Customizing captions of floating environments*

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https://gitlab.com/axelsommerfeldt/caption

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Abstract

The caption package offers customization of captions in floating environments such as \texttt{figure} and \texttt{table} and cooperates with many other packages.

Please note: Many document classes already have build-in options and commands for customizing captions. If these possibilities are sufficient for you, there is usually no need for you to use the \texttt{caption} package at all. And if you are only interested in using the command \texttt{\captionof}, loading of the very small \texttt{capt-of} package is usually sufficient.

State of this document

This documentation is outdated.

It documents the options and commands available in version v3.1 of the caption package, but many things added later on is missing here. Why?

• I wasn’t happy with the structure of the documentation, so I decided to write a new one. So why updating the abandoned documentation? (Unfortunately I never found the time to actually write the new one.)

• Since my spare time was extremely limited since version v3.1 I didn’t want to hold improvements and enhancements back for months because of missing documentation.

• Since I used to fix bugs in the most recent development version only, I didn’t want to hold bugfixes back for months because of missing documentation of features. (But since 2015 bugs will usually get fixed for the latest release version as well, and released to CTAN as bug-fixed version afterwards.)

What now?

• I will start revising this documentation in the next weeks, finally bringing it up-to-date.

• Until the revised documentation is ready the most recent version could be found at https://gitlab.com/axelsommerfeldt/caption/-/blob/master/doc/caption-eng.pdf since I will not upload every improvement of the documentation to CTAN immediately.

*This package has version number v3.5.
Introduction

Within the standard L\LaTeX\ document classes captions haven’t received the attention they deserve. Simply typeset as an ordinary paragraph there is no remarkable visual difference from the rest of the text, like here:

Figure 1: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

There should be possibilities to change this; for example, it would be nice to make the text of the caption a little bit smaller as the normal text, add an extra margin, typeset the caption label with the same font family and shape as your headings etc. Just like this one:

\textbf{Figure 2} – White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

You can do this easily with this package as there are many ready-to-use caption formatting options, but you are free to define your very own stuff, too.

Please note that the caption package is only controlling the look & feel of the captions. It does not control the placement of the captions. (But you could do so by using other packages like the floatrow package[8].)
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1 Using this package

\usepackage Insert
\usepackage[⟨options⟩]{caption}[2020/09/12]

into the preamble of your document, i.e. the part of your document between \documentclass and \begin{document}. The options control how your captions will look like; e.g.,

\usepackage[margin=10pt,font=small,labelfont=bf, labelsep=endash]{caption}

would result in captions looking like the second one in the introduction.

\captionsetup For a later change of options the caption package provides the command
\captionsetup[⟨float type⟩]{⟨options⟩} .

So

\usepackage[margin=10pt,font=small,labelfont=bf]{caption}

and

\usepackage{caption}
\captionsetup{margin=10pt,font=small,labelfont=bf}

are equal in their results.

It’s good to know that \captionsetup has an effect on the current environment only. So if you want to change settings for the current figure or table only, just place the \captionsetup command inside the figure or table right before the \caption command. For example

\begin{figure}
...
\captionsetup{singlelinecheck=off}
\caption{...}
\end{figure}

switches the single-line-check off, but only for this figure, so all the other captions remain untouched.

(For a detailed description of \captionsetup see section 3.2: Setting options.)
2 Options

2.1 Formatting

A figure or table caption mainly consists of three parts: the caption label, which says if this object is a ‘Figure’ or ‘Table’ and what number is associated with it, the caption text itself, which is normally a short description of contents, and the caption separator which separates the text from the label.

The *caption format* determines how this information will be presented; it is specified with the option

\[ \text{format} = \{ \text{format name} \} \]

having the name of the caption format as its argument.

There are two standard caption formats:

- **plain** Typesets the captions as a normal paragraph.
- **hang** Indents the caption text, so it will ‘hang’ under the first line of the text.

... Own formats can be defined using \texttt{\DeclareCaptionFormat}. (See section 4: Own enhancements)

An example: Specifying the option

\[ \text{format} = \text{hang} \]

yields captions like this:

Figure 3: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

For both formats (plain and hang) you can set up an extra indentation starting at the second line of the caption. You do this with the option

\[ \text{indention} = \{ \text{amount} \} \]

Two examples:

\[ \text{format} = \text{plain}, \text{indention} = .5\text{cm} \]

Figure 4: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

\[ \text{format} = \text{hang}, \text{indention} = -0.5\text{cm} \]

Figure 5: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.
With the option

\texttt{labelformat=} \langle \text{label format name} \rangle

you specify how the caption label will be typeset. There are five standard caption label formats:

- \texttt{default}: The caption label will be typeset as specified by the document class, usually this means the name and the number (like \texttt{simple}). (This is the default behaviour.)
- \texttt{empty}: The caption label will be empty.
- \texttt{simple}: The caption label will be typeset as a name and a number.
- \texttt{brace}: The caption label will be closed with a single (right) brace.
- \texttt{parens}: The number of the caption label will be typeset in parentheses.

... Own label formats can be defined using \texttt{\DeclareCaptionLabelFormat{}}. (See section 4: Own enhancements)

An example: Using the options

\texttt{format=} \texttt{plain, labelformat=} \texttt{parens, labelsep=} \texttt{quad}

gives captions like this one:

Figure (6) White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

\textit{Note}: Some environments, e.g. the \texttt{algorithm} environment offered by the \texttt{algorithm2e} package, might react allergic to a change of the caption label format.

With the option

\texttt{labelsep=} \langle \text{label separator name} \rangle

you specify what caption separator will be used. You can choose one of the following:

- \texttt{none}: There is no caption separator.
- \texttt{colon}: The caption label and text will be separated by a colon and a space.
- \texttt{period}: The caption label and text will be separated by a period and a space.
- \texttt{space}: The caption label and text will be separated by a single space.
- \texttt{quad}: The caption label and text will be separated by a \texttt{quad}.
- \texttt{newline}: The caption label and text will be separated by a line break (\texttt{\linebreak}). Please note that this separator does not work with all caption formats (e.g. \texttt{format=} \texttt{hang}), and you’ll get an error message trying such combination of options.

\textsuperscript{1}If the caption label or the caption text is empty, no separator will be used.
endash        The caption label and text will be separated by an en-dash, surrounded by spaces (——).

...          Own separators can be defined using \DeclareCaptionLabelSeparator. (See section 4: Own enhancements)

Three examples:

format=plain,labelsep=period

Figure 7. White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

format=plain,labelsep=newline,singlelinecheck=false

Figure 8
White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

format=plain,labelsep=endash

Figure 9 – White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

textformat=   With the option

textformat=(text format name)

you specify how the caption text will be typeset. There are two standard caption text formats:

empty        The caption text will be suppressed.
simple       The caption text will be typeset as it is.
period       The caption text will be followed by a period.

...          Own text formats can be defined using \DeclareCaptionTextFormat. (See section 4: Own enhancements)
2.2 Justification

As addition to the caption format you could also specify a *caption justification*; it is specified with the option

```
justification=(justification name)
```

You can choose one of the following:

- **justified**: Typesets the caption as a normal paragraph.
- **centering**: Each line of the caption will be centered.
- **centerlast**: The last line of each paragraph of the caption text will be centered.
- **centerfirst**: Only the first line of the caption will be centered.
- **raggedright**: Each line of the caption will be moved to the left margin.
- **RaggedRight**: Each line of the caption will be moved to the left margin, too. But this time the command `\RaggedRight` of the `ragged2e` package will be used to achieve this. The main difference to `raggedright` is that the word breaking algorithm of TeX will work inside captions.\textsuperscript{2}
- **raggedleft**: Each line of the caption will be moved to the right margin.

... Own justifications can be defined using `\DeclareCaptionJus-
tification`. (See section 4: Own enhancements)

Three examples:

```
format=hang, justification=raggedright
```

Figure 10: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

```
format=hang, justification=centerlast
```

Figure 11: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

```
format=plain, labelsep=newline, justification=centering
```

Figure 12

White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

\textsuperscript{2}The need for the `ragged2e` package will be detected at run-time, therefore you maybe need a second \LaTeX run if this option is used for the first time.
The standard \LaTeX\ document classes (\texttt{article}, \texttt{report}, and \texttt{book}) automatically center a caption if it fits in one single line:

Figure 13: A short caption.

The caption package adapts this behavior and therefore usually ignores the justification & indentation you have set with \texttt{justification=} & \texttt{indentation=} in such case. But you can switch this special treatment of such short captions off with the option

\begin{verbatim}
singlelinecheck=(\texttt{bool}) .
\end{verbatim}

Using \texttt{false}, \texttt{no}, \texttt{off} or \texttt{0} for \texttt{\langle bool \rangle} switches the extra centering off:

\begin{verbatim}
singlelinecheck=false
\end{verbatim}

Doing so the above short caption would look like

Figure 14: A short caption.

You switch the extra centering on again by using \texttt{true}, \texttt{yes}, \texttt{on} or \texttt{1} for \texttt{\langle bool \rangle}. (The default is on.)

\section*{2.3 Fonts}

There are three font options which affects different parts of the caption: One affecting the whole caption (\texttt{font}), one which only affects the caption label and separator (\texttt{labelfont}) and at least one which only affects the caption text (\texttt{textfont}). You set them up using the options

\begin{verbatim}
font={\langle font options \rangle} ,
labelfont={\langle font options \rangle} , and
textfont={\langle font options \rangle} ,
\end{verbatim}

where \texttt{\langle font options \rangle} is a list of comma separated font options.

And these are the available font options:

- \texttt{scriptsize} Very small size
- \texttt{footnotesize} The size usually used for footnotes
- \texttt{small} Small size
- \texttt{normalsize} Normal size
- \texttt{large} Large size
- \texttt{Large} Even larger size
normalfont Normal shape & series & family
up Upright shape
it *Italic shape*
sl Slanted shape
sc SMALL CAPS SHAPE
md Medium series
bf Bold series
rm Roman family
sf Sans Serif family
tt Typewriter family

singlespacing Single spacing (See section 7.13: \texttt{setspace})
onehalfspacing One-and-a-half spacing (See section 7.13: \texttt{setspace})
doublespacing Double spacing (See section 7.13: \texttt{setspace})
stretch=⟨amount⟩ \texttt{\setstretch{⟨amount⟩}} (See section 7.13: \texttt{setspace})

normalcolor \texttt{\normalcolor}
color=⟨colour⟩ \texttt{\color{⟨colour⟩}} (If the \texttt{color} or \texttt{xcolor} package is loaded, see section 4: Own enhancements for an example)

normal The combination of the options normalcolor, normalfont, normalsize, and singlespacing
...
... Own font options can be defined using \texttt{\DeclareCaptionFont}. (See section 4: Own enhancements)

If you use only one of these options you can omit the braces; e.g., the options \texttt{font=⟨small⟩} and \texttt{font=small} will give the same result.

Three examples:

\texttt{font=it,labelfont=bf}

\textbf{Figure 15:} White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

\texttt{labelfont=sc,textfont=it}

\textbf{Figure 16:} White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.
Figure 17: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

You can also add font options to the current ones, so for example

\captionsetup{font=small, it}
\captionsetup{font+=it}

is identical to

\captionsetup{font={small, it}}

### 2.4 Margins and further paragraph options

For all captions you can specify either an extra margin or a fixed width:\(^3\)

- margin=⟨amount⟩
- margin={⟨left amount⟩,⟨right amount⟩}
- width=⟨amount⟩

If you specify just one (amount) for the margin, it will be used for both, the left and right margin, e.g. margin=10pt is equivalent to margin={10pt, 10pt}. In two-side documents the left and right margin will be swapped on even pages. To prevent this you can specify the option oneside additionally, e.g. \captionsetup{margin=⟨0pt,10pt⟩, oneside}.

But if you are specifying a width, then both, the left and the right margin, will have the same amount.

Three examples will illustrating this:

margin=10pt

Figure 18: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

margin={1cm,0cm}

Figure 19: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

width=.75\textwidth

Figure 20: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

\(^3\)Only fixed widths are supported here; if you are looking for a way to limit the width of the caption to the width of the figure or table, please take a look at the floatrow[8] or threeparttable[22] package.
Note: When the caption is placed beside the contents (for example in a `SCfigure` environment offered by the `sidecap` package\[18\]) or the figure is an in-text figure (for example in a `wrapfigure` environment offered by the `wrapfig` package\[23\]), the margin setting will be automatically reset to 0pt at the very beginning of the environment. But if you really want to setup an extra margin for these environments, you can do so by setting this margin either inside the environment itself, or by specifying a margin for this particular environment, e.g. `\captionsetup[SCfigure]{margin=10pt}`.

There is also a starred variant of the `margin=` option, `margin*=` which only changes the margin if no width was set.

