

# Package hvfloat

## Rotating and scaling of objects and captions ver 2.10

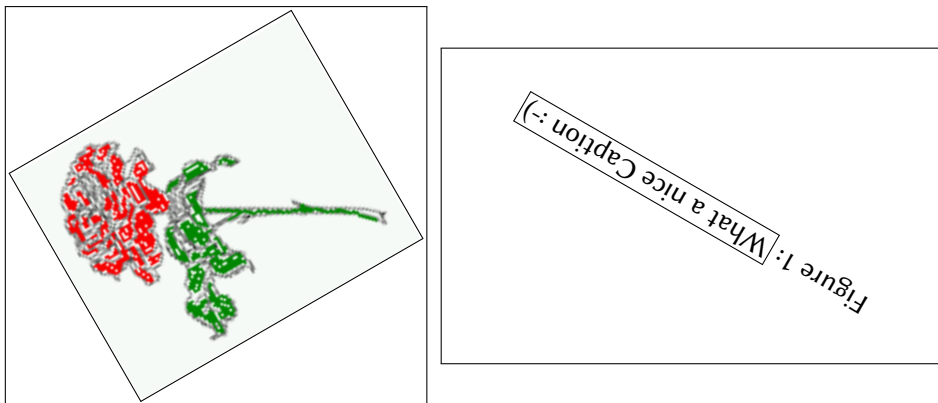
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March 21, 2019

The package hvfloat defines a macro to place objects and captions of floats in different positions with different rotating angles.

All objects and captions are framed on the first pages, which is only for some demonstration here and has no additional sense!

To compare the place of the definition of the floating objects in the source and the output a marginnote `\float` is set into the margin. This is also only for demonstration!



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## Contents

<b>1</b>	<b>The package options</b>	<b>6</b>
<b>2</b>	<b>The Macros and optional arguments</b>	<b>6</b>
<b>3</b>	<b>The default use of floating environments</b>	<b>7</b>
<b>4</b>	<b>Caption width</b>	<b>9</b>
4.1	Default – natural width . . . . .	9
4.2	Relative linewidth . . . . .	9
4.3	Identical object and caption width . . . . .	10
4.4	caption width to height of the object . . . . .	11
<b>5</b>	<b>Caption right or left of the object</b>	<b>11</b>
5.1	Caption right with specific length . . . . .	11
5.2	Caption left and rotated . . . . .	12
<b>6</b>	<b>Caption inner or outer</b>	<b>14</b>
<b>7</b>	<b>Vertical Position of the Caption</b>	<b>15</b>
<b>8</b>	<b>Horizontal Position of the Float</b>	<b>17</b>
<b>9</b>	<b>Wide floats</b>	<b>18</b>
<b>10</b>	<b>Full Page Width in Landscape Mode</b>	<b>20</b>
<b>11</b>	<b>The nonFloat Option</b>	<b>25</b>
<b>12</b>	<b>Tabulars as Objects</b>	<b>26</b>
<b>13</b>	<b>Text and objects</b>	<b>26</b>
<b>14</b>	<b>Environment hvFloatEnv</b>	<b>28</b>
<b>15</b>	<b>Full page objects in onecolumn mode</b>	<b>29</b>
15.1	Using the textarea . . . . .	29
15.1.1	Using the default or capPos=l . . . . .	30
15.1.2	Using capPos=r . . . . .	32
15.1.3	Using capPos=e — caption on an even page . . . . .	34
15.1.4	Using capPos=d — caption on an odd page . . . . .	36
15.1.5	Using capPos=i or capPos=o — caption on the inner or outer side . . . . .	38
15.2	Using the paper size . . . . .	38
15.3	Multifloats . . . . .	40
<b>16</b>	<b>Subfloat page</b>	<b>42</b>

<b>17 Full page objects in twocolumn mode</b>	<b>44</b>
17.1 Default setting . . . . .	44
17.1.1 Using capPos=r . . . . .	45
17.1.2 Using capPos=e — caption on an even page . . . . .	47
17.1.3 Using capPos=d — caption on an odd page . . . . .	48
17.1.4 Using capPos=i — caption in the inner column . . . . .	49
17.1.5 Using capPos=o — caption on the outer column . . . . .	50
17.2 Using full page in twocolumn mode . . . . .	51
17.3 Multifloats . . . . .	53
<b>18 Subfloat page</b>	<b>55</b>
<b>19 References to the page</b>	<b>57</b>
<b>20 Defining a style</b>	<b>57</b>
<b>21 Global float setting</b>	<b>58</b>
<b>22 The Package Source</b>	<b>62</b>

## List of Tables

1	The Caption without sense ...	6
2	The optional keywords for the macro \hvFloat	7
3	With the only Option capPos=t to place the caption on top of the table, which is often the default.	8
4	Demonstration of the use0Box Parameter	26
5	Demonstration of the use0Box Parameter	27
6	A caption for a nice table	28
7	A caption for a nice table	29
8	Valid optional arguments for a full page object.	30

## List of Figures

1		1
2	Without any keywords (only the fbox package option)	8
3	Default caption width setting, which is the natural width with respect to the current linewidth.	9
4	Caption right beside with a <i>natural</i> width, which is given by the width of the object, the separation between object and caption, and the current linewidth.	10
5	Caption below with a width of 0.9 of the current line width (column width), which is in this special case 376.42744pt. Divide it by 28.82 to get cm.	10
6	Caption right beside with a width setting of $0.9\text{\linewidth}$ which is too big for this example and therefore corrected by the macro to the maximal width.	11
7	Caption below with a width of the given object which may be a problem if it is a very small object.	11
8	Caption beside with a width of the given object height which may be a problem if it is a very small object.	12
9	Caption beside object and vertically centered	12
10	Centered Caption beside Object	13
11	Caption vertically centered right beside the float with a caption width of the height of the image and a rotation of the caption and the object.	13
12	Centered Caption on the inner side	14
13	Centered Caption on the inner side	15
14	Centered Caption beside Object	15
15	Centered Caption beside Object	16
16	Caption at bottom right beside the float	16
17	Caption at top left beside the float	17
18	Caption centered right beside the float	17
19	Caption at top right beside the float and object position left	17
20	Caption at top left beside the float and object position right	18
21	Caption at top right beside the float and object position left and the option wide.	19

22	Caption at top left beside the object and object position left and the option wide.	19
23	Caption at top and inner beside the float and object position right and the option wide. . . . .	20
24	Caption at top inner beside the float and object position right and the option wide.	20
25	Object and Caption in landscape mode . . . . .	22
26	Rotated Caption in Landscape . . . . .	24
27	Nonfloat Captions . . . . .	25
28	Output of default1s1c (pages 2–9) . . . . .	31
29	Output of LEFT1s1c (pages 4–11) . . . . .	31
30	Output of default2s1c (twoside pages 2–9) . . . . .	32
31	Output of right1s1c (pages 2–9) . . . . .	33
32	Output of RIGHT1s1c (pages 4–11) . . . . .	33
33	Output of right2s1c (twoside pages 2–9) . . . . .	34
34	Output of even1s1c (pages 2–9) . . . . .	35
35	Output of even2s1c (pages 4–11) . . . . .	35
36	Output of odd1s1c (pages 2–9) . . . . .	36
37	Output of odd1s2c (pages 2–9) . . . . .	37
38	Output of odd2s1c (pages 4–11) . . . . .	37
39	Output of odd2s2c (pages 2–9) . . . . .	38
40	Output of paper-default1s1c (pages 2–10) . . . . .	39
41	Output of multi-default1s1c (pages 4–11) . . . . .	41
42	Output of multi-right1s1c (pages 4–11) . . . . .	41
43	Output of sub-default1s1c (pages 4–11) . . . . .	43
44	Output of sub-right1s1c (pages 4–11) . . . . .	43
45	Output of default2s2c (pages 2–9) . . . . .	44
46	Output of LEFT2s2c (pages 2–9) . . . . .	45
47	Output of right2s2c (pages 2–9) . . . . .	46
48	Output of RIGHT2s2c (pages 2–9) . . . . .	46
49	Output of even2s2c (pages 2–9) . . . . .	47
50	Output of odd2s2c (pages 2–9) . . . . .	48
51	Output of inner2s2c (pages 2–9) . . . . .	49
52	Output of outer2s2c (pages 2–9) . . . . .	50
53	Output of paper-default2s2c (pages 2–9) . . . . .	51
54	Output of paper-LEFT2s2c (pages 2–9) . . . . .	52
55	Output of paper-RIGHT2s2c (pages 2–9) . . . . .	52
56	Output of paper-inner2s2c (pages 2–9) . . . . .	53
57	Output of multi-default2s2c (pages 2–9) . . . . .	54
58	Output of sub-default2s2c (pages 2–9) . . . . .	56
59	Output of sub-right2s2c (pages 2–9) . . . . .	56
60	Caption at bottom right beside the float with a caption width of 0.5\columnwidth.	58
61	A float which needs the complete paper width and height. . . . .	58

## 1 The package options

`fbox` The objects and captions are put into a `\fbox` command, like in this documentation. This doesn't make real sense and is only for some demonstration useful or for locating problems if images seems to have too much whitespace.

`hyperref` Load package `hyperref` and also package `hypcap`.

The length `\belowcaptionskip` is set by  $\LaTeX$  to 0pt and changed in `hvfloat` to the same value than `\abovecaptionskip`. This length can be changed to another value in the usual way with `\setlength` or `\addtolength`.

