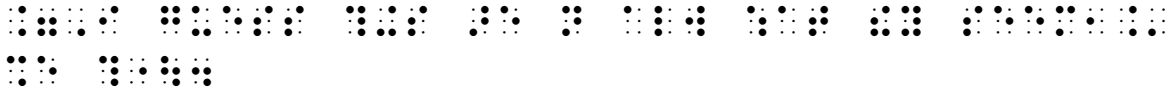
These also have different indicators for covering a single symbol, a word, or a passage. The use of word and passage indicators is intended to cut down on the number of individual indicators to be used. It also allows for a clear method to show when one letter or part of a word is emphasized as is increasingly common in educational material. Just like in current braille, these attributes are only meant to be shown when necessary for emphasis or distinction, not for visual effect (i.e., not as often as they are used in print). For example, if the title of a document is centered and in bold, the bold is not shown in braille.

	Italics	Underline	Bold
single letter			
word			
passage (begin and end)			

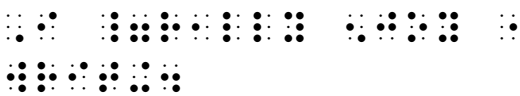
The symbols for the endings of passages are placed, unspaced, after the last word.

It is so *loud* in here.

I guess things are not always what they seem, she thought.



I <u>really enjoy underlining words</u> when I am writing.

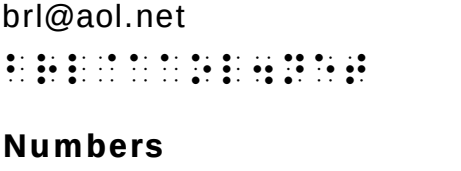


Web and Email Addresses, File Names, Twitter Handles, etc.

In UEB there is no need to switch into computer braille code to write these, and therefore no need for begin and end computer code symbols. All of the same symbols can be used, governed by the same rules, whether in an electronic address or not.

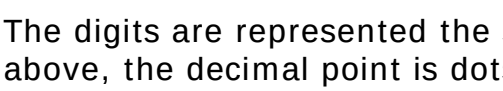
MeForCongress@aol.net

WilliamShakespeare: @TwitterTheatre Can it be true that you have shortened my plays to 140 characters? #horrifying

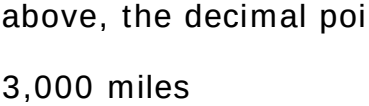


Contractions can be used in web and email addresses without causing ambiguity. Short-form words (like braille, across, and tomorrow) are generally not used in electronic addresses because of the overall rules governing when and when not to use them.

braille@aol.net



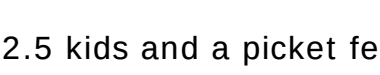
brl@aol.net



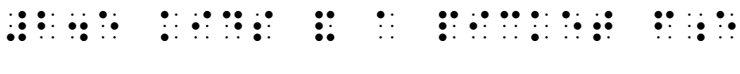
Numbers

The digits are represented the same as in current literary braille. As mentioned above, the decimal point is dots 256.

3,000 miles

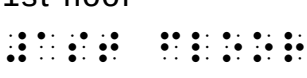


2.5 kids and a picket fence

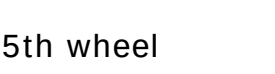


After a numeric indicator, no contractions are used until a space or hyphen is encountered.

1st floor



5th wheel



Need2read@omgmail.com

16-year-old

⠼⠁⠋⠽⠗⠤⠽⠑⠁⠗⠤⠕⠇⠙

In simple fractions, the fraction line is dots 34. For a mixed fraction, the number sign is repeated after the whole number.

½

⠼⠁⠂

2¾ cups sugar

⠼⠃⠰⠼⠉ ⠉⠥⠏⠎ ⠎⠥⠛⠁⠗

When numbers contain slashes but are not fractions, the two-cell slash is used just as it is when words contain slashes, and the numeric indicator is repeated after the slash.

The camp counselors/mentors must be ready to respond at any time, 24/7.

⠞⠑ ⠉⠁⠍⠏ ⠉⠕⠥⠝⠎⠑⠇⠕⠗⠎⠸⠍⠑⠝⠞⠕⠗⠎ ⠍⠥⠎⠞ ⠃⠑ ⠗⠑⠁⠙⠽ ⠞⠕
⠗⠑⠎�פ⠕⠝⠙ ⠁⠞ ⠁⠝⠽ ⠞⠊⠍⠑⠤ ⠼⠆⠙⠸⠼⠛

If there is a colon, dash, or hyphen in the middle of a number, the numeric indicator is repeated after the symbol, because these symbols stop the effect of a numeric indicator.

It's 2:30 P.M.—time to get up.