You can also set a minimum or maximum margin amount. This can be useful for limiting the margin amount in smaller environments, e.g. `minipages`. For example the SMF document classes limit the margin amount to `maxmargin=0.1\linewidth`. (See section 5.6: SMF: `smfart` and `smfbook`)

This option is useful for captions containing more than one paragraph. It specifies the extra vertical space inserted between them:

```
parskip=(amount)
```

One example:

```
margin=10pt, parskip=5pt
```

Figure 21: First paragraph of the caption. This one contains some test, just to show how these options affect the layout of the caption.

Second paragraph of the caption. This one contains some text, too, to show how these options affect the layout of the caption.

The option

```
hangindent=(amount)
```

is for setting up a hanging indentation starting from the second line of each paragraph. If the caption contains just a single paragraph, using this option leads to the same result as the option `indentation=(amount)` you already know about. But if the caption contains multiple paragraphs you will notice the difference:

```
format=hang, indentation=-.5cm
```

Figure 22: First paragraph of the caption. This one contains some test, just to show how these options affect the layout of the caption.

Second paragraph of the caption. This one contains some text, too, to show how these options affect the layout of the caption.

```
format=hang, hangindent=-.5cm
```

Figure 23: First paragraph of the caption. This one contains some test, just to show how these options affect the layout of the caption.

Second paragraph of the caption. This one contains some text, too, to show how these options affect the layout of the caption.

Note: If your caption contains more than one paragraph, you have to specify an alternative caption for the list-of-figures using the optional argument of `\caption` or `\captionof`, otherwise you will get an error message.
2.5 Styles

A suitable combination of caption options is called caption style. You can compare them more or less to page styles which you set up with \pagestyle; the caption style provides all settings for a whole caption layout.

You switch to an already defined caption style with the option

\style=(style name).

The caption package pre-defines two styles: base and default. The base style puts all options you already know about to values reflecting the look of the captions when using one of the base \LaTeX{} document classes article, report, and book. This means that specifying the option

\style=base

has the same effect as specifying all these options:

\begin{verbatim}
   format=plain, labelformat=default, labelsep=colen, 
   justification=justified, font={}, labelfont={}, 
   textfont={}, margin=0pt, indentation=0pt, 
   parindent=0pt, hangindent=0pt, singlelinecheck=true
\end{verbatim}

(But justification=centering, indentation=0pt will be set if the caption fits into a single line.)

In contrast the default style follows the default values, reflecting the look of the captions given by the document class you actually use. This style is selected by default and represents these options:

\begin{verbatim}
   format=default, labelformat=default, labelsep=default, 
   justification=default, font=default, labelfont=default, 
   textfont=default, margin=0pt, indentation=0pt, 
   parindent=0pt, hangindent=0pt, singlelinecheck=true
\end{verbatim}

(But again justification=centering, indentation=0pt will be set if the caption fits into a single line.)

So if you use one of the base \LaTeX{} document classes article, report, or book, both caption styles, base and default, point to (nearly) the same settings.

Note: Own caption styles can be defined using `\DeclareCaptionStyle`. (See section 4: Own enhancements)

2.6 Skips

The vertical space between the caption and the figure or table contents is controlled by the option

\skip=(amount).

The standard \LaTeX{} document classes article, report and book preset it to \skip=10pt, but other document classes may use a different amount.
The `\caption` command offered by LaTeX has a design flaw: The command does not know if it stands on the beginning of the figure or table, or at the end. Therefore it does not know where to put the space separating the caption from the content of the figure or table. While the standard implementation always puts the space above the caption in floating environments (and inconsistently below the caption in `longtable`), the implementation offered by this package is more flexible: By giving the option

\begin{verbatim}
\caption[position]{caption}
\end{verbatim}

it’s assumed that the caption is standing at the top of the environment and therefore the space setup with `\skip=(amount)` is placed below the caption. (Please note that `\position=top` does NOT mean that the caption is actually placed at the top of the figure or table. Instead the caption is usually placed where you place the `\caption` command.) But with

\begin{verbatim}
\caption[position]{caption}
\end{verbatim}

it’s assumed that the caption is standing at the bottom of the environment and therefore the space is placed above the caption. And finally with

\begin{verbatim}
\caption[position]{caption}
\end{verbatim}

the `\caption` package tries its best to determine the actual position of the caption on its own. Please note that while this is successfully in most cases, it could give wrong results under rare circumstances.

The `\position` option is especially useful when used together with the optional argument of the `\captionsetup` command. (See also section 3.2: Setting options)

For example

\begin{verbatim}
\captionsetup{table}{position=above}
\end{verbatim}

causes all captions within tables to be treated as captions above the table (regarding spacing around it). Because this is a very common setting, the `\caption` package offers the abbreviating options `\figureposition=(pos)` and `\tableposition=(pos)`, e.g.

\begin{verbatim}
\usepackage[...]{caption}
\end{verbatim}

\begin{verbatim}
\captionsetup{table}{position=above}
\end{verbatim}

is equivalent to

\begin{verbatim}
\usepackage[...]{caption}
\captionsetup{table}{position=above}
\end{verbatim}

Please note that the options `\skip`, `\position`, `\figureposition`, and `\tableposition` do not always have an effect. Since it’s a matter of the document class to supply the environments `figure` and `table`, it could use its very own spacing, and could decide for itself if the caption will be typeset as “top” or “bottom” caption. For example the KOMA-Script document classes support the `\skip` setting, but will always typeset `figure` captions as “bottom” captions, and `table` captions are dependent on the global option `tablecaptionsabove` resp. `tablecaptionsbelow`. (See section 5.4: KOMA-Script: `scrartcl`, `scrreprt`, and `scrbook`)

Furthermore some packages control the behavior of the spacing above and below the caption for themself, e.g. the `float`, the `floatrow`, and the `supertabular` package.
Internally the skip between caption and contents is represented by `\abovecaptionskip` (which is always set above the caption in \LaTeX’s implementation). But there is a second value `\belowcaptionskip` (usually set to 0pt by default) which is set below the caption in \LaTeX’s implementation, but on the other side than `\abovecaptionskip` by this package. So technically speaking, this package swaps the meaning of these two skips when `position=top` is set. Please note that there are several packages around which do the same trick (like the `ftcap`, the `nonfloat`, and the `topcap` package), so the usage of the caption option `position=` is not supported if one of these packages will be used, too.

2.7 Lists

The `\caption` command usually places an entry in the List of Figures resp. List of Tables. You can either suppress that individually by giving an empty optional argument to `\caption` (see section 3.1: Typesetting captions), or programmatically by saying

```
list=no  (or any other boolean value instead of no).  
```

With the option

```
listformat=⟨list format name⟩
```

you can specify how the figure or table number will be typeset within the List of Figures resp. List of Tables. There are five standard caption list formats:

- **empty**: No number will be typeset.
- **simple**: The number will be typeset with label prefix.
- **parens**: The number will be typeset in parentheses, with label prefix.
- **subsimple**: Same as simple, but without label prefix. (default)
- **subparens**: Same as parens, but without label prefix.

... Own list formats can be defined using `\DeclareCaptionListFormat`. (See section 4: Own enhancements)

The prefix (≡ `\p@figure` resp. `\p@table`), which runs ahead of the number (≡ `\thefigure` resp. `\thetable`) in lists (e.g. List of Figure/Table) and references, is usually empty, so the list formats simple and subsimple gives equal results; same with parens and subparens. But this can be different for sub-figures or sub-tables listed in the List of Figures resp. List of Tables, or when the label prefix is redefined for a different purpose.\(^5\)

2.8 Names

The option

```
name=⟨name⟩
```

\(^4\)Please note that the `subfig` package[20] is not supporting this option, it uses the counters `lofdepth` & `lotdepth` for this purpose instead.

\(^5\)Sub-figures and sub-tables can be typeset using the `subcaption` or `subfig` package.
changes the name of the current environment. This could be useful in conjunction with the optional argument of \captionsetup, e.g.

\captionsetup[wrapfigure]{name=Fig.}

changes the name to “Fig.” for all wrapfigures (while all the other figure captions will still have “Figure” as name).

2.9 Types

The \caption command can typeset captions for different types, e.g. figure and table. If you try to use the \caption command outside these environments you will get an error message, because it does not know what kind of caption do you want to have here. But in such situations you can set the caption type manually with

\captionsetup{type=⟨float type⟩}

prior to the usage of the \caption command (and other commands like \ContinuedFloat, or \subcaptionbox offered by the subcaption package, or \subfloat offered by the subfig package[20]), for example within an non-floating environment like minipage:

\noindent\begin{minipage}{\textwidth}
  \captionsetup{type=figure}
  \subfloat{...}
  \caption{...}
\end{minipage}

There is also a starred variant of this option, type*=⟨float type⟩, which behaves different than type=⟨float type⟩ if the hyperref package[10] is loaded: While type= sets an hyperlink anchor (if hypcap=true is set), type*= does not. (See also section 7.6: hyperref)

**Note:** Please don’t re-define the internal macro \@captype for yourself, like suggested by some documentations, always use \captionsetup[type=...] instead.

Own float types can be defined with \DeclareFloatingEnvironment offered by the newfloat package, \newfloat offered by the float package[6], or \DeclareNewFloatType offered by the floatrow package[6].

Please note that you should use the option type= only inside boxes or environments (like \parbox or minipage), at best one where no page break could happen between contents and caption. Furthermore some visual side-effects (e.g. mixed-up figure and table settings regarding captions) could occur without using a box or environment, therefore a warning message will be issued if you try to do so.\footnote{You only get this warning message if you use \e\TeX as underlying \TeX engine.}

\footnote{You only get this warning message if you use \e\TeX as underlying \TeX engine.}
3  Commands

3.1  Typesetting captions

The command
\caption[⟨list entry⟩]{⟨heading⟩}

typesets the caption inside a floating environment like figure or table. Well, you already know this, but the caption package offers an extension: If you leave the argument ⟨list entry⟩ empty, no entry in the list of figures or tables will be made. For example:
\caption[]{A figure without list entry.}

Please remember that the ⟨heading⟩ is a so-called moving argument, if no ⟨list entry⟩ has been given. But if a ⟨list entry⟩ is given, this argument is moving instead. "Moving argument" means that the argument will be written to the list-of file, make it appearing in the "List of Figures" resp. "List of Tables", too. Moving arguments are not allowed to contain fragile commands, everything must be robust, otherwise the argument could get broken, resulting in strange errors at the next \LaTeX run. Some fragile commands could be protected by a leading \protect, own definitions could get defined with \DeclareRobustCommand instead of \newcommand to make them robust.

An example: \caption[$\{\phantom{1}1\}{}$]{$^{137}_{55}$Cs} will cause errors since \phantom is fragile. So we have either have to use the optional argument ⟨list entry⟩ (e.g. \caption[$\{\phantom{1}1\}{}$]{$^{137}_{55}$Cs}) or add \protect to prevent the \phantom command from getting broken: \caption[$\{\phantom{1}1\}{}$]{$^{137}_{\protect\phantom{1}55}$Cs}.

But sometimes even this is not sufficient. The reason behind is the so-called single-line-check: It puts the ⟨heading⟩ into a horizontal box to determine the width of the caption, and this could cause error messages, too. An example: \caption[A scheme. \begin{array}{cc} E_{(g)} & \text{p-n} \\ E_{(\phi)} & \text{M-S} \end{array} \right. \}} is not sufficient here, it's still leading to errors. ("Missing \$ inserted.")

So we have to put a \captionsetup{singlelinecheck=off} just in front of the \caption command additionally.

For more information about moving arguments and fragile & robust commands, take a closer look at your \LaTeX manual or visit http://www-h.eng.cam.ac.uk/help/tpl/textprocessing/\TeX/latex2e-html/fragile.html.

The longtable package defines the command \caption* which typesets the caption without label and without entry in the list of tables. An example:
\begin{longtable}{cc}
\caption*{A table}\\ ...\\ \end{longtable}

looks like

A table

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>1</td>
</tr>
<tr>
<td>b</td>
<td>3</td>
</tr>
</tbody>
</table>

The caption package offers this feature, too, so you can use this command now within every floating environment like figure or table, like:
Sometimes you want to typeset a caption outside a floating environment, putting a figure within a non-floating minipage for instance. For this purpose the `caption` package offers the command

\captionof{⟨float type⟩}{⟨list entry⟩}{⟨heading⟩} .

Note that the first argument, the ⟨float type⟩, is mandatory here, because the \captionof command needs to know which name to put into the caption label (e.g. “Figure” or “Table”) and in which list to put the contents entry. An example:

\captionof{table}{A table}

typesets captions like this:

Table 1: A table

The star variant \captionof* has the same behavior as the \caption* command: It typesets the caption without label and without entry to the list of figures or tables.

Since \captionof uses the option type internally, the same restrictions as for the type option apply here, so you should use both \captionof and \captionof* only inside boxes or environments, too. (See section 2.9: Types)

Under certain circumstances it could be useful to make a list-of-figure (or table) entry on its own. This could be achieved with

\captionlistentry{⟨float type⟩}{⟨list entry⟩} .