## 2 The Macros and optional arguments

The syntax for the macros and `\setDefault`s, `\hvSet`, and `\hvFloat` is

```
\hvset{key=value list}
\setDefault
\hvFloat* [Options] + {float type}{floating object} [short caption] {long caption}{label}
```

The optional `+` is explained in section 15.3 on page 40.

`\hvSet` allows the global setting of keywords and `\setDefault`s sets all keywords to its default value as shown in Table 2 on the next page.

If `\hvFloat` has an empty second parameter `<float type>`, then `\hvFloat` switches by default to a nonfloat (see table 2) object, which is not important for the user. All other parameters may also be empty and the short caption as second optional parameter missing. This one is as usual the caption for the `\listoffigures`.

There are some more macros defined, more or less for internally use in `hvfloat`, but they can be used for own purposes.

```
\figcaption [short caption text] {caption text}
\tabcaption [short caption text] {caption text}
```

They are used for the `nonFloat` keyword, where these macros write captions in the same way but outside of a float environment. The default caption cannot be used here. It is no problem to use the `\tabcaption` command to place a caption anywhere, like here in an inlined mode:

Table 1: A Caption without any sense and any object

A label can be put inside the argument or after the command in the usual way, so that a reference to the not existing table 2 is no problem.

[...] It is no problem to use the `\verb|\tabcaption|` command to place a caption anywhere, like here in an inlined mode: `\tabcaption[The Caption without sense ...]{A Caption without any sense and any object}\label{dummy}` A label can be put inside the argument or after the command in the usual way, so that a reference to the not existing table `\ref{dummy}` is no problem.

With the macro `\defhvvstyle` one can define a style which can be used instead of the individual setting:

`\defhvstyle{<name>}{<setting>}`

Internally the style is saved in a macro named `\hv@<name>`.

There are the following keywords:

Table 2: The optional keywords for the macro `\hvFloat`

Keyword	Default	Description
<code>floatPos</code>	<code>htb</code>	This is the same placement option like the one from the floats.
<code>rotAngle</code>	<code>0</code>	The value for the angle if both, the object and the caption should be rotated in the same way.
<code>capWidth</code>	<code>n</code>	The width of the caption. Can be "n" like a natural width, "w" for the width of the object, "h" for the height of the object, or a scale for <code>\columnwidth</code> .
<code>capAngle</code>	<code>0</code>	The value for the angle if the caption should be rotated. Counted anti clockwise.
<code>capPos</code>	<code>b</code>	The position of the caption relative to the object. Possible values are <b>(l)</b> eft  <b>(L)</b> EFT  <b>(b)</b> ottom  <b>(t)</b> op  <b>(r)</b> ight  <b>(R)</b> IGHT  <b>(e)</b> ven  <b>(o)</b> d. The last two are only valid for the option <code>fullpage</code> .
<code>capVPos</code>	<code>c</code>	This is only important for <code>capPos=l r</code> . Only in this case the caption can vertically placed at the <b>(b)</b> ottom  <b>(c)</b> enter  <b>(t)</b> op.
<code>objectPos</code>	<code>c</code>	The horizontal placement of the object relative to the document. Possible values are <b>(l)</b> eft  <b>(c)</b> enter  <b>(r)</b> ight.
<code>objectAngle</code>	<code>0</code>	The value for the angle if the object should be rotated. Counted anti clockwise.
<code>floatCapSep</code>	<code>5</code>	The additional width between the object and a left or right placed caption. The default unit is pt.
<code>useOBox</code>	<code>false</code>	Instead of passing the object as parameter to the <code>hvFloat</code> , the contents maybe saved in the box <code>\hvOBox</code> With <code>useOBox=true</code> the contents of this box will be used.
<code>nonFloat</code>	<code>false</code>	The object isn't put in a floating environment. It is printed as standard text with an additional caption. The float counters are increased as usual and can be referenced.
<code>wide</code>	<code>false</code>	The float can use <code>\textwidth + \marginparwidth</code> as horizontal width.
<code>objectFrame</code>	<code>false</code>	put a frame with no separation around the float object.
<code>style</code>	<code>-</code>	Use a defined style

### 3 The default use of floating environments

In this case there is no essential difference to the well known figure or table environment, f.ex.:

```
\begin{figure}
... object ...
```

### 3 The default use of floating environments

```
\caption{...}% caption below the object
\end{figure}
```

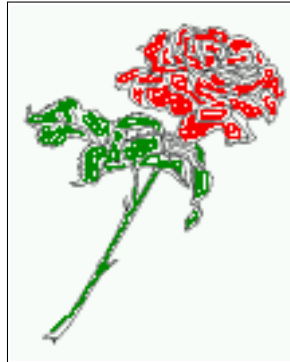


Figure 2: Without any keywords (only the fbox package option)

Code for figure 2:

```
\hvFloat{figure}{\includegraphics{rose}}{Without any keywords (only the \texttt{fbox} package
option)}}{fig:0}
```

**float**

Table 3: With the only Option capPos=t to place the caption on top of the table, which is often the default.

Name	Type	Description
\hvFloat	command	places object and caption in different ways
hvFloatEnv	environment	places object and caption exactly Here
\figcaption	command	writes a figure caption in a non floating environment
\tabcaption	command	writes a table caption in a non floating environment
\setDefault	command	sets all options to the defaults
\defhvstyle	command	define a user style

Code for table 3:

```
\hvFloat[capPos=t]{table}{%
\begin{tabularx}{\textwidth}{>\ttfamily}l|l|X}
\rmfamily Name & Type & Description\\ \hline
\CMD{hvFloat} & command & places object and caption in different ways\\
hvFloatEnv & environment & places object and caption exactly Here\\
\CMD{figcaption} & command & writes a figure caption in a non floating environment\\
\CMD{tabcaption} & command & writes a table caption in a non floating environment\\
\CMD{setDefault} & command & sets all options to the defaults\\
\CMD{defhvstyle} & command & define a user style
\end{tabularx}}%
{With the only Option \texttt{capPos=t} to place the caption on top of the table, which is often
the default.}%
{tab:0}
```



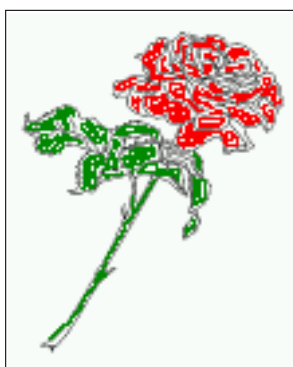
See section 12 for some more informations about tabulars as objects.

## 4 Caption width

### 4.1 Default – natural width

The default setting is the natural width of a paragraph with respect to the current linewidth or columnwidth for a caption below or above an object. It behaves in the same way as a caption set by one of the default floating environments like figure or table:

```
\hvFloat[floatPos=!htb]{figure}{\includegraphics{rose}}%
{Default caption width setting, which is the natural width with respect to the current linewidth
.}{fig:width0}
```



float

Figure 3: Default caption width setting, which is the natural width with respect to the current linewidth.

For the following examples the package option fbox is disabled. All frames are now set with the macro \frame or the optional keyword objectFrame. !!

For a caption beside an object, the *natural* caption width (without the optional argument wide) is given by the current linewidth minus the width of the object and the space between object and caption, which is set by floatCapSep (see Table 2 on page 7).

```
\hvFloat[floatPos=!htb,capPos=r,objectFrame]{figure}{\includegraphics[scale=1.5]{rose}}%
{Caption right beside with a \emph{natural} width, which is given by the width of the object,
the separation between object and caption, and the current linewidth.}{fig:width1}
```

float

### 4.2 Relative linewidth

With capWidth=<number> the caption width is set to <number>\columnwidth. For captions at the bottom or on top of objects the setting is not checked if <number> is greater than 1.

```
\hvFloat[floatPos=!htb,capWidth=0.9]{figure}{\includegraphics{rose}}%
{Caption below with a width of 0.9 of the current line width (column width), which is
in this special case \the\linewidth. Divide it by 28.82 to get cm.}{fig:width2}
```

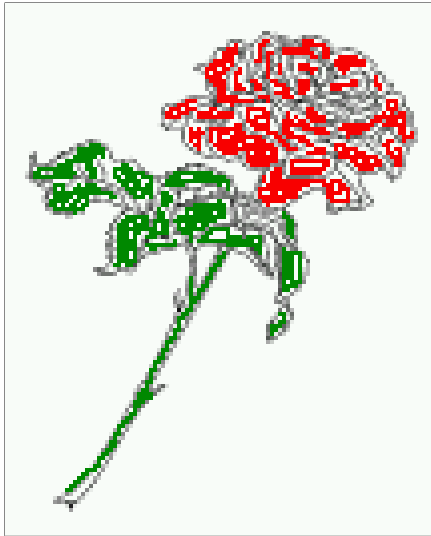


Figure 4: Caption right beside with a *natural* width, which is given by the width of the object, the separation between object and caption, and the current linewidth.



Figure 5: Caption below with a width of 0.9 of the current line width (column width), which is in this special case 376.42744pt. Divide it by 28.82 to get cm.