⠠⠊⠄⠎ ⠼⠃⠒⠼⠉⠚ ⠠⠏⠠⠍⠠⠤⠞⠊⠍⠑ ⠞⠕ ⠛⠑⠞ ⠥⠏⠲

The vote was 61-38.

⠞⠑ ⠧⠕⠞⠑ ⠺⠁⠎ ⠼⠋⠁⠤⠼⠉⠓⠲

There will now be a specific way to show that numbers or other symbols are in a superscript or subscript position. This can apply to footnote references, common chemical formulae, and the like.

Her adagio[2] received glowing reviews.[3]

⠓⠑⠗ ⠁⠙⠁⠛⠊⠕⠰⠆ ⠗⠑⠉⠑⠊⠧⠑⠙ ⠛⠇⠕⠺⠊⠝⠛ ⠗⠑⠧⠊⠑⠺⠎⠰⠒

I explained that h_2o stands for water.

⠊ ⠑⠭⠏⠇⠁⠊⠝⠑⠙ ⠁ ⠓⠢⠃⠢ ⠞⠓⠁⠞ ⠎ ⠎⠞⠁⠝⠙⠎

Accents On Letters

In current literary braille, all accent marks are shown as dot 4 before the letter (except in material for teaching foreign language). In UEB, there are unique symbols (modifiers) to show the different print accent marks. These modifiers are

placed before the letter they accent and are only used in the same situations in which dot 4 is currently shown. Foreign language instructional material would use the proper accented letter symbols for that language. Examples:

acute over letter	Fiancée	⠈⠋⠊⠁⠝⠉⠑⠘⠑
umlaut over letter:	spätzel	⠎⠏⠄⠞⠵⠑⠇
grave over letter:	très chic	⠞⠗⠮⠀⠉⠓⠊⠉
cedilla under letter	François	⠈⠋⠗⠁⠝⠯⠇⠁⠎⠊⠎
tilde over letter	Señorita	⠈⠎⠔⠕⠗⠊⠞⠁

Formatting

There are no UEB-Specific rules regarding placement of headings, page numbers, blank lines, indention, preliminary pages, reference notes, and the like. Therefore, the use of UEB will not cause the placement of these items to change.

What Else

Many additional symbols which could be encountered in literary contexts can be represented in UEB. For example, Greek letters, diacritics, and shape symbols can be shown. There are also methods providing flexibility to show other types of font attributes if needed. For example, words can be shown to be printed in a specific color or deleted (strikethrough). Items such as these may be needed only rarely by the general reader, but students reading their school textbooks in braille encounter them often.

How Symbols Are Made

Every braille symbol has a root. Some symbols have prefixes in addition to the root. A symbol can have more than one prefix, but only one root. Certain dot combinations are only ever prefixes, not roots.

Prefixes: 4, 45, 456, 46, 56, 6.

In current literary braille, the root and prefix principle is followed to some extent, but is not strictly observed, which can cause ambiguity and limit the ability to construct new symbols. For example, in current literary braille, the closing single quotation mark and the emphasis indicator (italic sign) do not follow the principle. The current single quotation mark quote is made of two characters that are usually roots; the single italics sign is only a prefix.

TIPS FOR LEARNING AND REMEMBERING SOME SYMBOLS AND INDICATORS

Underline, Bold, and Italics Indicators

These indicators have prefixes as well as roots. The prefix indicates the type of attribute, and the root indicates how far it extends.

For the “begin” indicators, the prefixes are easy to remember:

Italics: dots 46, just like the current italics

Underline: dots 456, like the underscore in computer braille code

Bold: dots 45—a little like a letter b (b for bold) but on the other side of the cell.

The roots are the same for these three:

Letter: dots 23 (looks a little like a letter sign but on the other side of the cell)

Word: dot 2

Passage, dots 2356

	Prefix	Symbol (Root)	Word (Root)	Passage (Root)	Passage end (Root)
italic	⠨	⠆	⠂	⠶	⠄
bold	⠸	⠆	⠂	⠶	⠄
underline	⠰	⠆	⠂	⠶	⠄
grade 1	⠰	⠆	⠂	⠶	⠄

Generally only the passage indicators need an “end” indicator; the prefixes for the endings are the same as for the beginning, and the root is dot 3.

The Accents (modifiers)

The root for the umlaut ⠨⠤ looks like two dots across, like the umlaut in print.

Acute and grave accents also slant the same way in braille as they do in print.

“Cedilla below” and “tilde above” are based on the current representations of these symbols used in foreign language contexts.

Where to Learn More

Comprehensive code books and symbols lists for UEB are available at www.iceb.org

Samples of material using UEB are available from www.brailleauthority.org

(Last updated March 11, 2013)