One example: It’s quite easy to have a \longtable with captions above the contents and a single list entry which points to the first page of the table:

\begin{longtable}{\ldots}
   \caption{\ldots}\\
   \endfirsthead
   \caption[]{\ldots}\\
   \endhead
   \ldots
\end{longtable}

But since the \longtable package does not offer an \endfirstfoot command, you cannot easily have captions below the table contents and a single list entry which points to the first page of the table. Here is were the \captionlistentry command could be used:

\begin{longtable}{\ldots}
   \caption[]{\ldots}\\
   \endfoot
   \captionlistentry{\ldots}
   \ldots
\end{longtable}

(Another example can be found in section 4.1: Further examples.)
There is also a starred variant, `\captionlistentry*`, which does not increment the \(\text{float type}\) counter. (Note that inside `longtable` environments \captionlistentry never increments the \textit{table} counter. See also \textsection 7.9: `longtable`.)

Please note that \texttt{\textbackslash list entry} is a \textit{moving} argument, so everything it contains must be \textit{robust}. (See also explanation of `\textbackslash caption`.)

### 3.2 Setting options

We already know the `\captionsetup` command (see \textsection 1: `Using this package`), but this time we get enlightened about its optional argument \(\text{\langle float type\rangle}\).

Remember, the syntax of this command is

\[
\texttt{\captionsetup[\langle float type\rangle]{\langle options\rangle}}
\]

If a \(\text{\langle float type\rangle}\) gets specified, all the \(\langle\text{options}\rangle\) don’t change anything at this time. Instead they only get marked for a later use, when a caption inside of a floating environment of the particular type \(\text{\langle float type\rangle}\) gets typeset. For example

\[
\texttt{\captionsetup[\texttt{figure}]{\langle\texttt{options}\rangle}}
\]

forces captions within a `\texttt{figure}` environment to use the given \(\langle\texttt{options}\rangle\).

Here comes an example to illustrate this:

\[
\begin{align*}
\texttt{\captionsetup[font=\texttt{small}]{}  \\
\texttt{\captionsetup[\texttt{figure}]{\langle\texttt{labelfont=bf, textfont=it}\rangle}}
\end{align*}
\]

This gives captions like this:

\begin{center}
\textbf{Figure 24: A figure}
\end{center}

\begin{center}
\textbf{Table 2: A table}
\end{center}

As you see the command `\captionsetup[\texttt{figure}]{\langle\texttt{options}\rangle}` only changes the look of the `\texttt{figure}` caption labels, not touching the other ones.

As \(\text{\langle float type\rangle}\) you can usually give one of these two only: `\texttt{figure}` or `\texttt{table}`. But as we will see later some `\LaTeX` packages (like the `floatrow`, `longtable`, and `sidecap` package for example) and also this package offer additional environments with captions and these two commands can also be used with them. (See \textsection 4: `Own enhancements` and \textsection 7: `Supported packages`.)

There is also a starred variant of `\captionsetup`:

\[
\texttt{\captionsetup*[\langle float type\rangle]{\langle options\rangle}}
\]

While the non-starred variant can give you warnings—for example if the \(\langle\text{options}\rangle\) are actually not used throughout the document (e.g. a `\captionsetup[\texttt{table}]{\langle\texttt{font=sf}\rangle}` without a `\texttt{table}`)—the starred variant will not.

\texttt{\\\clearcaptionsetup[\langle option\rangle]{\langle float type\rangle}}

If you want to get rid of these parameters marked for an automatic use within a particular environment you can use the command

\[
\texttt{\\\\clearcaptionsetup[\langle option\rangle]{\langle float type\rangle}}
\]

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For example `\clearcaptionsetup{figure}` would clear all the extra handling for figures in the example above:

```latex
\captionsetup{font=small}
\captionsetup[figure]{labelfont=bf,textfont=it}
...
\caption{A figure}
...
\clearcaptionsetup{figure}
...
\caption{A figure}
...
```

**Figure 25:** A figure

**Figure 26:** A figure

If an optional argument \textit{⟨option⟩} is given, only the settings regarding this particular \textit{⟨option⟩} are cleared.\footnote{You can only specify one option here, not a list of options. If you want to clean more than one option, you need to use more than one `\clearcaptionsetup`.} While the example above not only clears the options \textit{labelfont=bf,textfont=it} for figures (but all options for figures instead), this one would only clear the \textit{labelfont=bf} setting, leaving all other settings for figures intact:

```latex
\captionsetup{font=small}
\captionsetup[figure]{labelfont=bf,textfont=it}
...
\caption{A figure}
...
\clearcaptionsetup[labelfont]{figure}
...
\caption{A figure}
...
```

**Figure 27:** A figure

**Figure 28:** A figure

Analogous to `\captionsetup*` there is also a starred form `\clearcaptionsetup*` which suppresses warnings if the given \textit{⟨option⟩} was not setup for the specified \textit{⟨float type⟩}.

\noindent \texttt{\verbatimshowcaptionsetup} \ For debugging purposes the command \texttt{\verbatimshowcaptionsetup}\textit{⟨float type⟩} is offered. It generates a log file entry, showing the given options for the specified \textit{⟨float type⟩}. For example

```latex
\captionsetup[figure]{labelfont=bf,textfont=it}
\showcaptionsetup{figure}
```

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3.3 Continued floats

\ContinuedFloat

Sometimes you want to split figures or tables without giving them their own reference number. This is what the command

\ContinuedFloat

is for; it should be used as first command inside the floating environment. It prevents the incrementation of the relevant counter (usually done by \caption), so a figure or table containing a \ContinuedFloat inside gets the same reference number as the figure or table before. An example:

\begin{table}
  \caption{A table}
  \ContinuedFloat
  \caption{A table (cont.)}
\end{table}

gives the following result:

Table 3: A table

\ContinuedFloat

Table 3: A table (cont.)

Furthermore the \ContinuedFloat command executes options associated with the type name “ContinuedFloat”. For example this can be used to switch to a different label format for continued figures or tables, as shown here:

\DeclareCaptionLabelFormat{continued}{Continued #1˜#2}
\captionsetup[ContinuedFloat]{labelformat=continued}
\ContinuedFloat
\begin{table}
  \caption{A table}
\end{table}

Continued Table 3: A table

(See section 4: Own enhancements for an explanation of \DeclareCaptionLabelFormat.)
There is also a \LaTeX{} counter called ContinuedFloat which could be used for own purposes. For ordinary (floating) environments it’s set to zero, to one for the first continued float, to two inside the second one, and so on. So every \ContinuedFloat increments this counter and a floating environment without \ContinuedFloat command resets this counter to zero. An example:

\begin{verbatim}
\DeclareCaptionLabelFormat{cont}{#1˜#2\alph{ContinuedFloat}}
\captionsetup[ContinuedFloat]{labelformat=cont}
\begin{table}\ContinuedFloat
  \caption{A table}
  ...
\end{table}
\end{verbatim}

Table 3c: A table

A reference to this table would still result in the output “Table 3” since only the caption label format was changed. If you would like to use the ContinuedFloat counter for the references, too, you could redefine the command \theContinuedFloat instead, which will be appended to the figure or table counter automatically in continued floats and is preset to be empty.

\begin{verbatim}
\renewcommand\theContinuedFloat{\alph{ContinuedFloat}}
\begin{table}\ContinuedFloat
  \caption{A table}
  ...
\end{table}
\end{verbatim}

Table 3d: A table

A reference to that table would result in the output “Table 3d”.

Suppose you want to start the first figure or table of such a series with a kind of “Figure 7a” and not with “Figure 7” (and the second one with “Figure 7b” instead of “Figure 7a”). This is possible, too, by using the starred variant \ContinuedFloat* which—just like \ContinuedFloat—executes options associated with the type name “ContinuedFloat” and increments the \LaTeX{} counter ContinuedFloat, but marks the first figure or table of a series instead:

\begin{verbatim}
\renewcommand\theContinuedFloat{\alph{ContinuedFloat}}
\begin{figure}\ContinuedFloat*
  \caption{First figure of a series}
\end{figure}
\begin{figure}\ContinuedFloat
  \caption{Second figure of a series}
\end{figure}
\end{verbatim}
\end{figure}

\begin{figure}
\ContinuedFloat
\caption{Third figure of a series}
\end{figure}

Figure 29a: First figure of a series
Figure 29b: Second figure of a series
Figure 29c: Third figure of a series

Note: Unfortunately \ContinuedFloat* is not available if the subfig package[20] is loaded.

A note about longtables

If you want to have a different caption label in longtables (offered by the longtable package[13]) after a page break, this cannot be archived by using \ContinuedFloat, but instead you could write something like:

\Decla...continued}{Continued #1"#2}
\caption{A longtable}\endfirsthead
\captionsetup{labelformat=continued}
\caption{}{A longtable}\endhead
\caption{Continued #1"#2}
\captionsetup{labelformat=continued}
\caption{}{A longtable}\end{longtable}
4 Own enhancements

A family of commands is provided to allow users to define their own formats etc. This enables information on separators, justification, fonts, and styles to be associated with a name and kept in one place. (These commands need to appear in the document preamble, this is the part between \documentclass and \begin{document}.)

\texttt{\textbackslash DeclareCaptionFormat}

You can define your own caption formats using the command

\texttt{\textbackslash DeclareCaptionFormat\{\langle name\rangle\}\{\langle code using \#1, \#2 and \#3\}\}}

At usage the system replaces \#1 with the caption label, \#2 with the separator and \#3 with the text. So the standard format \texttt{plain} is pre-defined by the caption package as

\texttt{\textbackslash DeclareCaptionFormat\{plain\}\{\#1\#2\#3\textbackslash par\}}

There is also a starred variant, \texttt{\textbackslash DeclareCaptionFormat\*,} which causes the code being typeset in \TeX's vertical (instead of horizontal) mode, but does not support the \texttt{indentfirst} option.

\texttt{\textbackslash DeclareCaptionLabelFormat}

Likewise you can define your own caption label formats:

\texttt{\textbackslash DeclareCaptionLabelFormat\{\langle name\rangle\}\{\langle code using \#1 and \#2\}\}}

At usage \#1 gets replaced with the name (e.g. "figure") and \#2 gets replaced with the reference number (e.g. "12"). An example:

\texttt{\textbackslash DeclareCaptionLabelFormat\{bf-parens\}\{\langle textbf{\#2}\rangle\}}
\texttt{\captionsetup\{labelformat=bf-parens,labelfsep=quad\}}

(30) White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

\texttt{\bothIfFirst\ \bothIfSecond}

If you define your own caption label formats and use the subcaption or subfig[20] package, you should take care of empty caption label names. For this purpose the commands

\texttt{\bothIfFirst\{\langle first arg\rangle\}\{\langle second arg\rangle\} and \bothIfSecond\{\langle first arg\rangle\}\{\langle second arg\rangle\}}

are offered. \texttt{\bothIfFirst} tests if the first argument exists (means: is not empty), \texttt{\bothIfSecond} tests if the second argument exists. If yes, both arguments get typeset, otherwise none of them.

For example the standard label format \texttt{simple} is \textit{not} defined as

\texttt{\DeclareCaptionLabelFormat\{simple\}\{\#1\#2\}}

because this could cause an extra space if \#1 is empty. Instead \texttt{simple} is defined as

\texttt{\DeclareCaptionLabelFormat\{simple\}\{\\bothIfFirst\{\#1\}\{\#2\}\}}

causing the space to appear only if the label name is present.

\texttt{\textbackslash DeclareCaptionTextFormat}

Likewise you can define your own caption text formats:

\texttt{\textbackslash DeclareCaptionTextFormat\{\langle name\rangle\}\{\langle code using \#1\}\}}

At usage \#1 gets replaced with the caption text.
You can define your own caption label separators with
\DeclareCaptionLabelSeparator{⟨name⟩}{⟨code⟩}.

Again an easy example taken from the caption package itself:
\DeclareCaptionLabelSeparator{colon}{:}

There is also a starred variant, \DeclareCaptionLabelSeparator*, which causes the code being typeset without using the labelfont= setting. So for example the label separators quad, newline, and endash are defined in this way.

You can define your own caption justifications with
\DeclareCaptionJustification{⟨name⟩}{⟨code⟩}.

The ⟨code⟩ simply gets typeset just before the caption. E.g. using the justification raggedright, which is defined as
\DeclareCaptionJustification{raggedright}{\raggedright},

typesets captions with all lines moved to the left margin.

You can define your own caption fonts with
\DeclareCaptionFont{⟨name⟩}{⟨code⟩}.

For example this package defines the options small and bf as
\DeclareCaptionFont{small}{\small} and
\DeclareCaptionFont{bf}{\bfseries}.

An example which brings color into life:
\usepackage{color}
\DeclareCaptionFont{red}{\color{red}}
\DeclareCaptionFont{green}{\color{green}}
\DeclareCaptionFont{blue}{\color{blue}}
\captionsetup{labelfont={blue,bf},textfont=green}

\caption{Figure 31: White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe's finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.}

But since the caption package already includes the tricky definition
\DeclareCaptionFont{color}{\color{#1}}

you can get the same result simply with
\usepackage{color}
\captionsetup{labelfont={color=blue,bf},
textfont={color=green}}.
You can define your own caption styles with
\DeclareCaptionStyle{⟨name⟩}{⟨additional options⟩}{⟨options⟩}.