`float`

If such a value like `0.9\linewidth` is used for a caption beside an object, then the macro does a test if the space beside the object is less equal the defined caption width. If not then the width is set to the possible value between object and margin:

```
\hvFloat[floatPos=!htb,capPos=r,capWidth=0.9]{figure}{\includegraphics[scale=1.5]{rose}}%
{Caption right beside with a width setting of \texttt{0.9\textbackslash linewidth}
which is too big for this example and therefore corrected by the macro to the maximal width.}{
fig:width3}
```

`float`

### 4.3 Identical object and caption width

With `capWidth=w` the caption width is like the object width which makes only real sense if you have a lot of identical images with respect to its widths.

```
\hvFloat[floatPos=!htb,capWidth=w]{figure}{\includegraphics[width=0.5\linewidth]{CTAN}}%
{Caption below with a width of the given object which may be a problem}
```

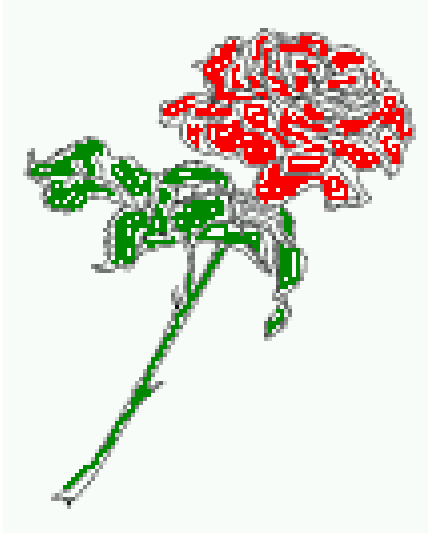
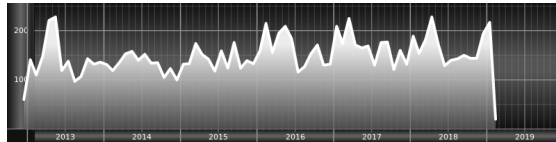


Figure 6: Caption right beside with a width setting of  $0.9\text{\linewidth}$  which is too big for this example and therefore corrected by the macro to the maximal width.

if it is a very small object.}{fig:width4}



float

Figure 7: Caption below with a width of the given object which may be a problem if it is a very small object.

#### 4.4 caption width to height of the object

With `capWidth=h` the caption width is like the object height which makes only real sense if you want to put a rotated caption beside the object.

```
\hvFloat[floatPos=!htb,capPos=r,capWidth=h,capAngle=90,objectFrame]{figure}{\includegraphics{rose
}}%
{Caption beside with a width of the given object height which may be a problem
if it is a very small object.}{fig:width5}
```

## 5 Caption right or left of the object

### 5.1 Caption right with specific length

Code for figure 9:

```
\hvFloat%
[floatPos=htb,
```

## 5 Caption right or left of the object

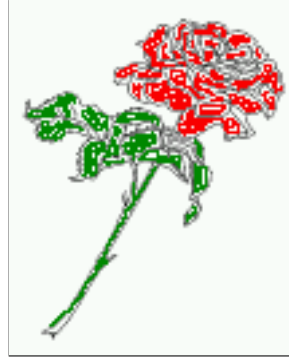


Figure 8: Caption beside with a width of the given object height which may be a problem if it is a very small object.

```
capWidth=0.5,% of \columnwidth
capPos=r,
objectFrame,
objectPos=c]{figure}{\includegraphics{rose}}%
[Caption beside object and vertically centered]%
{Caption vertically centered right beside the float with a caption width of
\texttt{0.5\textbackslash columnwidth} and \texttt{floatcapsep=5pt} (the default)}{fig:1}
```

float  
capPos=r

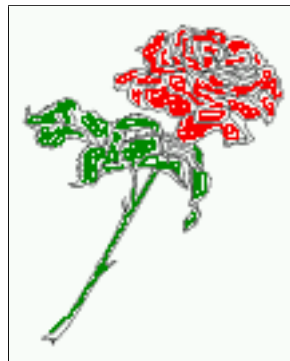


Figure 9: Caption vertically centered right beside the float with a caption width of  $0.5\text{\columnwidth}$  and `floatcapsep=5pt` (the default)

## 5.2 Caption left and rotated

Code for figure 10:

```
\hvFloat%
[floatPos=htb,
capWidth=h,% of \columnwidth
capPos=l,
capAngle=90,
objectFrame
]{figure}{\includegraphics{rose}}%
[Centered Caption beside Object]%
{Caption vertically centered left beside the float with a caption width
of \texttt{capWidth=h}, which is the height of the object.}{fig:2}
```

float  
capPos=l

Figure 10: Caption vertically centered left beside the float with a caption width of capWidth=h, which is the height of the object.



It is no problem to rotate the object, too. But with a different angle value than for the caption. Do not ask for the sense, it is only a demonstration of what is possible ... The object (image) is rotated by  $-30$  degrees with the macro `\rotatebox`. Without any definition the caption will be placed vertically centered to the object. Important for the height of the object is the surrounding orthogonal rectangle.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Code for figure 11:

```
\hvFloat[%
  capWidth=h,
  capPos=r,
  capAngle=180,
  objectAngle=90,
  capVPos=c,
  objectPos=c]{figure}{\frame{\includegraphics{rose}}}%
[Centered Caption beside Object]{%
{Caption vertically centered right beside the float with a caption width of the height
of the image and a rotation of the caption and the object.}}{fig:3}
```

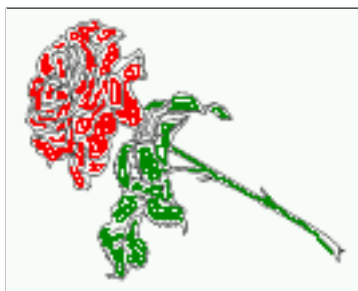


Figure 11: Caption vertically centered right beside the float with a caption width of the height of the image and a rotation of the caption and the object.

float

## 6 Caption inner or outer

Setting the caption position to *inner* or *outer* makes only sense for a document in twoside mode. For a oneside document *inner* is the same as *left* and *outer* is the same as *right*. We show only the code for the first image with the setting `capPos=i`, whereas the second one chooses only `capPos=0`.

Code for figure 12:

```
\hvFloat[capPos=i]{figure}{\includegraphics{rose}}%
[Centered Caption on the inner side]{%
Caption set with the parameter setting \texttt{capPos=i}, which will be
a caption on the right side for an even page and on the left side for
an odd page.}{fig:20}
```

float  
capPos=i



Figure 12: Caption set with the parameter setting `capPos=i`, which will be a caption on the right side for an even page and on the left side for an odd page.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

```
\hvFloat[capPos=i]{figure}{\includegraphics{rose}}%
[Centered Caption on the inner side]{%
Caption set with the parameter setting \texttt{capPos=i}, which will be
a caption on the right side for an even page and on the left side for
an odd page.}{fig:20b}
```

float  
capPos=i

Now the same Image with `capPos=0`. The current pagenumber is 14, an even page. We now set a pagebreak at the end of the second image to see if it works with *inner/outer*.

We have an even page, the reason why figure 13 has the caption for *inner* on the left side and figure 14 for *outer* on the right side.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how

Figure 13: Caption set with the parameter setting capPos=i, which will be a caption on the right side for an even page and on the left side for an odd page.

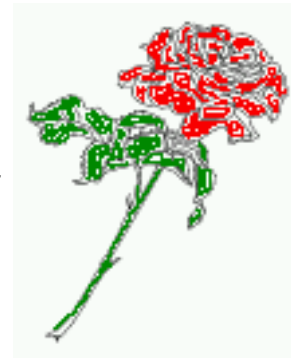


Figure 14: Caption at the bottom right beside the float with a caption width of  $0.5\text{\columnwidth}$  and  $\text{capPos}=0$ .

the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Code for figure 15:

```
\hvFloat[%
  capWidth=0.5,% of \columnwidth
  capPos=0,% ==> OUTER
  capAngle=0,
  capVPos=b,
  objectPos=c]{figure}{\includegraphics{rose}}%
  [Centered Caption beside Object]{%
    Caption vertically centered right beside the float with a caption
    width of \texttt{0.5\textbackslash columnwidth} and \texttt{capPos=0} }{fig:22}
```

We have an odd page, the reason why figure 12 has the caption for *inner* on the right side float and figure 14 for *outer* on the left side.

## 7 Vertical Position of the Caption

The caption can be placed beside the object in the positions

(c)enter|(b)ottom|(t)op

The code for figure 16:

Figure 15: Caption vertically centered right beside the float with a caption width of  $0.5\text{\columnwidth}$  and `capPos=0`



```
\hvFloat[%
  floatPos=htb,%
  capWidth=0.25,%
  capPos=r,%
  capVPos=b,%
]{figure}{\frame{\includegraphics{rose}}}{Caption at bottom right beside the float}{fig:4}
```

`float`



Figure 16: Caption at bottom right beside the float

The code for figure 17:

```
\hvFloat[%
  floatPos=htb,
  capWidth=0.25,
  capPos=r,
  capVPos=t,
]{figure}{\frame{\includegraphics{rose}}}{Caption at top left beside the float}{fig:5}
```

`float`

The code for figure 18:

```
\hvFloat[%
  capWidth=0.25,
  capPos=r,
  capVPos=c,% the default
]{figure}{\frame{\includegraphics{rose}}}{Caption centered right beside the float}{fig:6}
```

`float`



Figure 17: Caption at top left beside the float



Figure 18: Caption centered right beside the float

## 8 Horizontal Position of the Float

The code for figure 19:

```
\hvFloat[%
  capWidth=0.25,
  capPos=r,
  capVPos=t,
  objectPos=l,
]{figure}{\includegraphics{rose}}{%
  Caption at top right beside the float and object position left}{fig:7}
```



Figure 19: Caption at top right beside the float and object position left

float

Hello, here is some text without a meaning. This text should show what a printed text will

look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

The code for figure 20:

```
\hvFloat[%
  capWidth=0.25,%
  capPos=l,%
  capVPos=t,%
  objectPos=r,%
]{figure}{\includegraphics{rose}}{%
  Caption at top lefttt beside the float and object position right}{fig:8}
```

**float**

Figure 20: Caption at top left beside the float and object position right



Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 9 Wide floats

With the optional argument `wide` the width of the defined `marginpar` is added to the allowed horizontal width of the float.

