1   zero width space

LATEX does not hyphenate word after solidus (forward slash) in compounds like 'input/output'. Inserting ZERO WIDTH SPACE after the solidus in such compound forces LATEX to consider the compound to be two words and thus it will use the usual line breaking algorithm for the second word of the compound. The following few lines are testing behaviour *without* ZERO WIDTH SPACE inserted:

Here, we are—testing line breaking of 'input/out‐put' compound.

Here, we are–testing line breaking of 'input/out‐put' compound.

Notice how both lines cause hbox overflow because LATEX cannot find good line break.

And now *with* ZERO WIDTH SPACE inserted:

Here, we are—testing line breaking of 'input/ output' compound.

Here, we are–testing line breaking of 'input/out‐put' compound.

2 narrow no-break space

NARROW NO-BREAK SPACE is used, e.g., in German and Czech typography to separate multi-part abbreviations. Here is an example with 's. r. o.', which is an equivalent of LLC or GmbH in Czech. It should be typeset with narrow space between letters and no line break should occur between the letters:

s.r.o.	without any spaces
s. r. o.	with usual NON-BREAKING SPACE (~)
s. r. o.	with NARROW NO-BREAK SPACE

The following sentence is showing line breaking when ordinary space is used:

He invested all of his savings into Pyramid s. r. o. and lost all of it.

And here we use NARROW NO-BREAK SPACE for much nicer result:

He invested all of his savings into Pyramid s. r. o. and lost all of it.

3   non-breaking space

Here, we are testing the use of Unicode character NON-BREAKING SPACE:

Telephone number example for Czechia: +420 123 456 789

Telephone number example for Czechia: +420 123 456 789█

The line above overflows hbox because line break cannot be inserted between digits groups due to use of NON-BREAKING SPACE.

4 soft hyphen

Sometimes, text might come with words pre-hyphenated using SOFT HYPHEN character. Let's use the name 'Kurremkarmerruk', name of Master Namer from Earthsea novels by Ursula K. Le Guin, as an example here. Without manually inserted SOFT HYPHEN, it will be hyphenated but it will overflow hbox slightly:

The name of the Master Namer is 'Kurremkarmer-■ruk'.

Here is the same with with SOFT HYPHEN inserted as follows: Kur-rem-kar-mer-ruk.

The name of the Master Namer is 'Kurremkarmerruk'.

Note: I claim no correctness of the above hyphenation of the name. This is purely just an example.

5 figure space and punctuation space

FIGURE SPACE and PUNCTUATION SPACE can be used to align numbers in tables. The below table (partial table of Earth athmosphere constituents) does not use either. The numbers are centered in their column.

Element	ppmv
Nitrogen	780,840
Oxygen	209,460
Argon	9,340
Carbon dioxide	400
Neon	18.18

Below is the same table as above but with addition of FIGURE SPACE and PUNCTUATION SPACE to pad the numbers so that they all seem the same width to LaTeX:

Element	ppmv
Nitrogen	780,840
Oxygen	209,460
Argon	9,340
Carbon dioxide	400
Neon	18.18

6   en, em and other spaces

Unicode contains several more space characters, some of which are shown in the following table:

a b c	EM SPACE
a b c	EM QUAD is canonically equivalent[i] to EM SPACE
a b c	EN SPACE
a b c	EN QUAD is canonically equivalent[i] to EN SPACE
a b c	THREE-PER-EM SPACE
a b c	FOUR-PER-EM SPACE
a b c	SIX-PER-EM SPACE
a b c	FIGURE SPACE
a b c	PUNCTUATION SPACE
a b c	THIN SPACE
a b c	HAIR SPACE
abc	no spaces, for comparison

[i] See http://unicode.org/notes/tn5/ for explanation of the term.