Remember, caption styles are just a collection of suitable options, saved under a given name. You can wake up these options at any time with the option style=⟨style name⟩.

All caption styles are based on the base set of options. (See section 2.5: Styles for a complete list.) So you only need to specify options which are different to them.

If you specify ⟨additional options⟩ they get used in addition when the caption fits into a single line and this check was not disabled with the option singlelinecheck=off.

Again a very easy example taken from the core of this package: The caption style base is predefined as
\DeclareCaptionStyle{base}{justification=centering,indention=0pt}{}.

Something more exciting:
\DeclareCaptionStyle{mystyle}{margin=5mm,justification=centering}{font=footnotesize,labelfont=sc,margin={10mm,0mm}}
\captionsetup{style=mystyle}
gives you caption like these ones:

\textbf{Figure 32: A short caption.}
\textbf{Figure 33: A long long long long long long long long long long long long long long long long long long long long long long long caption.}

You can define your own caption list formats with
\DeclareCaptionListFormat{⟨name⟩}{⟨code using #1 and #2⟩}.

At usage #1 gets replaced with the label prefix (e.g. \p@figure), and #2 gets replaced with the reference number (e.g. \thefigure).

4.1 Further examples

Example 1
If you would like to have a line break between caption label and text you could define it this way:
\DeclareCaptionFormat{myformat}{#1#2\#3}

If you select this format with \captionsetup{format=myformat} you get captions like this:

\textbf{Figure 34:}
White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

You could even use an indentation with this caption format:
\captionsetup{format=myformat,indention=1cm}
This would look like this:

**Figure 35:**

White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

Instead, you would like to have an indentation only of the first line of the caption text? No problem, e.g.

\newlength\myindention
\DeclareCaptionFormat{myformat}{#1#2\\hspace*{\myindention}\#3}
...
\setlength\myindention{1cm}
\captionsetup{format=myformat}

would give you captions like

**Figure 36:**

White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

But you want to have an caption option for this indentation, so you can use it for example with \captionsetup[figure]{myindention=...}? This could be done, too:

\newlength\myindention
\DeclareCaptionOption{myindention}{\setlength\myindention{#1}}
\DeclareCaptionFormat{myformat}{#1#2\\hspace*{\myindention}\#3}
...
\captionsetup{format=myformat,myindention=1cm}

would give the same result as the example above.

**Example 2**

You want captions to look like this:

White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

(Figure 37)

You could do it this way:

\DeclareCaptionFormat{reverse}{#3#2#1}
\DeclareCaptionLabelFormat{fullparens}{\bothIfFirst{#1}{˜}{#2}}
\DeclareCaptionLabelSeparator{fill}{\hspace*{\myindention}}
\captionsetup{format=reverse,labelformat=fullparens,labelsep=fill,font=small,labelfont=it}

**Example 3**

The caption text should go into the left margin? A possible solution would be:
As a result you would get captions like this:

Figure 38 White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

If the indentation into the margin shall be fixed, you could use a combination of `\llap` and `\makebox`, for example:

\[
\DeclareCaptionFormat{llapx}{\llap{\makebox[5em]{l}{#1}}#3\par}
\]
\captionsetup{format=llapx,singlelinecheck=off}

Figure 39 White sand beaches. The pink smoothness of the conch shell. A sea abundant with possibilities. Duty-free shops filled with Europe’s finest gifts and perfumes. Play your favorite game of golf amidst the tropical greens on one of the many championship courses.

Example 4

This example puts a figure aside a table, but uses only one common caption for both. This will be achieved by a combination of `\DeclareCaptionLabelFormat` and `\captionlistentry`:

\[
\DeclareCaptionLabelFormat{andtable}{#1˜#2 \& \tablename\thetable}
\]
\begin{figure}
\centering
\includegraphics{...}
\qquad
\begin{tabular}{b}{...}
\end{tabular}
\captionlistentry{table}{...}
\caption{...}
\end{figure}

<table>
<thead>
<tr>
<th>a</th>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>b</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Figure 40 & Table 4: A figure and a table with a common caption.8

(Please remember that `\captionlistentry` increments the figure resp. table counter.)

---

8The picture was taken with permission from the \LaTeX Companion[1] examples.
5  Supported document classes

This section will give you an overview of the document classes the caption supports, what do they already offer regarding captions, what side effects will occur when using the caption package with them, and what are the 'default' settings for them.

The 'default' settings depend on the document class you use; they represent how the class author wanted the captions to look like. So for example setting `format=default` can give you different visual designs when used with different document classes.

If you don’t find the document class you use in this section, you usually don’t have to worry: Many document classes (e.g. the octavo class) are derived from one of the standard document classes article, report, or book, and behave the same regarding captions. The caption package automatically does a compatibility check against the document class used and will give you the clear warning

```
Package caption: Unsupported document class (or package) detected, usage of the caption package is not recommended. See the caption package documentation for explanation.
```

if such an incompatibility was detected. If you don’t get such warning everything is fine, but if you get it the usage of the `caption` package is not recommended and especially not supported.

If you get such a compatibility warning but decide to use the `caption` package anyway, you should watch carefully what side-effects occur, usually the look and feel of your captions will change by just including the `caption` package without options, meaning they do not look like as intended by the author of the document class. If this is fine for you, you should first specify the option `style=base` via `\usepackage[style=base]{caption}` or `\captionsetup{style=base}` to set the `caption` package into a well-defined state. Afterwards you can start setting your own options additionally and keep your fingers crossed.

5.1 Standard \LaTeX{}: article, report, and book

<table>
<thead>
<tr>
<th>Option</th>
<th>default value</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>format=</code></td>
<td>plain</td>
</tr>
<tr>
<td><code>labelformat=</code></td>
<td>simple</td>
</tr>
<tr>
<td><code>labelsep=</code></td>
<td>colon</td>
</tr>
<tr>
<td><code>justification=</code></td>
<td>justified</td>
</tr>
<tr>
<td><code>font=</code></td>
<td>none</td>
</tr>
<tr>
<td><code>labelfont=</code></td>
<td>none</td>
</tr>
<tr>
<td><code>textfont=</code></td>
<td>none</td>
</tr>
</tbody>
</table>

(This also applies to document classes derived from them.)

5.2 \AMS{}: amsart, amsproc, and amsbook

<table>
<thead>
<tr>
<th>Option</th>
<th>default value</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>format=</code></td>
<td>plain</td>
</tr>
<tr>
<td><code>labelformat=</code></td>
<td>simple</td>
</tr>
<tr>
<td><code>labelsep=</code></td>
<td>\enspace</td>
</tr>
<tr>
<td><code>justification=</code></td>
<td>justified</td>
</tr>
<tr>
<td><code>font=</code></td>
<td><code>\@captionfont</code></td>
</tr>
<tr>
<td><code>labelfont=</code></td>
<td><code>\captionheadfont</code></td>
</tr>
<tr>
<td><code>textfont=</code></td>
<td><code>\captionfont\upshape</code></td>
</tr>
</tbody>
</table>

(`\@captionfont` will be set to `\normalfont`, and `\@captionheadfont` to `\scshape` by the \AMS{} document classes.)

Furthermore the margin will be set to `\captionindent` for more-than-one-line captions (which will be set to 3pc by the \AMS{} classes), the margin for single-line captions will be set to the
half of it instead. If you want to use a common margin for both, insert `\clearcaptionsetup{margin*=}{singleline}` into the preamble of your document, after loading the `caption` package.

Additionally the options `figureposition=b,tableposition=t` will be set. You can override these settings by specifying other values for `figureposition=` or `tableposition=` in the option list while loading the `caption` package.

### 5.3 beamer

<table>
<thead>
<tr>
<th>Option</th>
<th>default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>format=</td>
<td>plain</td>
</tr>
<tr>
<td>labelformat=</td>
<td>not numbered</td>
</tr>
<tr>
<td>labelsep=</td>
<td>colon</td>
</tr>
<tr>
<td>justification=</td>
<td>raggedright</td>
</tr>
<tr>
<td>font=</td>
<td>beamer &quot;caption&quot; settings</td>
</tr>
<tr>
<td>labelfont=</td>
<td>beamer &quot;caption name&quot; settings</td>
</tr>
<tr>
<td>textfont=</td>
<td>none</td>
</tr>
</tbody>
</table>

#### Build-in features, and side-effects

You can setup font and color settings with `\setbeamerfont{caption}{⟨options⟩}` and `\setbeamerfont{caption name}{⟨options⟩}`. This will still work, unless you set a different font with `\captionsetup{font=⟨options⟩}` or `\captionsetup{labelfont=⟨options⟩}`.

Furthermore the beamer classes offer different caption templates which can be chosen with `\setbeamertemplate{caption}{⟨template⟩}`. Since the caption package replaces this caption template mechanism, `\defbeamertemplate{caption}{⟨template code⟩}` and `\setbeamertemplate{caption}{⟨template⟩}` will have no effect when the caption package is used. (Exception: Selecting the template `default`, `numbered`, or `caption name own line` will be recognized by the caption package and be mapped to corresponding options.)

### 5.4 KOMA-Script: scrartcl, scrreprt, and scrbook

<table>
<thead>
<tr>
<th>Option</th>
<th>default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>format=</td>
<td>uses <code>\setcapindent &amp; \setcaphanging settings</code></td>
</tr>
<tr>
<td>labelformat=</td>
<td>like simple, but with support of &quot;autodot&quot;</td>
</tr>
<tr>
<td>labelsep=</td>
<td><code>\captionformat</code></td>
</tr>
<tr>
<td>justification=</td>
<td>justified</td>
</tr>
<tr>
<td>font=</td>
<td><code>\setkomafont{caption}{⟨settings⟩}</code></td>
</tr>
<tr>
<td>labelfont=</td>
<td><code>\setkomafont{captionlabel}{⟨settings⟩}</code></td>
</tr>
<tr>
<td>textfont=</td>
<td>none</td>
</tr>
</tbody>
</table>

#### Build-in features

The KOMA-Script document classes offer many ways to customize the look and feel of the captions. For an overview and a full description please take a look at the KOMA-Script documentation, section ‘Tables and Figures’.

#### Side effects

The optional argument of `\setcapwidth` is not supported and will be ignored if used in conjunction with the caption package. Furthermore the KOMA-Script options `tablecaption-`
above & tablecaptionbelow and the commands \captionabove & \captionbelow are stronger than the position= setting offered by the caption package.

5.5 NTG: artikel, rapport, and boek

<table>
<thead>
<tr>
<th>Option</th>
<th>default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>format=</td>
<td>plain</td>
</tr>
<tr>
<td>labelformat=</td>
<td>simple</td>
</tr>
<tr>
<td>labelsep=</td>
<td>colon</td>
</tr>
<tr>
<td>justification=</td>
<td>justified</td>
</tr>
<tr>
<td>font=</td>
<td>none</td>
</tr>
<tr>
<td>labelfont=</td>
<td>\CaptionLabelFont</td>
</tr>
<tr>
<td>textfont=</td>
<td>\CaptionTextFont</td>
</tr>
</tbody>
</table>

Build-in features, and side-effects

\CaptionLabelFont and \CaptionTextFont can be set either directly or by using \CaptionFonts. Both is still supported unless you use one of the two options labelfont= or textfont= offered by the caption package.

5.6 SMF: smfart and smfbook

Since the SMF document classes are derived from the \AMS document classes the same default values are valid here. Additionally the margin is limited up to the tenth of the \linewidth. If you don’t like this limitation, you can switch it off with the option maxmargin=off or maxmargin=false (which both means the same).

5.7 thesis

<table>
<thead>
<tr>
<th>Option</th>
<th>default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>format=</td>
<td>hang</td>
</tr>
<tr>
<td>labelformat=</td>
<td>like simple, but with short name</td>
</tr>
<tr>
<td>labelsep=</td>
<td>colon</td>
</tr>
<tr>
<td>justification=</td>
<td>justified</td>
</tr>
<tr>
<td>font=</td>
<td>none</td>
</tr>
<tr>
<td>labelfont=</td>
<td>\captionheaderfont</td>
</tr>
<tr>
<td>textfont=</td>
<td>\captionbodyfont</td>
</tr>
</tbody>
</table>

Build-in features, and side-effects

The caption label font can be set with \captionheaderfont, the caption text font with \captionbodyfont. Both is still supported unless you use one of the two options labelfont= or textfont= offered by the caption package.
6  Supported babel package options

Since version v3.5 of the caption package the support is independent on the load order of caption and babel.