The code for figure 21:

```
\hvFloat[wide,
  capWidth=0.5,
  capPos=r,
  capVPos=t,
  objectPos=l,
```

```

]{{figure}}{\includegraphics[width=0.75\linewidth]{CTAN}}{%
    Caption at top right beside the float and object position left and
the option \texttt{wide}.
    Caption at top right beside the float and object position left and
the option \texttt{wide}.}{fig:70}

```

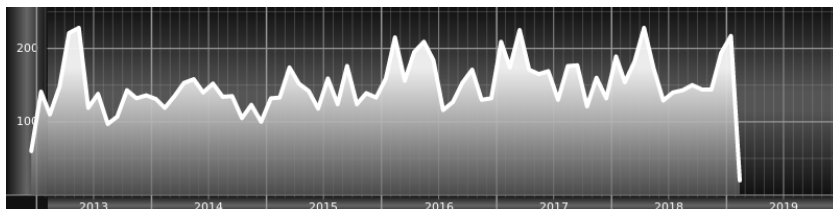


Figure 21: Caption at top right beside the float and object position left and the option wide. Caption at top right beside the float and object position left and the option wide.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

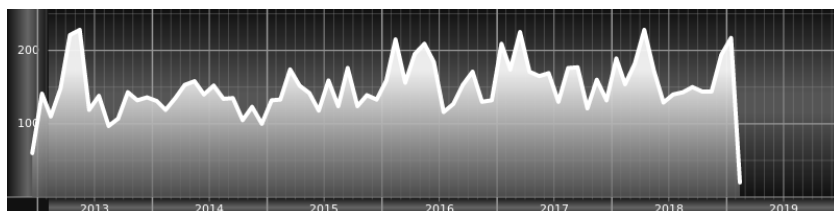
The code for figure 22:

```

\hvFloat[wide,
    capPos=l,
    capVPos=t,
    objectPos=r,
]{{figure}}{\includegraphics[width=0.75\linewidth]{CTAN}}{%
{Caption at top left beside the object and object position left and
the option \texttt{wide}.}{fig:80}

```

Figure 22: Caption at top left beside the object and object position left and the option wide.



For a twosided document it will place the object always in the margin.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 10 Full Page Width in Landscape Mode

```
\hvFloat[wide,  
    capPos=i,  
    capVPos=t,  
{figure}{\includegraphics[width=0.75\linewidth]{CTAN}}{%  
Caption at top and inner beside the float and object position right and  
the option \texttt{wide}.}{fig:81}
```

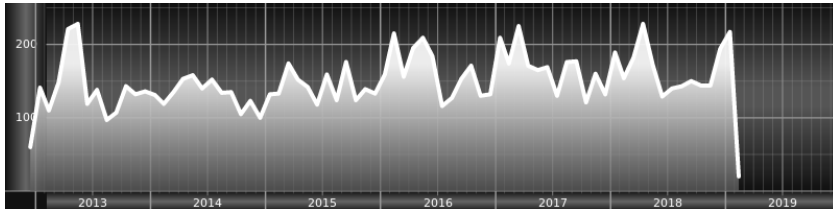


Figure 23: Caption at top and inner beside the float and object position right and the option wide.

Now we set the same image with the same setting on the next page. The caption will change its side due to the setting `capPos=o`.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

```
\hvFloat[wide,  
    capPos=i,  
    capVPos=t,  
{figure}{\includegraphics[width=0.75\linewidth]{CTAN}}{%  
Caption at top inner beside the float and object position right and  
the option \texttt{wide}.}{fig:81}
```

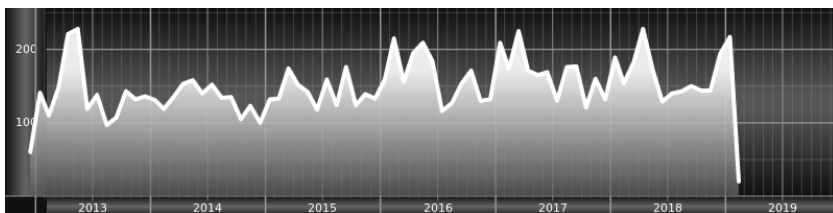


Figure 24: Caption at top inner beside the float and object position right and the option wide.

## 10 Full Page Width in Landscape Mode

If you do not want to load the package `lscape` (or `pdflscape`) you can use the `floatPos=p` option to put the image on an own page and rotated by 90 degrees (figure 25).

Code for figure 25:

```
\hvFloat[%
```

```

floatPos=p,
capPos=b,
rotAngle=90,
objectPos=c
]{figure}{\includegraphics[width=0.9\textheight]{CTAN}}%
[Object and Caption in landscape mode]{%
Caption and object in landscape mode. \blindtext}{fig:9}

```

The float can also be put to the left or to the right (above/below in landscape) with the `objectPos=l` parameter

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

float landscape
--------------------

This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

And after the second paragraph follows the third paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of

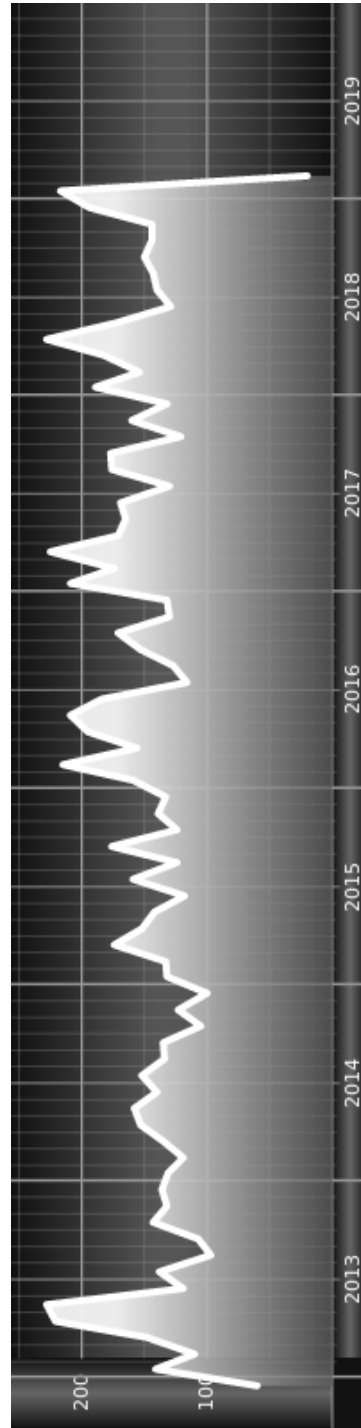


Figure 25: Caption and object in landscape mode. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

The code for figure 26:

```
\hvFloat[%
  floatPos=p,
  capWidth=h,
  capPos=r,
  objectAngle=90,
  capAngle=-90,
  objectPos=l
]{figure}{\includegraphics[width=\textheight]{CTAN}}%
[Rotated Caption in Landscape]{%
Caption right beside the float and object position left. The caption rotated by $-90$
degrees.\blindtext}{fig:10}
```

This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

float

And after the second paragraph follows the third paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

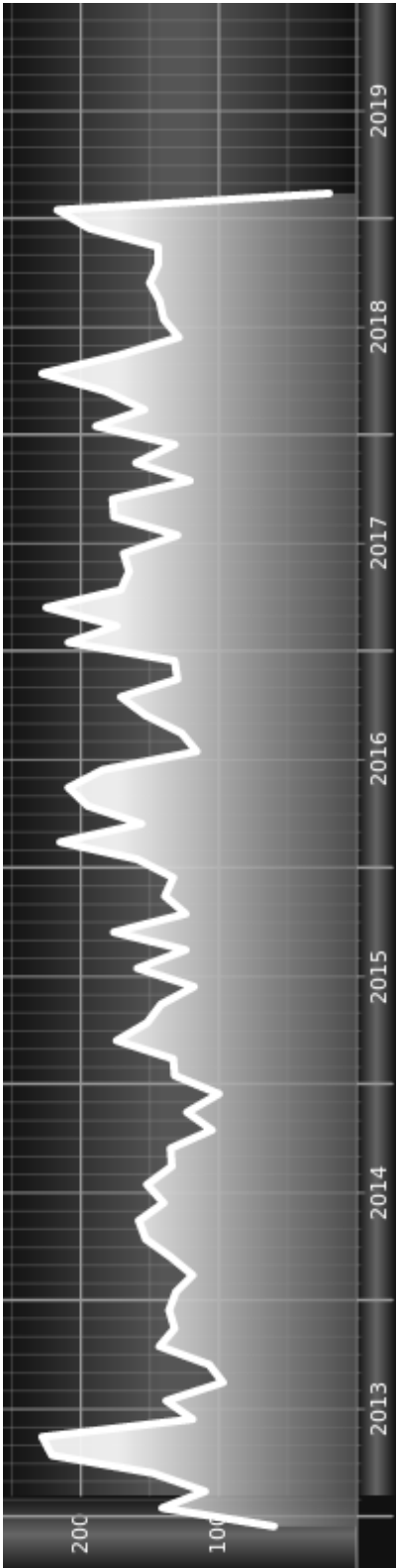


Figure 26: Caption right beside the float and object position left. The caption rotated by  $-90$  degrees. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

