

# Text Justification

## Justifying text & Spacing

### Character and Word spacing

When text-alignment is set to Justify (i.e. aligning to both right and left margins), word spacing and character spacing are normally used to justify text.

The PDF file definition does not enable word-spacing when using multibyte encoding e.g. Unicode fonts or CJK languages. However, mPDF creates word-spacing in these formats by altering the character spacing for the spaces between words.

Thus both character and word spacing can be used in all modes, including Unicode and CJK.

The default is to use a mix of character and word spacing. The ratio is set by variables defined at the top of the mpdf.php file:

```
var $jSpacing = ''; // Spacing method when Justifying [ C, W or blank (for mixed e.g. 40/60) ]
var $jSWord = 0.4; // Percentage(/100) of spacing to allocate to Word vs. Character
var $jSmaxChar = 2; // Maximum spacing to allocate to character spacing. (0 = no maximum)
```

The maximum (*\$jSmaxChar*) will prevent excessive, ugly and difficult-to-read character spacing.

CJK characters usually need to be character-spaced (as each character is like a word), and cursive scripts like Arabic need to be word-spaced. These are predefined in *htmltoolkit.php*, which sets *jSpacing* to C or W which overrides the default, and is determined by the language/country code (en-GB).

### "Orphans"

HTML2FPDF used spaces to determine where to cut lines, but assumes that the end of a block of text within tags is a suitable place to wrap the line. This not always the case e.g.:

... the end of a sentence ends in `<b>bold</b>`.

... the end of a sentence ends with a reference `<sup>32</sup>`

mPDF will prevent these "orphans" (. in first case and <sup>32</sup> in second) being moved to a next line and separated from the preceding text. This works for .,:;?!'"'>»,„ and sup and sub text. The maximum number of characters is set at the top of the mpdf.php file as *var \$orphansAllowed* (default value 5 e.g <sup>34-36</sup>).

### Non-breaking space (NBSP)

The non-breaking space character is supported when using all codepages other than CJK - unless the font chosen does not have a glyph/character representing the nbsp (? only FreeSerif); in these cases the nbsp is converted to a normal space. When supported, it prevents word wrapping and prevents collapse of white space as expected with HTML.

### The last line (mPDF >= 4.0)

The last line of justified text is left-aligned, but when the penultimate line has been stretched to fit the page width it appears best if the last line also has increased spacing. This was introduced in mPDF 4.0.

If the penultimate line was stretched considerably, the last line may look odd using the same spacing, so maximum values for the character-spacing (*\$jSmaxCharLast*) and word-spacing (*\$jSmaxWordLast*) can be set in the configuration file.

### Justification before line-breaks

In a justified text block, an inline `<img>`, `<textarea>`, `<input>`, or `<select>` element which causes a new line, force the previous line to be justified. However, a `<hr>` or `<br>` do not force justification of the preceeding text.

This behaviour matches most browsers. To allow optional compliance with the behaviour of MS Word, which also justifies text before a `<br>` you can set the configurable variable *justifyB4br* to true.

NB - Comment on Vertical justification for Columns

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