6.1  french babel option

If you use the french option of the babel package with one of the three standard \LaTeX classes (or a one derived from them) the default labelsep= will be set to \CaptionSeparator (offered by french), overriding the default value set by the document class. So redefining \CaptionSeparator will still work, unless you don’t select a different labelsep= than the default one.
7 Supported packages

The `caption` package was adapted to the following packages which deals with captions, too:

```
float, floatflt, fltpage, hyperref, hypcap, listings, longtable, picinpar, picins, rotating,
setspace, sidecap, subfigure, supertabular, threeparttable, wrapfig, and xtab
```

Furthermore the `floatrow` package[8], the `subcaption` package (which is part of the `caption` package bundle), and the `subfig` package[20] support the `caption` package and use its `\captionsetup` interface.

If a package (or document class) unknown to the `caption` package redefines the `\caption` command as well, this redefinition will be preferred over the one this package offers, providing maximum compatibility and avoiding conflicts. If such a potential incompatibility is detected, you will see this warning message: 9

```
Package caption Warning: \caption will not be redefined since it’s already (caption) redefined by a document class or package which is (caption) unknown to the caption package.
See the caption package documentation for explanation.
```

As a result, the following features offered by the `caption` package will not be available:

- the options `labelformat=` position=auto, list=, and `listformat=`
- `\caption*` (to produce a caption without label)
- `\caption{}` (to produce a caption without label separator)
- `\ContinuedFloat`
- correctly justified captions in environments like `wide` and `addmargin` which add extra margins
- the `hypcap` feature (See section 7.6: `hyperref`)
- the sub-caption feature (See `subcaption` package documentation)

You can override this compatibility mode by specifying the option

```
compatibility=false
```

when loading the `caption` package. But please note that using this option is neither recommended nor supported since unwanted side-effects or even errors could occur afterwards. (For that reason you will get a warning about this.)

9You can suppress this warning by specifying the option `compatibility=true` when loading the `caption` package.
7.1 algorithms


Since the algorithm environment is implemented via \newfloat provided by the float package[6], please see section 7.2: float.

7.2 float

The float package[6] introduces the commands \restylefloat to give existing floating environments a new look & feel and \newfloat to define new floating environments. It also provides the “H” float placement option which places the environments “here” instead of letting them floating around.

For floating environments defined with \newfloat or \restylefloat the position option has no effect on the main caption anymore, since its placement and spacing will be controlled by the selected float style instead.

A caption style and options defined with the name of the float style will be executed additionally to the regular ones. Using this mechanism the caption package emulates the default look & feel of the ruled captions: It defines the caption style

\DeclareCaptionStyle{ruled} {
  {labelfont=bf,labelsep=space,strut=off} .
}

So to change this you need either define your own caption style called ruled or use \captionsetup[ruled]{⟨options⟩} to specify additional options.

Also by using this mechanism the skip between a boxed float and its caption is specified, overriding its global value:

\captionsetup[boxed]{skip=2pt}

For changing this, just use \captionsetup[boxed]{skip=(⟨value⟩)} with an appropriate value. Or if you want to use the global skip setting instead, you can remove the usage of the local setting for these floats with \clearcaptionsetup[skip]{boxed}.

Note: Only one single caption can be typeset inside environments defined with \newfloat or \restylefloat, furthermore these environments are not behaving exactly like the pre-defined floats figure and table. As a consequence many packages do not cooperate well with these. Furthermore the float package has some caveats & limitations, so if you just want to define a new simple floating environment—behaving like figure or table—I recommend using \DeclareFloatingEnvironment offered by the newfloat package instead. And for defining non-simple floating environments and customization I recommend using \DeclareNewFloatType offered by the floatrow package[8].

7.3 floatflt

The floatflt package[7] offers figures and tables which do not span the full width of a page and are float around by text.

If you want to setup special options for the floatingfigure and floatingtable environments you can use

\captionsetup[floatingfigure]{⟨options⟩} and \captionsetup[floatingtable]{⟨options⟩} .

These options will be executed additionally to the regular ones for figure resp. table.

Note: The margin resp. width setting will not be used for these figures resp. tables, unless you set it explicit with \captionsetup[floatingfigure]{⟨...⟩} resp. \captionsetup[floatingtable]{⟨...⟩}.
7.4 \texttt{fltpage}

The \texttt{fltpage} package offers the outhouse of the caption for figures or tables which needs the whole page for its contents. This will be done by placing the caption on the bottom of the previous or next page.

If you want to setup special options for the \texttt{FPfigure} and \texttt{FPtable} environments you can use

\begin{verbatim}
\captionsetup[FPfigure]{⟨options⟩} \captionsetup[FPtable]{⟨options⟩} .
\end{verbatim}

These options will be executed additionally to the regular ones for figure or table.

7.5 \texttt{frenchle} and \texttt{frenchpro} packages

If you use the \texttt{frenchle} or \texttt{frenchpro} package, the default \texttt{labelsep=} will be set to \texttt{\captionseparator} (offered by \texttt{frenchle/pro}) plus \texttt{space}, overriding the default value set by the document class. So redefining \texttt{\captionseparator} will still work, unless you don’t select a different \texttt{labelsep=} than the default one.

Furthermore the default \texttt{\textfont=} will be set to \texttt{\textfont=it}, since this emulates the default setting of \texttt{\captionfont} defined by the \texttt{frenchle} or \texttt{frenchpro} package. Please note that the command \texttt{\captionfont} is used by the \texttt{caption} package internally for a different purpose, so you should not change it (anymore).

The command \texttt{\unnumberedcaptions{(figure or table)}} will still work, but only unless you don’t select a different \texttt{\labelformat=} than the default one.

Since version v3.5 of the \texttt{caption} package the support is independent on the load order of \texttt{caption} and \texttt{frenchle resp. frenchpro}.

7.6 \texttt{hyperref}

The \texttt{hyperref} package[10] is used to handle cross referencing commands in \LaTeX{} to produce hypertext links in the document.

There are two options available to control the placement of hyperlink anchors: \texttt{\hypcap=true} or \texttt{\hypcap=false}

\begin{verbatim}
\hypcap=\texttt{true} or \hypcap=\texttt{false}
\end{verbatim}

If set to \texttt{true} all hyperlink anchors – where entries in the List of Figures, \texttt{\ref}, and \texttt{\autoref} will link to – are placed at the beginning of the (floating) environment.

If set to \texttt{false} the hyperlink anchor is (usually) placed at the caption.

(The default setting is \texttt{\hypcap=true}.)

\begin{verbatim}
\hypcapspace=\texttt{⟨amount⟩}
\end{verbatim}

Because it looks poor if the hyperlink points exactly at the top of the figure or table, you can specify a vertical distance between the hyperlink anchor and the (floating) environment itself, e.g. \texttt{\hypcapspace=0pt} removes this distance.

(The default setting is \texttt{\hypcapspace=0.5\baselineskip}.)

Both settings have no effect in \texttt{lstlistings} (provided by the \texttt{listings} package), \texttt{longtables} (provided by the \texttt{longtable} package), \texttt{supertabulars} (provided by the \texttt{supertabular} package), and \texttt{xtabulars} (provided by the \texttt{xtab} package), within these environments hyperlink anchors will always be placed as if \texttt{\hypcap=true and \hypcapspace=0pt} would be set.

\footnote{These options are named after the \texttt{hypcap} package which they supersede.}
Please note:
\captionof{⟨type⟩}{⟨...⟩} vs. \captionsetup{type=⟨type⟩}+\caption{⟨...⟩}

Without \texttt{hyperref} loaded, both will give you identical results. But with \texttt{hyperref} loaded, and with \texttt{hypcap=true} requested, the hyperlink anchor will be placed different. For example:
\begin{minipage}{\linewidth}
\captionof{figure}{A figure}
\end{minipage}

will place the hyperlink anchor at the caption. (And if \texttt{hypcap=true} is set, you will get a warning about this.) But
\begin{minipage}{\linewidth}
\captionsetup{type=figure}
\caption{A figure}
\end{minipage}

will place the hyperlink anchor at the beginning of the minipage, since \texttt{\captionsetup{type=figure}} does not only set the caption type to “figure” but does place a hyperlink anchor, too.
\caption{⟨...⟩} vs. \captionsetup{list=false}+\caption{⟨...⟩}

Again, without \texttt{hyperref} loaded, both will give you identical results. But with \texttt{hyperref} loaded, the difference is in the nuances. So for example the optional argument of \texttt{\caption} will also be written to the \texttt{aux} file, and will be used by the \texttt{\nameref} command. So if you choose to use \texttt{\caption} with empty optional argument, \texttt{\nameref} will also give you an empty result. So it’s better to use \texttt{\captionsetup{list=false}} if you don’t want an entry in the List of Figures or List of Tables.

7.7 hypcap

The hypcap package\cite{hypcap} offers a solution to the problem that links to a float using \texttt{hyperref} may anchor to the caption rather than the beginning of the float. Since the caption package v3.1 already solves this problem for itself, the hypcap package is usually not needed.

If the hypcap package is loaded additionally to the \texttt{hyperref} package, it takes over the control of the hyperlink anchor placement from the caption package, overriding the options \texttt{hypcap=} and \texttt{hypcapspace=}.

So for a manual placement of hyperlink anchors \texttt{\captionsetup{type=⟨type⟩}} is not sufficient anymore, instead you need to use \texttt{\capstart} (provided by the hypcap package) for this.

Regarding the automatically placement the hypcap package offers good placement of hyperlink anchors for the floating environments \texttt{figure} and \texttt{table} only. In contrast the \texttt{hypcap=true} option of the caption package also offers good placements of hyperlink anchors for \texttt{floatingfigures} (provided by the floatflt package), \texttt{FPfigures} \& \texttt{FPtables} (provided by the fltpage package), \texttt{figwindows} (provided by the picinpar package), \texttt{parpics} (provided by the picins package), \texttt{SCfigures} (provided by the sidecap package), \texttt{threeparttables} (provided by the threeparttable package), and \texttt{wrapfigure} (provided by the wrapfig package).

7.8 listings

The listings package\cite{listings} typesets programming code.

If you want to setup special options for the \texttt{lstlisting} environment you can use
Please note that the listings package has its very own options for controlling the position and the skips of the caption: \captionpos, \abovecaptionskip, and \belowcaptionskip. (See listings documentation for details.) These listings options override the caption's ones, but can be again overwritten by \captionsetup{\lstlisting\{\ldots\}}, e.g.
\captionsetup{\lstlisting\{skip=10pt\}}.

7.9 \texttt{longtable}

The \texttt{longtable} package\cite{13} offers an environment which behaves similar to the \texttt{tabular} environment, but the table itself can span multiple pages.

If you want to setup special options for the \texttt{longtable} environment you can use
\captionsetup{\longtable\{\ldots\}}.

These options will be executed additionally to the regular ones for \texttt{table}.
The \texttt{margin} and \texttt{width} settings usually override \texttt{\LTcapwidth}, so you get an equal look \& feel of the captions in \texttt{tables} and \texttt{longtables}. But if you set \texttt{\LTcapwidth} to a value different than its default = 4in, the \texttt{caption} package will follow that. (But \texttt{\LTcapwidth} will be overwritten by \captionsetup{\longtable\{width=\texttt{value}\}}, even if it is set to a value different than 4in.)

\textbf{Note:} \texttt{\captionof} and \texttt{\ContinuedFloat} do not work for \texttt{longtables}. Furthermore neither \texttt{\caption} nor \texttt{\captionlistentry} will increment the \texttt{table} counter here; it's incremented by the \texttt{longtable} environment instead. If you need a \texttt{longtable} which does not increment the \texttt{table} counter please use the \texttt{longtable*} environment (offered by the \texttt{ltcaption} package which is part of the \texttt{caption} package bundle and will be loaded automatically).

7.10 \texttt{picinpar}

Similar to the \texttt{floatflt} package the \texttt{picinpar} package\cite{14} offers figures and tables which do not span the full width of a page and are float around by text. For a detailed discussion about the differences between these packages please take a look at The \LaTeX\ Companion\cite{1}.

If you want to setup special options for the \texttt{figwindow} and \texttt{tabwindow} environments you can use
\captionsetup{\figwindow\{\ldots\}} \texttt{and} \captionsetup{\tabwindow\{\ldots\}}.

These options will be executed additionally to the regular ones for \texttt{figure} or \texttt{table}.
\textbf{Note:} The \texttt{margin} resp. \texttt{width} setting will not be used for these figures and tables, unless you set it explicit with \captionsetup{\figwindow\{\ldots\}} or \captionsetup{\figtable\{\ldots\}}.

7.11 \texttt{picins}

Similar to the \texttt{floatflt} and \texttt{picinpar} package the \texttt{picins} package\cite{15} offers figures and tables which do not span the full width of a page and are float around by text. For a detailed discussion about the differences between these packages please take a look at The \LaTeX\ Companion\cite{1}.

If you want to setup special options for the \texttt{parpic} environment you can use
\captionsetup{\parpic\{\ldots\}}.
These options will be executed additionally to the regular ones for figure or table. Furthermore \piccaption{}(...)
produce no entry in the List of Figures, and \piccaption*{}(...) gives an unlabeled & unnumbered caption.