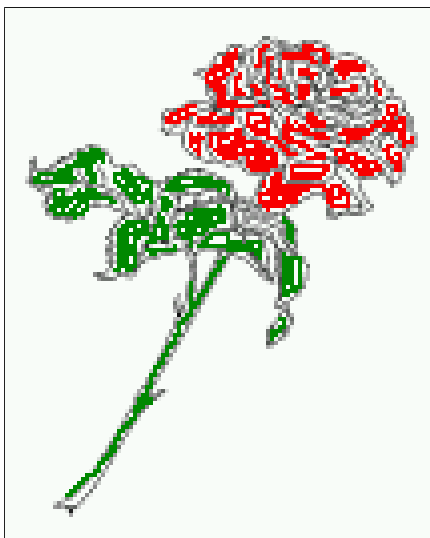


This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 11 The nonFloat Option

Sometimes it is better to put a “float” in a specific position of the page. This is possible with the nonfloat package and the keyword nonFloat.

```
\hvFloat[%
  nonFloat,
  capWidth=0.25,
  capPos=r,
  capVPos=b,
  objectPos=c,
  objectFrame,
]{figure}{\includegraphics[scale=1.5]{rose}}%
[Nonfloat Captions]{%
  Caption of a ‘‘nonfloat’’ Object, using the \texttt{nonfloat} Package}{fig:11}
```



float

Figure 27: Caption of a “nonfloat” Object, using the nonfloat Package

The image 11 is exactly placed where the command \hvFloat appears. There are only commands for figure and table environments:

```
\newcommand{\figcaption}{\def\@captive{figure}\caption}
\newcommand{\tabcaption}{\def\@captive{table}\caption}
```

But it is no problem, to define more xxxcaption commands to support other with the float package defined new floats.

## 12 Tabulars as Objects

The object has to be passed as an parameter to the `\hvFloat` macro. This is no problem with images but maybe with tables, so it is easier to use the box `\hv0Box` to save the table in this box and pass it then to `\hvFloat` with the `use0Box` option. For example see table 4 and 5:

```
\savebox{\hv0Box}{%
\begin{tabular}{>{\small\ttfamily}l|l|l}\hline
\rmfamily Name      & Type          & Description\\\hline
\CMD{\hvFloat} & & places object and caption in different ways\\
hvFloatEnv & environment & places object and caption exactly Here\\
\CMD{\figcaption} & command & writes a figure caption in a non floating environment\\
\CMD{\tabcaption} & command & writes a table caption in a non floating environment\\
\CMD{\setDefault} & command & sets all options to the defaults\\\hline
\end{tabular}%
}
```

The code for table 4 and 5 is:

```
\hvFloat[%
floatPos=hb,
capPos=t,
use0Box=true]{table}{{Demonstration of the \texttt{use0Box} Parameter}{table:1}}

\hvFloat[%
floatPos=hb,
use0Box=true,
objectAngle=90,
capPos=r,
capVPos=t,
capWidth=0.3]{table}{{Demonstration of the \texttt{use0Box} Parameter}{table:2}}
```

In this case leave the third parameter empty.

`float`

Table 4: Demonstration of the `use0Box` Parameter

Name	Type	Description
<code>\hvFloat</code>	command	places object and caption in different ways
<code>hvFloatEnv</code>	environment	places object and caption exactly Here
<code>\figcaption</code>	command	writes a figure caption in a non floating environment
<code>\tabcaption</code>	command	writes a table caption in a non floating environment
<code>\setDefault</code>	command	sets all options to the defaults

`float`

## 13 Text and objects

With the `onlyText` keyword it is no problem to put some text beside an image without getting the caption title Figure/Table. The object still can be a floating one or a nonfloating if the `nonfloat` keyword is used.

Name	Type	Description
\hvFloat	command	places object and caption in different ways
hvFloatEnv	environment	places object and caption exactly Here
\figcaption	command	writes a figure caption in a non floating environment
\tabcaption	command	writes a table caption in a non floating environment
\setDefaultts	command	sets all options to the defaults

Table 5: Demonstration of the use0Box Parameter

The code for figure 13:

```
\hvFloat[%
onlyText=true,
capAngle=90,
capPos=r,
capVPos=t,
capWidth=h]{}{\includegraphics{rose}}%
[``\texttt{onlyText}'' Caption]{%
Demonstration of the \texttt{onlyText} Parameter, which makes it
possible to put some text beside a floating object without getting
a starting \texttt{Figure:} or \texttt{Table:}}{fig:text}
```

float



Demonstration of the onlyText  
Parameter, which makes it pos-  
sible to put some text beside a  
floating object without getting  
a starting Figure: or Table:

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 14 Environment hvFloatEnv

With the environment hvFloatEnv one can place an object exactly on that position where the environment is defined. For captions the use of \captionof is recommended:

```
\begin{hvFloatEnv}
\captionof{table}{A caption for a nice table}
\begin{tabular}{@{} l c r @{}}\hline
left & center & right \\
L & C & R \\
\end{tabular}
\end{hvFloatEnv}
```

Table 6: A caption for a nice table

left	center	right
L	C	R

The environment has an optional argument for setting the line width which is preset to \textwidth. The object is always centered.

```

\begin{hvFloatEnv}[0.5\textwidth]
\captionof{table}{A caption for a nice table}
\begin{tabular}{@{} l c r @{}}\hline
left & center & right \\
L & C & R \\
\end{tabular}
\end{hvFloatEnv}

```

Table 7: A caption for a nice table

left	center	right
L	C	R

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 15 Full page objects in onecolumn mode

For an image or table which needs the whole space of a page the caption can be printed at the bottom of the preceeding or following page. It is possible in oneside and twoside mode, but makes only real sense in the twoside mode.

### 15.1 Using the textarea

The setting capPos=e (even) or capPos=d (odd) page for a document in twocolumn mode makes no real sense. For a twosided document a setting like capPos=i for inner or capPos=o for outer margin makes more sense.

For an image or table which needs the whole space of a page the caption can be printed at the bottom of the preceeding or following page. It is possible in oneside and twoside mode, but makes only real sense in the twoside mode. Without any additional argument the caption is set first and the object on the follwing page:

### 15.1.1 Using the default or capPos=l

Without any additional argument the caption is set first (left) at the bottom of the current page and the object on the following page. This is the same setting like capPos=l . For the twoside option it makes more sense to use the setting capPos=LEFT

```
\hvFloat[fullpage]%
{figure}%
{\includegraphics[fullpage]{frose}}%
% {\includegraphics[width=\linewidth,height=\textheight,keepaspectratio=false]{rose}}%
[A fullpage float with the default caption setting]%
{A default caption of a "fullpage" object with the default setting, which
 is a "left" caption which means that it always appears before the object.
 This can be an even or odd page. And some more text which has no
 real meaning because it fills only the space for a long caption.}%
{fig:fullpage0}
```

With this setting the caption is always placed *before* the following object. This maybe sufficient for a oneside document but not the best solution if this document is printed on a duplex machine. In such a case it may make sense to have the captions always on an even (left) page, even though the document is typeset in a oneside mode. Figure 29 on the next page shows the output for a oneside document with a setting capPos=L .

Depending to the used documentclass it can be a problem, if the caption should be placed on the first page. In such a case use one of the other setting. Table 8 shows the valid optional arguments for a full page floating object.

Table 8: Valid optional arguments for a full page object.

Name	Type	Description
fullpage	true false	Put the caption on the bottom of the preceding or following page and the object alone a page.
multiFloat	true false	For multiple objects with captions for every object. See section 15.3 on page 40.
subFloat	true false	For multiple objects with one main and more subcaptions. See section 16 on page 42.
separatorLine	true	Put a line with a predefined width of 0.4pt between the text and the caption. Only valid for the keyword fullpage.
capPos	l L r R e d	caption on l)left, L)EFT (before object), r)ight, R)IGHT (after object), e)ven or od)d page

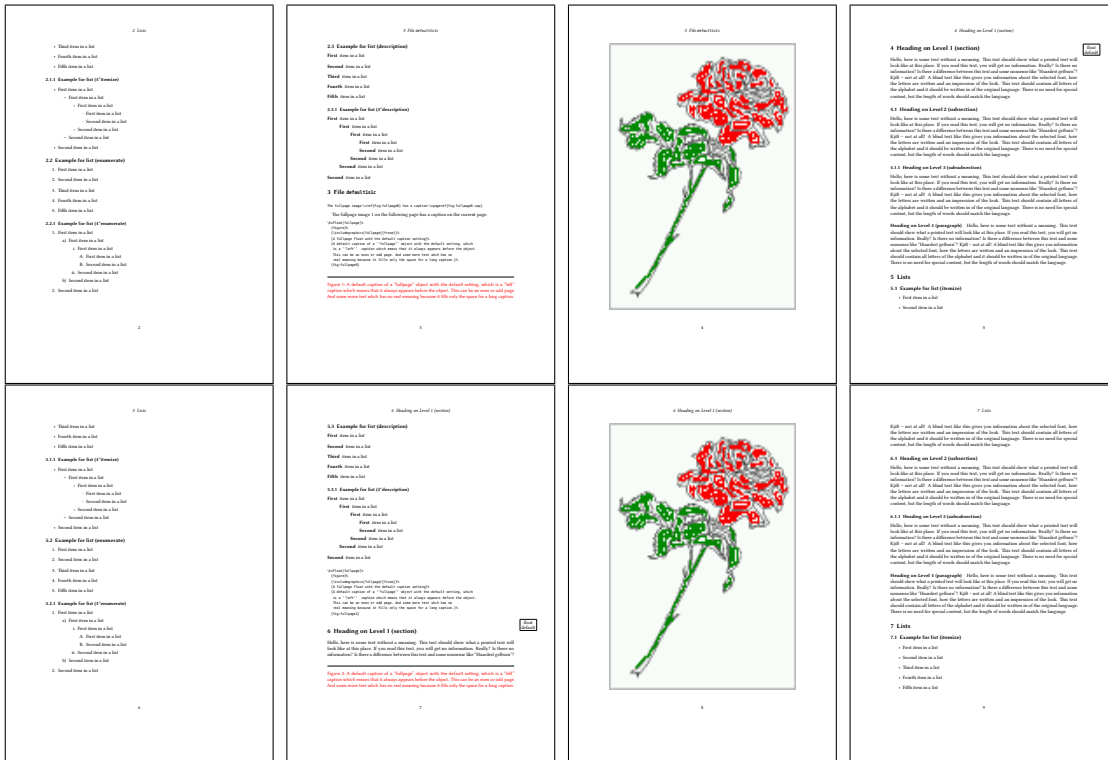


Figure 28: Output of default1s1c (pages 2-9)