Note: The margin resp. width setting will not be used for these figures and tables. But you can override this by setting it explicit with \captionsetup[parpic]{...}.

If you want to have a \piccaption of another type as figure, please do not re-define \@caption as suggested by the picins documentation. Please use the \piccaptiontype{(type)} command which is offered by the caption package instead, e.g.:

\piccaptiontype{table}
\piccaption{An example table}
\parpic(50mm,10mm)[s]{...}

7.12 rotating

The rotating package[16] offers the floating environments sidewaysfigure and sideways table which are just like normal figures and tables but rotated by 90 resp. 270 degree. Furthermore a command \rotcaption is offered for rotated captions only.

The command \rotcaption will be extended by the caption package, so \rotcaption* and \rotcaptionof can be used analogous to \caption* and \captionof.

7.13 setspace

The setspace package[17] offers options and commands to change the spacing, e.g. \usepackage[onehalfspacing]{setspace} causes the document to be typeset in one-and-a-half spacing.

If the setspace package is used in conjunction with the caption package, the caption will be type-set with single spacing as default. This can be changed by specifying either font=onehalfspacing, font=doublespacing, or font={stretch=(amount)}. (See also section 2.3: Fonts)

7.14 sidecap

The sidecap package[18] offers the floating environments SCfigure and SCtable which are like usual figures and tables but the caption will be put beside the contents.

If you want to setup special options for the SCfigure and SCtable environments you can use

\captionsetup[SCfigure]{(options)} and
\captionsetup[SCtable]{(options)}.

These options will be executed additionally to the regular ones for figure or table.

Note: The sidecap package offers its own options for justification. If set, they will override the one specified with the caption option justification= for captions beside their contents.

Note: The margin resp. width setting will not be used for these figures and tables, unless you set it explicit with \captionsetup[SCfigure]{...} or \captionsetup[SCtable]{...}.

(Instead of using the sidecap package you can also use the more powerful and flexible floatrow package[8] for typesetting captions beside the contents.)

Undocumented features

The sidecap package v1.6 has some undocumented package options and commands which allow further customization of the side-captions:

39
The package option
\usepackage[margincaption]{sidecap}
causes all side-captions to be placed into the margin.

The command
\sidecaptionvpos{\langle float type \rangle}{\langle pos \rangle}
sets the vertical position of the side-caption. \langle pos \rangle can be either ’t’ (for top alignment), ’b’ (for bottom alignment), or ’c’ (for center alignment). The default setting for \texttt{table} is ’t’, for \texttt{figure} and all other ones defined with \texttt{Decla}r\texttt{e}Flo\texttt{atingEnvironment} it’s ’b’.

### 7.15 subfigure

The \texttt{subfigure} package\cite{subfig} provides support for small or ‘sub’ figures and tables within a single \texttt{figure} or \texttt{table} environment. This package is obsolete, new users should use \texttt{subfig} instead.

Since the \texttt{subfigure} package is obsolete it will only be supported in a way that old documents (which have used the \texttt{caption} package v1.x during development) should still compile as expected.

Please use the \texttt{subfig} or \texttt{subcaption} package instead which both supports the \texttt{caption} package v3.x. (See the \texttt{subfig} package\cite{subfig} documentation for details.)

### 7.16 supertabular and xtab

The \texttt{supertabular}\cite{supertabular} and \texttt{xtab}\cite{xtab} packages offer an environment which can span multiple pages and is quite similar to the \texttt{longtable} environment provided by the \texttt{longtable} package\cite{longtable}. For a detailed discussion about the differences between these powerful packages please take a look at The \texttt{L\LaTeX} Companion\cite{cjar}. If you want to setup special options for the \texttt{supertabular} resp. \texttt{xtabular} environment you can use
\begin{verbatim}
\captionsetup[supertabular]{\langle options \rangle} \hspace{0pt}
\captionsetup[xtabular]{\langle options \rangle} \hspace{0pt}
\end{verbatim}
These options will be executed additionally to the regular ones for \texttt{table}.

\textit{Note:} \texttt{ContinuedFloat} does not work for \texttt{supertabulars} and \texttt{xtabulars}.

### 7.17 threeparttable

The \texttt{threeparttable} package\cite{threeparttable} provides a scheme for tables that have a structured note section after the table contents and the caption. This scheme provides an answer to the old problem of putting footnotes in tables—by making footnotes entirely unnecessary.

If you want to setup special options for the \texttt{threeparttable} and \texttt{measuredfigure} environments you can use
\begin{verbatim}
\captionsetup[threeparttable]{\langle options \rangle} and
\captionsetup[measuredfigure]{\langle options \rangle} \hspace{0pt}
\end{verbatim}
These options will be executed additionally to the regular ones for \texttt{table} or \texttt{figure}.

\textit{Note:} Since the caption will have the same width as the contents here, the \texttt{margin} resp. \texttt{width} setting will not be used for these figures and tables, at least unless you set it explicit with \texttt{\captionsetup[threeparttable]{\langle options \rangle}} or \texttt{\captionsetup[measuredfigure]{\langle options \rangle}}.

(Instead of using the \texttt{threeparttable} package you can also use the \texttt{floatrow} package\cite{floatrow} for this purpose.)
7.18 wrapfig

Similar to the float, the picinpar, and the picins package the wrapfig package offers figures and tables which do not span the full width of a page and are float around by text. For a detailed discussion about the differences between these packages please take a look at The \LaTeX Companion.

If you want to setup special options for the wrapfigure and wraptable environments you can use

\captionsetup[wrapfigure]{⟨options⟩} and \captionsetup[wrtaptable]{⟨options⟩}.

These options will be executed additionally to the regular ones for figure or table.

Note: The margin resp. width setting will not be used for these figures and tables, unless you set it explicit with \captionsetup[wrapfigure]{⟨...⟩} or \captionsetup[wrtaptable]{⟨...⟩}.
8  Further reading

I recommend the following documents for further reading:

- The \TeX\ FAQ – Frequently asked questions about \TeX\ and \LaTeX:\n  http://faq.tug.org/
- A French FAQ can be found at\n  http://www.grappa.univ-lille3.fr/FAQ-LaTeX/
- “What is a minimal working example?” from Christian Faulhammer and Ulrich Schwarz:\n  http://www.minimalbeispiel.de/mini-en.html
- epslatex from Keith Reckdahl contains many tips around including graphics in \LaTeX\ \eps\ documents. You will find this document in the directory\n  http://mirror.ctan.org/info/epslatex/

9  Thanks

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Also I would like to thank Harald Harders, Peter Löffler, Peng Yu, Alexander Zimmermann, Matthias Pospiech, Jürgen Wieferink, Christoph Bartoschek, Uwe Stöhr, Ralf Stubner, Geoff Vallis, Florian Keiler, Jürgen Göbel, Uwe Siart, Sang-Heon Shim, Henrik Lundell, David Byers, William Asquith, Prof. Dr. Dirk Hoffmann, Frank Martini, Danie Els, Philipp Woock, Fadi Semmo, Matthias Stevens, and Leo Liu who all helped to make this package a better one.
A Alphabetical Reference

A.1 Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Short description</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>aboveskip</td>
<td>sets the skip above caption</td>
<td>2.6</td>
</tr>
<tr>
<td>belowskip</td>
<td>sets the skip below caption</td>
<td>2.6</td>
</tr>
<tr>
<td>compatibility†</td>
<td>force (non-)compatibility</td>
<td>7</td>
</tr>
<tr>
<td>figureposition†</td>
<td>gives a hint about the figure caption position</td>
<td>2.6</td>
</tr>
<tr>
<td>font(+)</td>
<td>sets the font</td>
<td>2.3</td>
</tr>
<tr>
<td>format</td>
<td>sets the format</td>
<td>2.1</td>
</tr>
<tr>
<td>hangindent</td>
<td>sets the hang indentation</td>
<td>2.4</td>
</tr>
<tr>
<td>hypcap</td>
<td>selects ‘hyicap’ feature</td>
<td>7.6</td>
</tr>
<tr>
<td>hypcapspace</td>
<td>sets the distance between hyperlink and contents</td>
<td>7.6</td>
</tr>
<tr>
<td>indentation</td>
<td>sets the indentation</td>
<td>2.4</td>
</tr>
<tr>
<td>justification</td>
<td>sets the justification</td>
<td>2.2</td>
</tr>
<tr>
<td>labelfont(+)</td>
<td>sets the font of the caption label</td>
<td>2.3</td>
</tr>
<tr>
<td>labelformat</td>
<td>sets the format of the caption label</td>
<td>2.1</td>
</tr>
<tr>
<td>labelsep</td>
<td>sets the label separator</td>
<td>2.1</td>
</tr>
<tr>
<td>labelseparator</td>
<td>–same as labelsep–</td>
<td>2.1</td>
</tr>
<tr>
<td>list</td>
<td>switches the entries in the List on or off</td>
<td>2.7</td>
</tr>
<tr>
<td>listformat</td>
<td>sets the ‘List of Figure/Table’ entry format</td>
<td>2.7</td>
</tr>
<tr>
<td>margin</td>
<td>sets the margin</td>
<td>2.4</td>
</tr>
<tr>
<td>margin*</td>
<td>sets the margin, but only if no width is set</td>
<td>2.4</td>
</tr>
<tr>
<td>maxmargin</td>
<td>sets the max. margin</td>
<td>2.4</td>
</tr>
<tr>
<td>minmargin</td>
<td>sets the min. margin</td>
<td>2.4</td>
</tr>
<tr>
<td>name</td>
<td>sets the name of the current environment</td>
<td>2.8</td>
</tr>
<tr>
<td>oneside</td>
<td>selects the one-side mode</td>
<td>2.4</td>
</tr>
<tr>
<td>options</td>
<td>executes the given option list</td>
<td></td>
</tr>
<tr>
<td>parindent</td>
<td>sets the paragraph indentation</td>
<td>2.4</td>
</tr>
<tr>
<td>parskip</td>
<td>sets the skip between paragraphs</td>
<td>2.4</td>
</tr>
<tr>
<td>position</td>
<td>gives a hint about the caption position</td>
<td>2.6</td>
</tr>
<tr>
<td>singlelinecheck</td>
<td>switches the single-line-check on or off</td>
<td>2.2</td>
</tr>
<tr>
<td>skip</td>
<td>sets the skip between content and caption</td>
<td>2.6</td>
</tr>
<tr>
<td>strut</td>
<td>switches the usage of \struts on or off</td>
<td>2.1</td>
</tr>
<tr>
<td>style</td>
<td>sets the caption style</td>
<td>2.5</td>
</tr>
<tr>
<td>subtype</td>
<td>sets the sub-caption type</td>
<td>– 11</td>
</tr>
<tr>
<td>tableposition†</td>
<td>gives a hint about the table caption position</td>
<td>2.6</td>
</tr>
<tr>
<td>textfont(+)</td>
<td>sets the font of the caption text</td>
<td>2.3</td>
</tr>
<tr>
<td>textformat</td>
<td>sets the format of the caption text</td>
<td>2.1</td>
</tr>
<tr>
<td>twoside</td>
<td>selects the two-side mode</td>
<td>2.4</td>
</tr>
<tr>
<td>type</td>
<td>sets the caption type &amp; places a hyperlink anchor</td>
<td>2.9</td>
</tr>
<tr>
<td>type*</td>
<td>sets the caption type only</td>
<td>2.9</td>
</tr>
<tr>
<td>width</td>
<td>sets a fixed caption width</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Note: Obsolete options are not listed here. See section C.1: caption v1.x and section C.2: caption2 v2.x for a list of these options.

A.2 Commands

†These options are only available in the preamble of the document.
11The option subtype is explained in the subcaption package documentation.
<table>
<thead>
<tr>
<th>Command</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>\abovecaptionskip</td>
<td>2.6</td>
</tr>
<tr>
<td>\belowcaptionskip</td>
<td>2.6</td>
</tr>
<tr>
<td>\caption</td>
<td>3.1</td>
</tr>
<tr>
<td>\caption*</td>
<td>3.1</td>
</tr>
<tr>
<td>\captionlistentry</td>
<td>3.1</td>
</tr>
<tr>
<td>\captionof</td>
<td>3.1</td>
</tr>
<tr>
<td>\captionof*</td>
<td>3.1</td>
</tr>
<tr>
<td>\captionsetup</td>
<td>3.2</td>
</tr>
<tr>
<td>\captionsetup*</td>
<td>3.2</td>
</tr>
<tr>
<td>\centerfirst</td>
<td>2.2</td>
</tr>
<tr>
<td>\centerlast</td>
<td>2.2</td>
</tr>
<tr>
<td>\clearcaptionsetup</td>
<td>3.2</td>
</tr>
<tr>
<td>\clearcaptionsetup*</td>
<td>3.2</td>
</tr>
<tr>
<td>\ContinuedFloat</td>
<td>3.3</td>
</tr>
<tr>
<td>\DeclareCaptionFont</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionFormat</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionFormat*</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionJustification</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionLabelFormat</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionLabelSeparator</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionLabelSeparator*</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionListFormat</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionOption</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionStyle</td>
<td>4</td>
</tr>
<tr>
<td>\DeclareCaptionSubType</td>
<td>12</td>
</tr>
<tr>
<td>\DeclareCaptionTextFormat</td>
<td>4</td>
</tr>
<tr>
<td>\showcaptionsetup</td>
<td>3.2</td>
</tr>
</tbody>
</table>

\footnote{\texttt{\DeclareCaptionSubType} is explained in the \texttt{subcaption} package documentation.}
A.3 Warnings

\caption outside box or environment.