Figure 29: Output of LEFT1s1c (pages 4-11)

## 15 Full page objects in onecolumn mode

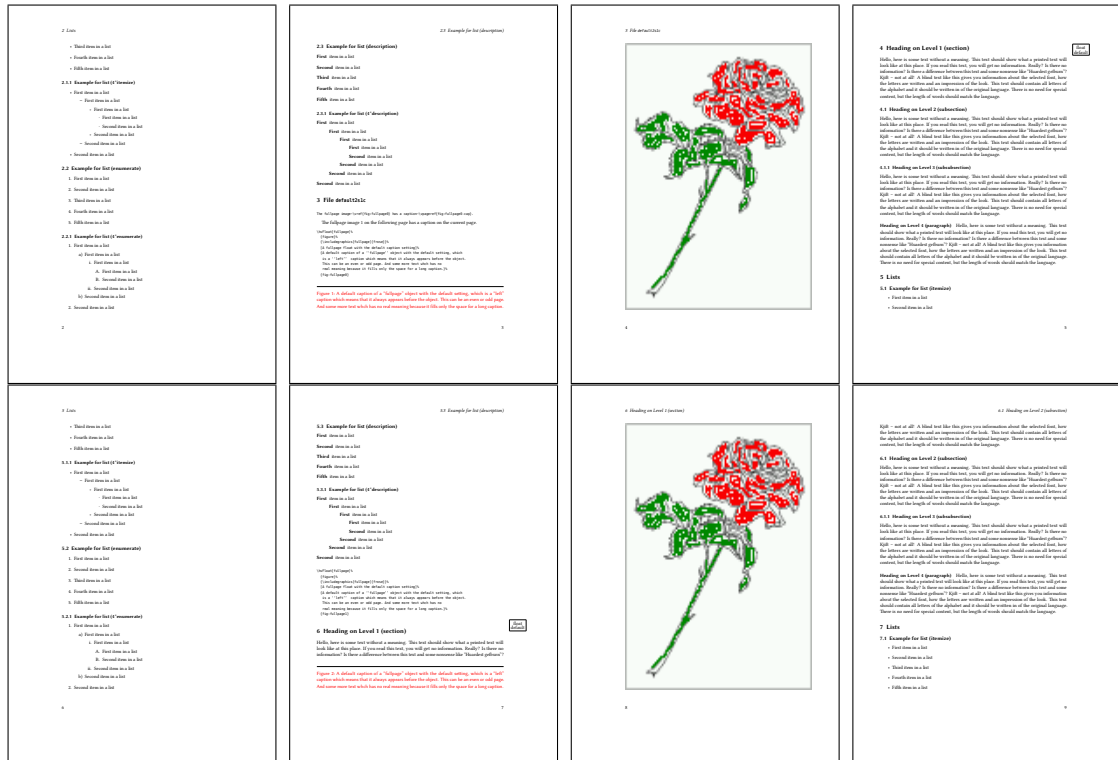


Figure 30: Output of default2s1c (twoside pages 2–9)

### 15.1.2 Using capPos=r

!!! The caption will be printed right side which is the same as *after* the full page object. The object appears immediately on the next page and the caption of the next following page at the bottom. There is no check for an even or odd page. This behaviour makes only sense for a oneside document.

```
\hvFloat[fullpage, capPos=r]%
{figure}%
{\includegraphics[fullpage]{froze}}%
[A float which needs the complete page width and height.]%
{A Caption of a "fullpage" object, which follows on the next page.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}
{fig:fullpage!}
```



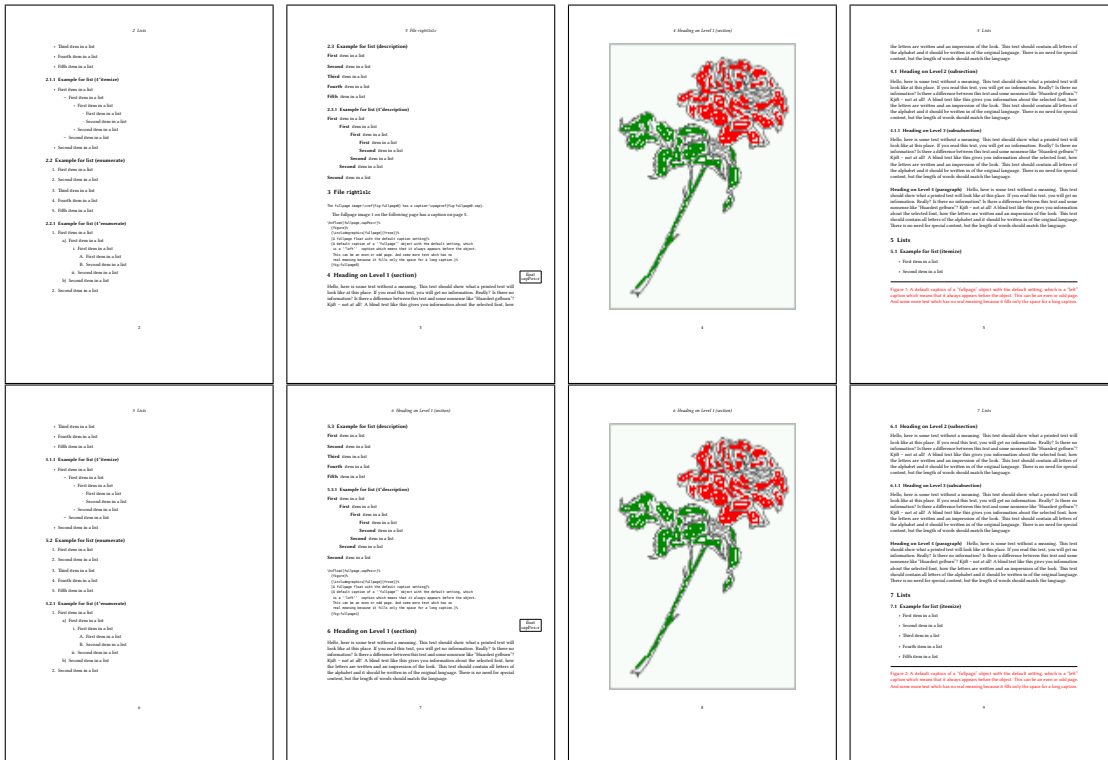


Figure 31: Output of right1s1c (pages 2–9)

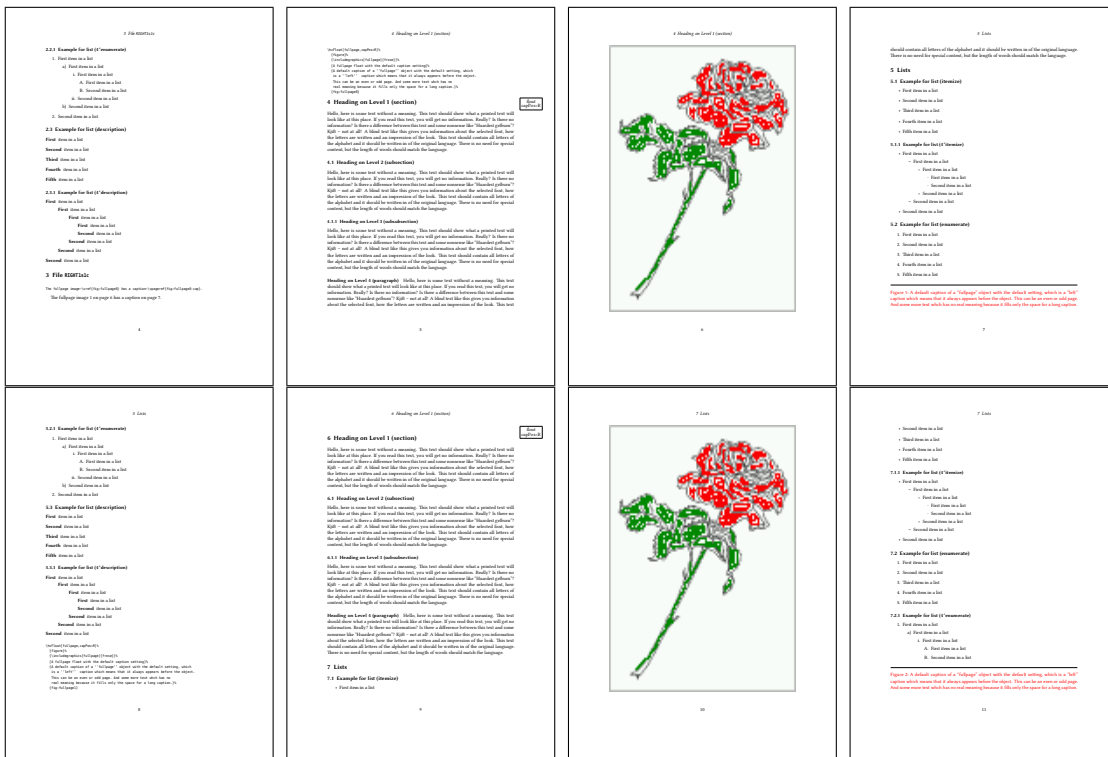


Figure 32: Output of RIGHT1s1c (pages 4–11)

## 15 Full page objects in onecolumn mode

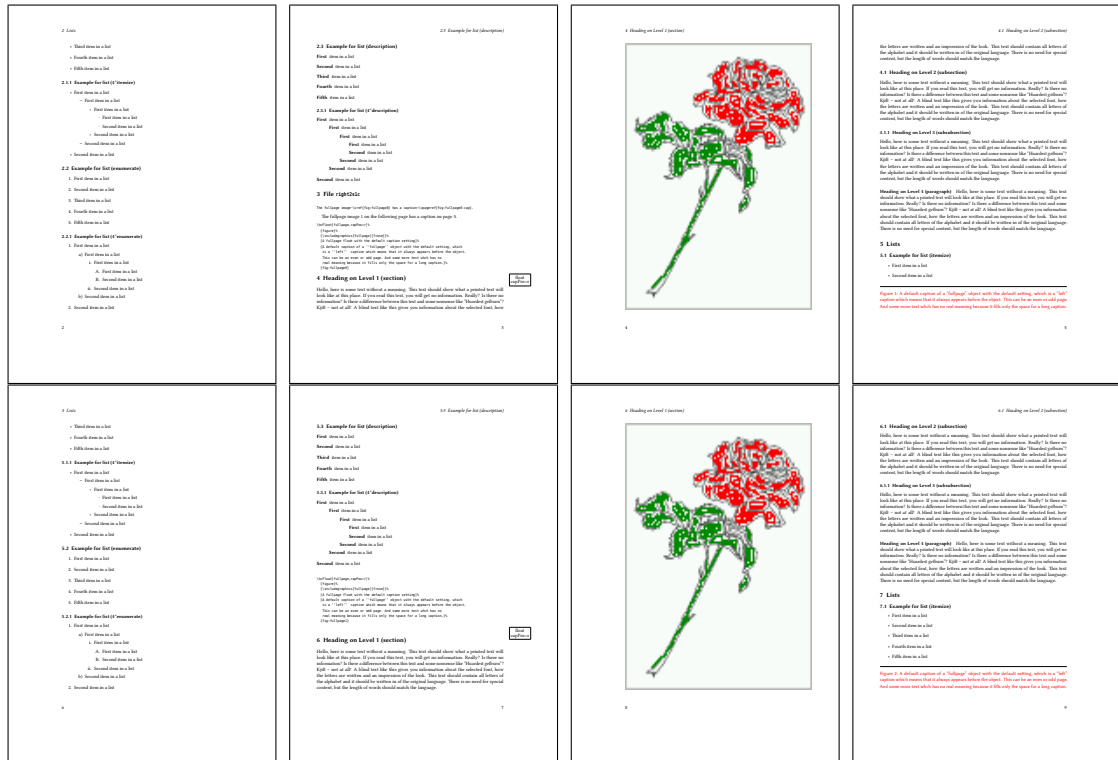


Figure 33: Output of right2s1c (twoside pages 2–9)

### 15.1.3 Using capPos=e — caption on an even page

With capPos=e the caption will be printed on an even (left) page, the object will always be on an odd (right) page. This option makes only real sense for The twoside mode!

```
\hvFloat[fullpage, capPos=e]%
{figure}%
{\includegraphics[fullpage]{froze}}%
[A float with a caption on an even page (left)]%
{A caption on an even (left) page of a "fullpage" object.. \blindtext}
{fig:fullpage3}
```

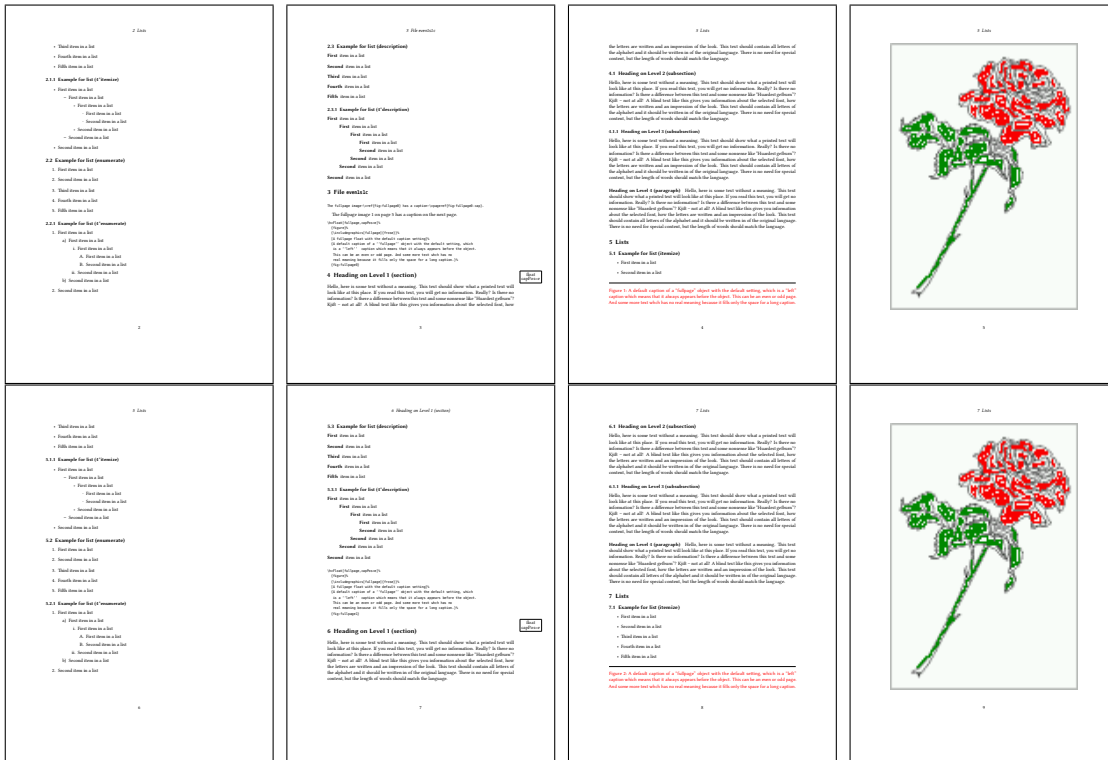


Figure 34: Output of even1s1c (pages 2-9)



Figure 35: Output of even2s1c (pages 4-11)

## 15 Full page objects in onecolumn mode

### 15.1.4 Using capPos=d — caption on an odd page

With capPos=d the caption will be printed on an odd (right) page, the object will always be on an even (left) page, which is before the caption. This option makes only sense for The twoside mode!

```
\hvFloat[fullpage, capPos=d]%  
{figure}%  
{\includegraphics[fullpage]{froese}}%  
[A float which needs the complete page width and height.]%  
{A Caption on an odd page of a “fullpage” object, which follows on the next page.  
This can be an even or odd page. And some more text which has no  
real meaning because it fills only the space for a long caption.}  
{fig:fullpage}
```

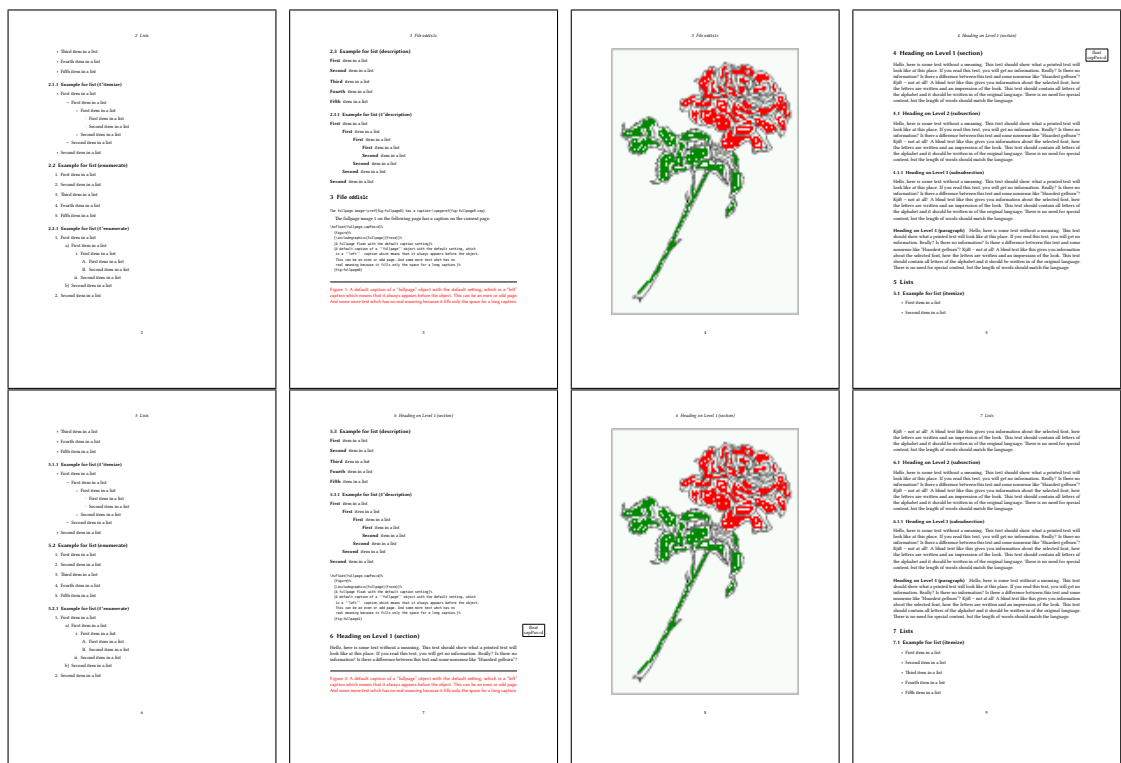


Figure 36: Output of odd1s1c (pages 2–9)