– or –

\captionsetup{type=...} outside box or environment.

– or –

\captionsetup{type*=...} or \captionof outside box or environment.

You have placed a \caption, \captionof, or \captionsetup{type=⟨type⟩} command outside an box, group, or environment. You should not do this since it could cause some bad side-effects.

(See section 2.9: Types and section 3.1: Typesetting captions)

\caption will not be redefined since it’s already redefined by a document class or package which is unknown to the caption package.

If the caption package detects that some (unknown) document class or package has enhanced \caption, it will not redefine \caption, too, since this would simply kill the enhancement. As a result some features, like \caption*, \ContinuedFloat, using the optional argument of \captionsetup, or the options list= and hypcap= will not be available.

If you don’t care about the original enhancements but would like to use the full range of features of the caption package instead you can give the unsupported(!) option compatibility=false a try and keep your fingers crossed. (But you will get the next warning instead.)

(See section 5: Supported document classes and section 7: Supported packages)

Forced redefinition of \caption since the unsupported(!) package option ‘compatibility=false’ was given.

Since you were so keen to specify the option compatibility=false the caption package will try to do its best to fulfill your wishes. But depending on the document class or other packages you use that can end in non-functional features or even errors. So keep your fingers crossed!

(See section 7: Supported packages)

Hyperref support is turned off because hyperref has stopped early.

If the hyperref package stops early during loading (because of what-ever reason), the hyperref support of the caption package will not be available. As a result you could get hyperref warnings and non-functional hyperlinks to figures or tables.

(See section 7.6: hyperref)

Ignoring optional argument \pos of \setcapwidth.

The caption package tries to emulate the KOMA-Script commands regarding captions as best as it can. But the optional argument of the KOMA-Script command \setcapwidth is not (yet) working if you use this package, so if you try to use it anyway, you will get this warning.

(See section 5.4: KOMA-Script: scrartcl, scrreprt, and scrbook)

Internal Warning: \warning (warning message).

You should never see this warning, either you use a package which redefines \figure or \table and which is unknown to the caption package, or this is a bug in the caption package. Please send me an e-mail reporting this issue.

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Regarding \label the floating environments behave differently than its non-floating counterparts: The internal reference will not be generated at the beginning of the environment, but at \caption instead. So you have to place the \label command either just after or inside the caption text (mandatory argument of \caption).

Option ‘(option)’ was not in list ‘(option list)’.
If you try to remove a specific option of an option list, for example with \clearcaptionsetup[position]{table}, and this option cannot be found inside the option list, you will get this warning. If this is not because of a typo and you would like to suppress this warning, use \clearcaptionsetup* instead of \clearcaptionsetup.
(See section 3.2: Setting options)

Option list ‘(option list)’ undefined.
If you try to remove a specific option of an option list, for example with \clearcaptionsetup[format]{figure}, and this option list is not defined (yet), you will get this warning. If this is not because of a typo and you would like to suppress this warning, use \clearcaptionsetup* instead of \clearcaptionsetup.
(See section 3.2: Setting options)

Obsolete option ‘ignoreLTcapwidth’ ignored.
The \caption2 package option ignoreLTcapwidth will not be emulated by this version of the \caption package, usually you can simply wipe it away.
(See section C.2: \caption2 v2.x and section 7.9: longtable)

‘ragged2e’ support has been changed. Rerun to get captions right.
The \ragged2e package will only be loaded by the \caption package if it is actually needed. At least two \LaTeX runs are needed for that, so on the first run you could get this warning. Just compile your document again and this warning should go away.
(See section 2.2: Justification)

Reference on page ‘(page no.)’ undefined.
If you use a twoside page layout, the \caption package needs to track the page numbers to get the margins right. At least two \LaTeX runs are needed for that, on the first run you could get this warning. Just compile your document again and this warning should go away.
(See section 2.4: Margins and further paragraph options)

The caption type was already set to ‘(type)’.
This warning informs you about mixed caption options. For example if you use a \captionsetup[type=table] or \captionof{table} inside a figure environment, this would result in using both option sets for that specific caption, the one for figure (specified with \captionsetup[figure]{}) and the one for table (specified with \captionsetup[table]{}) as well.
(You can suppress this warning by using the starred form \captionsetup*{type=...}.)
(See section 3.2: Setting options)
The option ‘hypcap=true’ will be ignored for this particular \caption.

The caption package hasn’t found a proper hyperlink anchor for this particular caption, so it decides to ignore the setting hypcap=true (which is set by default). As a result a link to this caption (e.g. in the List of Figures, or set by \ref or \autoref) will link you to the caption of the figure or table, not to the figure or table itself.

This can happen if you use \captionof inside a non-floating environment, but also if you use some package which redefines figure or table, and which is unknown to the caption package.

If this is ok for you but you want to suppress this warning, simply place a \captionsetup{hypcap=false} just before the \caption or \captionof command which is causing the warning. If this is not ok for you, you can set a hyperlink anchor with \captionsetup{type=(float type)} for yourself.

(See section 7.6: hyperref)

Unsupported document class (or package) detected, usage of the caption package is not recommended.

Either the document class you use is unknown to the caption package, or you have included a package in your document which redefines \@makecaption (which is responsible for type-setting the caption internally) as well. This means the caption package will either change the design of captions in an unwanted way, or it even refuses to work correctly at all.

(See section 5: Supported document classes and section 7: Supported packages)

Unused \captionsetup{(type)}.

You have specified options with \captionsetup{(type)} which are not used later on. This can be because of a typo in \type, or because you use a package which redefines figure or table and which is unknown to the caption package, or simply because you don’t have any usage of the environment \type after this line. (If you want to suppress this warning you can use \captionsetup* instead of \captionsetup.)

(See section 3.2: Setting options)

Usage of the \package package together with the caption package is strongly not recommended. Instead of loading the \package package you should use the caption package option ‘tableposition-top’.

The package \package is dealing with caption skips as well. Please decide which one do you actually want to use, the caption package or the other one, using both can lead to wrong skips above or below the caption.

(See section 2.6: Skips)

A.4 Errors

Argument of \@caption has an extra }.

– or –

Paragraph ended before \@caption was complete.

If you want to typeset something special (like a tabular) as caption, you need to give an optional argument to \caption resp. \captionof for the List of Figures resp. List of Tables, too, even if you don’t use such list.

(See section 3.1: Typesetting captions, section 2.7: Lists, and section 7.6: hyperref)
\caption outside float.
You have placed a \caption command outside a floating environment, or a longtable or wrapfigure. If this is what you want to, please use either \captionsetup{type=\langle{type}\rangle} + \caption or \captionof.
(See section 3.1: Typesetting captions)

\ContinuedFloat outside float.
You have placed a \ContinuedFloat command outside a floating environment. If this is what you want to, please use the combination \captionsetup{type=\langle{type}\rangle} + \ContinuedFloat.
Please note that \ContinuedFloat inside a longtable is not working, but maybe using the longtable* environment, which typesets a longtable without incrementing the table counter, if sufficient for you.
(See section 3.3: Continued floats and section 7.9: longtable)

Continued ‘\langle{type}\rangle’ after ‘\langle{type}\rangle’.
Continued figures or tables are not allowed to be interrupted by a floating environment (or longtable) of another type, e.g. a table between a figure and a continued figure.
(See section 3.3: Continued floats)

For a successful cooperation we need at least version ‘\langle{date}\rangle’ of package ‘\langle{package}\rangle’, but only version ‘\langle{old-date}\rangle’ is available.
The caption package does not work with such an outdated package, please update it to a more recent version, at least to the one requested.

Internal Error: ‘\langle{error message}\rangle’.
You should never see this error. Please send me an e-mail reporting this issue.

No float type ‘\langle{type}\rangle’ defined.
The \langle{type}\rangle you have specified in \captionsetup{type=\langle{type}\rangle}, \captionof{\langle{type}\rangle}, or \DeclareCaptionSubType is not defined. \langle{type}\rangle should be either ‘figure’ or ‘table’, or any other floating environment defined with \DeclareFloatingEnvironment offered by the newfloat package, \newfloat offered by the float package[6], or \DeclareNewFloatType offered by the floatrow package[8].

Not allowed in longtable* environment.
The usage of \caption is not allowed inside the longtable* environment. Please use either \caption* for a caption without label or use the regular longtable environment instead.

Not available in compatibility mode.
The feature required is not supported in compatibility mode. ‘compatibility mode’ means that the caption package has detected either an incompatible document class or an incompatible package which also extents the \caption command. Leaving the original extension intact, some features of the caption package are not supported.
(See section 7: Supported packages)

Only one \caption can be placed in this environment.
Inside the environments offered by the fltpage and sidecap package only one caption can be placed. (This is due implementation design.)
Option clash for package caption.
– but sometimes also –
Missing \begin{document}.

The caption package has already been loaded by some other \LaTeX\ package, so you can’t do that again specifying different options. A candidate causing this could be the subfig package; if this is the case, please load the caption package before the subfig package or specify the option caption=false while loading the subfig package.

(See the subfig package\cite{20} documentation)

Paragraph ended before \caption@makecurrent was complete.
– or –
Paragraph ended before \caption@prepareanchor was complete.

If you want to typeset multi-paragraph captions, you need to give an optional argument to \caption resp. \captionof for the List of Figures resp. List of Tables, too, even if you don’t use such list.

(See section 3.1: Typesetting captions, section 2.7: Lists, and section 7.6: hyperref)

Something’s wrong--perhaps a missing \caption in the last figure or table.

It seems that you have used a \subcaption command (or a different one which has typeset a sub-caption) without a corresponding \caption command. This is not supported.

The option ‘labelsep=(name)’ does not work with ‘format=hang’.
– or –

The option ‘labelsep=(name)’ does not work with \setcaphanging (which is set by default).

A caption label separator which contains a \ command (like labelsep=newline) can not be combined with a hanging caption format (like format=hang). Please select either another caption label separator (e.g. labelsep=colon) or another caption format (e.g. format=plain).

(See section 2.1: Formatting resp. section 5.4: KOMA-Script: scrartcl, scrreprt, and scrbook)

The package option ‘caption=false’ is obsolete.
Please pass this option to the subfig package instead and do not load the caption package anymore.

You have specified the option caption=false. This used to be a workaround for not using the whole caption package (leaving the caption stuff offered by the document class or other packages intact), but keeping the subfig package working. This mechanism is obsolete and not offered anymore, please pass this option to the subfig package instead and do not load the caption package anymore.

(See the subfig package\cite{20} documentation)

Undefined boolean value ‘(value)’.

You tried to set a boolean option (like singlelinecheck= or hypcap=) with an improper value. Only false, no, off, 0 or true, yes, on, 1 is allowed here.

Undefined format ‘(name)’.

You tried to set a caption format which does not exists. Maybe a typo!?

(See section 2.1: Formatting)
Undefined label format ‘\(name\)’.
You tried to set a caption label format which does not exists. Maybe a typo!? (See section 2.1: Formatting)

Undefined label separator ‘\(name\)’.
You tried to set a caption label separator which does not exists. Maybe a typo!? (See section 2.1: Formatting)

Undefined list format ‘\(name\)’.
You tried to set a caption list-of format which does not exists. Maybe a typo!? (See section 2.7: Lists)

Undefined position ‘\(name\)’.
You tried to set a caption position with an improper value. Maybe a typo!? (See section 2.6: Skips)

Undefined style ‘\(name\)’.
You tried to set a caption style which does not exists. Maybe a typo!? (See section 2.5: Styles)

Usage of the ‘position’ option is incompatible to the ‘\(package\)’ package.
The given package is dealing with caption skips as well. Please decide which one do you actually want to use: The position= option of the caption package or the mechanism of the other one; using both this way would lead to wrong skips above or below the caption and is therefore not supported. (See section 2.6: Skips)

Undefined text format ‘\(name\)’.
You tried to set a caption text format which does not exists. Maybe a typo!? (See section 2.1: Formatting)

You can’t use both, the (obsolete) caption2 *and* the (current) caption package.
This error message says it all, you simply can’t do that. Please use only the caption package. (See section C.2: caption2 v2.x)
B Version history

The version 1.0 was written in 1994 and was offering a handful of options to customize the look & feel of the captions. Furthermore this version already supported the rotating and subfigure packages. Version 1.1 introduced the centerlast option; version 1.2 added the support of the float package. Version 1.3 offered a better support of the subfigure package, while version 1.4 came with the new option noneline.

The caption2 package 2.0 was an experimental side-version of the regular caption package. It was made public as beta test version without proper documentation in 1995 because of the strong demand for new features and adaptations to additional packages like the longtable package. Furthermore it offered a revised support of the subfigure package. (An improved version 2.1 was offered in 2002.)

In 2003 I finally found some time, so a new regular release 3.0 of the caption package could be build in cooperation with Frank Mittelbach and Steven Cochran. It was released in December 2003 and superseded the neglected caption2 package. Main parts were re-written and it provided a complete re-work of the user interface. Furthermore it supported the hyperref, hypcap, listings, sidecap, and supertabular packages additionally.

While all the previous versions were designed for usage with the standard \LaTeX document classes article, report, and book, the current version 3.1 released in 2007 also supports the \AMSL, KOMA-Script, NTG, and SMF document classes, and the beamer class as well. Furthermore it was adapted to the french Babel option, the frenchie & frenchpro packages, and the floatflt, fltpage, picinpar, picins, setspace, threeparttable, and wrapfig packages. New options and commands were introduced as well, among other things font+, figurewithin & tablewithin, list & listformat, maxmargin & minmargin, \captionlistentry, \DeclareCaptionListFormat. Further benefits are the new compatibility check (see section 7: \Supported packages), the new “hypcap” feature (see section 7.6: \hyperref), and the sub-caption feature (see subcaption package documentation).
C Compatibility to older versions

C.1 caption v1.x

This version of the caption package still supports the old options and commands provided by the version 1.0 to 1.4 of this package. So there shouldn’t occur any problems compiling old documents, but please don’t mix old options and commands with the new ones. This isn’t supported and can cause ugly side effects.

Here comes a short oversight of the obsolete options and how they have been replaced within this version of the caption package:

<table>
<thead>
<tr>
<th>caption v1.x</th>
<th>caption v3.x</th>
</tr>
</thead>
<tbody>
<tr>
<td>normal</td>
<td>format=plain</td>
</tr>
<tr>
<td>hang</td>
<td>format=hang</td>
</tr>
<tr>
<td>isu</td>
<td>format=hang</td>
</tr>
<tr>
<td>center</td>
<td>justification=centering</td>
</tr>
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<td>centerlast</td>
<td>justification=centerlast</td>
</tr>
<tr>
<td>nooneline</td>
<td>singlelinecheck=off</td>
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<tr>
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</tr>
<tr>
<td>footnotesize</td>
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<td>font=large</td>
</tr>
<tr>
<td>Large</td>
<td>font=Large</td>
</tr>
<tr>
<td>up</td>
<td>labelfont=up</td>
</tr>
<tr>
<td>it</td>
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<td>labelfont=sf</td>
</tr>
<tr>
<td>tt</td>
<td>labelfont=tt</td>
</tr>
</tbody>
</table>

Beside the options for setting up the desired font there were also the commands \caption-size resp. \captionfont and \captionlabelfont who could be redefined with \re-newcommand and allowed an alternate and more flexible way to change the font used for captions.

This mechanism was replaced by the commands

\DeclareCaptionFont{...}{...} \captionsetup{font=...,labelfont=...} .

(See section 4: Own enhancements)

Setting the margin for captions was done in v1.x with

\setlength{\captionmargin}{...} .

This was replaced by

\captionsetup{margin=...} .

(See section 2.4: Margins and further paragraph options)

For example the old-style code

\usepackage[hang,bf]{caption}
\renewcommand{\captionfont{\small\sffamily}
\setlength{\captionmargin}{10pt}
will still work fine, but should be written today as
\usepackage[format=hang,labelfont=bf,font={small,sf},
margin=10pt]{caption}
or
\usepackage{caption}
\captionsetup{format=hang,labelfont=bf,font={small,sf},
margin=10pt}

The quite exotic option ruled which allowed a partial usage of the caption settings for ruled
floats defined with the float package will be emulated by this version of the caption package, too.
But using this option is not recommended anymore since this version of the caption package offers
a more flexible way for changing the captions of these floating environments:
\DeclareCaptionStyle{ruled}{...
resp.
\captionsetup[ruled]{...
(See section 4: Own enhancements, section 3.2: Setting options, and section 7.2: float)

C.2 caption2 v2.x

Although they do very similar stuff, the packages caption and its experimental and now obsolete
variant caption2 have a very different implementation design. Therefore a full compatibility could
not be offered. For that reason you will still find a file called caption2.sty in this package
distribution, so old documents using the caption2 package will still compile fine.
Newly created documents should use the actual version of the caption package instead. In most
cases it’s sufficient to replace the command
\usepackage[...]{caption2}
by
\usepackage[...]{caption}

But some options and commands will not be emulated, so you can get error messages afterwards.
This section will hopefully help you removing these errors. If you have problems migrating from
caption2 to caption please don’t hesitate to send me an e-mail asking for help.
In addition to the obsolete options shown in the last section these ones will be emulated, too:

<table>
<thead>
<tr>
<th>caption2 v2.x</th>
<th>caption v3.x</th>
</tr>
</thead>
<tbody>
<tr>
<td>flushleft</td>
<td>justification=raggedright</td>
</tr>
<tr>
<td>flushright</td>
<td>justification=raggedleft</td>
</tr>
<tr>
<td>oneline</td>
<td>singlelinecheck=on</td>
</tr>
</tbody>
</table>

Setting the margin for captions was done in v2.x with
\setcaptionmargin(...) resp. \setcaptionwidth(...)

This was replaced by
\captionsetup{margin=...} resp. \captionsetup{width=...}

(See section 2.4: Margins and further paragraph options)
Setting an indentation was done in v2.x with
\captionstyle{indent}
\setlength\captionindent{...} .
This is now done with

\captionsetup{format=plain,indentation=...} .

The so-called single-line-check was controlled by the commands \onelinecaptionsfalse (for switching the check off) and \onelinecaptionstrue (for switching the check on). This was replaced by \captionsetup{singlelinecheck=off} resp. \captionsetup{singlelinecheck=on} . (See section 2.2: Justification)

The commands

\captionlabeldelim, \captionlabelsep, \captionstyle, \defcaptionstyle, \newcaptionstyle, and \renewcaptionstyle

do not have a simple replacement and therefore will not be emulated by this version of the caption package. (So using them will cause error messages.) Rewriting such code is not always easy and straight-ahead, but by conscientious reading of this manual you should be able to find appropriate options and commands instead.

The v2.x option ignoreLTcapwidth do not have a replacement, too. But in most cases you can simply drop using that option because in this version of the caption package the value of \LTcapwidth will be ignored anyway (unless you set it to a different value than the default one which is 4in). (See section 7.9: longtable)

C.3 caption v3.0

The caption package v3.0 did not support any document classes other than the standard \LaTeX\ ones: article, report, and book. Therefore the default settings used to be fixed, but now the caption package supports more classes, therefore they are now set in dependence on the document class used.

For example: While in v3.0 the default caption justification used to be always justified, it's now still justified when using one of the standard document classes, but raggedright will be used as default format when used with the beamer document class.

An easy way to select the 'old' defaults is using the option style=base when loading the caption package (or later on using \captionsetup).

Another new feature is the automatic check for compatibility; if an incompatibility will be found, a warning message will be issued and if a strong incompatibility was found some features of the caption package will be disabled. Please note that only this check was added to the caption package, so if you get such warning message, the previous versions of the caption package were incompatible as well, but did not issued such warning, they were “only” having side-effects or causing problems. So these warnings only say that some bad side effects or problems could happen, but not that they actually will happen. Anyway, if you use the caption package in such circumstances, you should use it with care.

Note: The caption package v3.0 offered the option caption=false, which used to be a workaround for not using the whole caption package (leaving the caption stuff offered by the document class or other packages intact), but keeping the subfig package working. This mechanism is obsolete and not offered anymore, please pass this option to the subfig package instead and do not load the caption package anymore.
D Commands for document class authors

A document class could simply load the `caption` package instead of defining an own variant of `@makecaption`. However if the author decides not to do this – for whatever reason – there is a second option:

If a document class defines `\caption@documentclass`, an adaption to the `caption` package will be loaded as `caption-⟨documentclass⟩.sto` if the `caption` kernel is loaded. The goal of this adaption file is changing the default settings of the `caption` package so simply loading it (without any package options) will not make any harm to the look at feel of the captions. This gives end-users the opportunity to fine-tune certain aspects of the appearance of captions by adding package options, without unwanted side-effects on other aspects of the appearance.

In both cases the command `\SetCaptionDefault` could be used to adapt the `caption` package default values:

\begin{verbatim}
\SetCaptionDefault\SetCaptionDefault*{(option)}{(default value)}
\end{verbatim}

changes the default value for the option `<option>`, for example:

\begin{verbatim}
\SetCaptionDefault{format}{hang}
\SetCaptionDefault{justification}{raggedright}
\DeclareCaptionLabelSeparator{silly}{ ++ + }
\SetCaptionDefault{labelseparator}{silly}
\end{verbatim}

This command is available for the options `box`, `font`, `format`, `justification`, `labelfont`, `labelformat`, `labelseparator`, `listformat`, `margin`, `parbox`, `position`, `singlelinecheck`, `textfont`, `textformat`, and `width`.

The starred variant only makes a difference when setting the default length of either `margin` or `width`, in this case it will use `\def` internally instead of `\edef` to store the value so the actual margin will be calculated when used (and not when set).

The adaption file will be loaded when the `caption` kernel `caption3.sty` will be loaded so the given adaptions will be done for the `floatrow` and `subfig` packages even if the `caption` package isn’t loaded.

But some adaptions have to be done for the `caption` package, and for this reason the hook

\begin{verbatim}
\AtCaptionPackage\AtCaptionPackage{(code)}
\end{verbatim}

is offered to authors of adaption files. The `<code>` inside the hook will be executed right before the given package options will be evaluated.

For example the adaption file for the KOMA-Script document classes uses `\AtBeginCaption` to re-define the caption package options `figureposition` and `tableposition` to issue a warning that using these options have little effect here.

\begin{verbatim}
\AfterCaptionPackage\AfterCaptionPackage{(code)}
\end{verbatim}

is offered to authors of adaption files as well. The `<code>` inside the hook will be executed at the very end of the `caption` package.
E Commands for babel language package authors

\caption@switchdefault  If the \texttt{caption3} kernel package is loaded, the command
\caption@switchdefault{(option)}{(code with \#1)}{(new value)}
is available which saves the old default value of the given option using \texttt{(code)} and sets the new
default value afterwards.

The command
\caption@restoredefault{(option)}{(old value)}
restores the old default value which was stored in \texttt{(old value)} before.

Example:
\begin{verbatim}
\DeclareCaptionLabelSeparator{french}{{...}}
\addto\extrasfrench{\caption@switchdefault{labelseparator}{\babel@save #1}{french}}
% Note: \caption@restoredefault isn't needed here
\end{verbatim}

Another example:
\begin{verbatim}
\caption@switchdefault{font}{\let\original@captionfont#1}{it}...
\caption@restoredefault{font}{\original@captionfont}%
\end{verbatim}

Since boths commands are defined with \texttt{\def} inside the \texttt{caption3} kernel, they could be pre-defined with
\begin{verbatim}
\providecommand\caption@switchdefault[3]{}
\providecommand\caption@restoredefault[2]{}
\end{verbatim}
inside the babel language package so their existence doesn’t need to be tested prior use.

Additionally babel language packages should not re-define \texttt{\makecaption} if the caption package is loaded, i.e. if \texttt{\caption@makecaption} is defined. (Unfortunately one cannot use the \texttt{\is@package} kernel command \texttt{\ifpackage{caption}} here since it’s only available in the
document preamble.)

Please note that code like
\begin{verbatim}
\addto\extraswhatever{%\ifundefined{caption@makecaption}{%\babel@save\@makecaption
\let\@makecaption\my@makecaption
{\caption@switchdefault{...}{\babel@save #1}{...}}%}}
\end{verbatim}

would be wrong since it mixes up the presence of the \texttt{caption3} kernel and the caption package. If the \texttt{caption3} kernel is loaded this does not mean that the caption package is loaded, too, and the
latter one re-defines \texttt{\caption}, \texttt{\@caption}, and \texttt{\@makecaption} while the \texttt{caption3} kernel
does not re-define any of them, instead it only provides (default) values for the caption, \texttt{floatrow},
and \texttt{subfig} package.

Currently there is build-in support for the following babel language options: arabic, farsi,
\texttt{french}, hungarian, latvian, and magyar. This support could be deactivated by defining
\begin{verbatim}
\def\caption@ifbabel@[\texttt{package}]{false}
\end{verbatim}

where \texttt{(package)} is either \texttt{arabi}, \texttt{french}, \texttt{frenchle}, \texttt{hungarian}, or \texttt{latvian}.
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