[illegible]

Figure 37: Output of odd1s2c (pages 2–9)

<p>4. <i>File info</i></p> <p>2.2.1 Example for <i>Get (Parameter)</i></p> <p>First item is a list</p> <ul style="list-style-type: none"> <li>1. First item is a list           <ul style="list-style-type: none"> <li>a. First item is a list</li> <li>b. Second item is a list</li> <li>c. Third item is a list</li> <li>d. Fourth item is a list</li> <li>e. Fifth item is a list</li> <li>f. Sixth item is a list</li> <li>g. Seventh item is a list</li> <li>h. Eighth item is a list</li> <li>i. Ninth item is a list</li> <li>j. Tenth item is a list</li> <li>k. Eleventh item is a list</li> <li>l. Twelfth item is a list</li> <li>m. Thirteenth item is a list</li> <li>n. Fourteenth item is a list</li> <li>o. Fifteenth item is a list</li> <li>p. Sixteenth item is a list</li> <li>q. Seventeenth item is a list</li> <li>r. Eighteenth item is a list</li> <li>s. Nineteenth item is a list</li> <li>t. Twentieth item is a list</li> <li>u. Twenty-first item is a list</li> <li>v. Twenty-second item is a list</li> <li>w. Twenty-third item is a list</li> <li>x. Twenty-fourth item is a list</li> <li>y. Twenty-fifth item is a list</li> <li>z. Twenty-sixth item is a list</li> <li>aa. Twenty-seventh item is a list</li> <li>ab. Twenty-eighth item is a list</li> <li>ac. Twenty-ninth item is a list</li> <li>ad. Thirtieth item is a list</li> <li>ae. Thirty-first item is a list</li> <li>af. Thirty-second item is a list</li> <li>ag. Thirty-third item is a list</li> <li>ah. Thirty-fourth item is a list</li> <li>ai. Thirty-fifth item is a list</li> <li>aj. Thirty-sixth item is a list</li> <li>ak. Thirty-seventh item is a list</li> <li>al. Thirty-eighth item is a list</li> <li>am. Thirty-ninth item is a list</li> <li>an. Fortieth item is a list</li> <li>ao. Forty-first item is a list</li> <li>ap. Forty-second item is a list</li> <li>aq. Forty-third item is a list</li> <li>ar. Forty-fourth item is a list</li> <li>as. Forty-fifth item is a list</li> <li>at. Forty-sixth item is a list</li> <li>au. Forty-seventh item is a list</li> <li>av. Forty-eighth item is a list</li> <li>aw. Forty-ninth item is a list</li> <li>ax. Fiftieth item is a list</li> <li>ay. Fifty-first item is a list</li> <li>az. Fifty-second item is a list</li> <li>ba. Fifty-third item is a list</li> <li>bb. Fifty-fourth item is a list</li> <li>bc. Fifty-fifth item is a list</li> <li>bd. Fifty-sixth item is a list</li> <li>be. Fifty-seventh item is a list</li> <li>bf. Fifty-eighth item is a list</li> <li>bg. Fifty-ninth item is a list</li> <li>bh. Sixtieth item is a list</li> <li>bi. Sixty-first item is a list</li> <li>bj. Sixty-second item is a list</li> <li>bk. Sixty-third item is a list</li> <li>bl. Sixty-fourth item is a list</li> <li>bm. Sixty-fifth item is a list</li> <li>bn. Sixty-sixth item is a list</li> <li>bo. Sixty-seventh item is a list</li> <li>bp. Sixty-eighth item is a list</li> <li>bq. Sixty-ninth item is a list</li> <li>br. Seventieth item is a list</li> <li>bs. Seventy-first item is a list</li> <li>bt. Seventy-second item is a list</li> <li>bu. Seventy-third item is a list</li> <li>bv. Seventy-fourth item is a list</li> <li>bw. Seventy-fifth item is a list</li> <li>bx. Seventy-sixth item is a list</li> <li>by. Seventy-seventh item is a list</li> <li>bz. Seventy-eighth item is a list</li> <li>ca. Seventy-ninth item is a list</li> <li>cb. Eightieth item is a list</li> <li>cc. Eighty-first item is a list</li> <li>cd. Eighty-second item is a list</li> <li>ce. Eighty-third item is a list</li> <li>cf. Eighty-fourth item is a list</li> <li>cg. Eighty-fifth item is a list</li> <li>ch. Eighty-sixth item is a list</li> <li>ci. Eighty-seventh item is a list</li> <li>cj. Eighty-eighth item is a list</li> <li>ck. Eighty-ninth item is a list</li> <li>cl. Ninetieth item is a list</li> <li>cm. Ninety-first item is a list</li> <li>cn. Ninety-second item is a list</li> <li>co. Ninety-third item is a list</li> <li>cp. Ninety-fourth item is a list</li> <li>cq. Ninety-fifth item is a list</li> <li>cr. Ninety-sixth item is a list</li> <li>cs. Ninety-seventh item is a list</li> <li>ct. Ninety-eighth item is a list</li> <li>cu. Ninety-ninth item is a list</li> <li>cv. One hundred item is a list</li> <li>cw. One hundred and one item is a list</li> <li>cx. One hundred and two item is a list</li> <li>cy. One hundred and three item is a list</li> <li>cz. One hundred and four item is a list</li> <li>da. One hundred and five item is a list</li> <li>db. One hundred and six item is a list</li> <li>dc. One hundred and seven item is a list</li> <li>dd. One hundred and eight item is a list</li> <li>de. One hundred and nine item is a list</li> <li>df. One hundred and ten item is a list</li> <li>dg. One hundred and eleven item is a list</li> <li>dh. One hundred and twelve item is a list</li> <li>di. One hundred and thirteen item is a list</li> <li>dj. One hundred and fourteen item is a list</li> <li>dk. One hundred and fifteen item is a list</li> <li>dl. One hundred and sixteen item is a list</li> <li>dm. One hundred and seventeen item is a list</li> <li>dn. One hundred and eighteen item is a list</li> <li>do. One hundred and nineteen item is a list</li> <li>dp. One hundred and twenty item is a list</li> <li>dq. One hundred and twenty-one item is a list</li> <li>dr. One hundred and twenty-two item is a list</li> <li>ds. One hundred and twenty-three item is a list</li> <li>dt. One hundred and twenty-four item is a list</li> <li>du. One hundred and twenty-five item is a list</li> <li>dv. One hundred and twenty-six item is a list</li> <li>dw. One hundred and twenty-seven item is a list</li> <li>dx. One hundred and twenty-eight item is a list</li> <li>dy. One hundred and twenty-nine item is a list</li> <li>dz. One hundred and thirty item is a list</li> <li>ea. One hundred and thirty-one item is a list</li> <li>eb. One hundred and thirty-two item is a list</li> <li>ec. One hundred and thirty-three item is a list</li> <li>ed. One hundred and thirty-four item is a list</li> <li>ee. One hundred and thirty-five item is a list</li> <li>ef. One hundred and thirty-six item is a list</li> <li>eg. One hundred and thirty-seven item is a list</li> <li>eh. One hundred and thirty-eight item is a list</li> <li>ei. One hundred and thirty-nine item is a list</li> <li>ej. One hundred and forty item is a list</li> <li>ek. One hundred and forty-one item is a list</li> <li>el. One hundred and forty-two item is a list</li> <li>em. One hundred and forty-three item is a list</li> <li>en. One hundred and forty-four item is a list</li> <li>eo. One hundred and forty-five item is a list</li> <li>ep. One hundred and forty-six item is a list</li> <li>eq. One hundred and forty-seven item is a list</li> <li>er. One hundred and forty-eight item is a list</li> <li>es. One hundred and forty-nine item is a list</li> <li>et. One hundred and fifty item is a list</li> <li>eu. One hundred and fifty-one item is a list</li> <li>ev. One hundred and fifty-two item is a list</li> <li>ew. One hundred and fifty-three item is a list</li> <li>ex. One hundred and fifty-four item is a list</li> <li>ey. One hundred and fifty-five item is a list</li> <li>ez. One hundred and fifty-six item is a list</li> <li>fa. One hundred and fifty-seven item is a list</li> <li>fb. One hundred and fifty-eight item is a list</li> <li>fc. One hundred and fifty-nine item is a list</li> <li>fd. One hundred and sixty item is a list</li> <li>fe. One hundred and sixty-one item is a list</li> <li>ff. One hundred and sixty-two item is a list</li> <li>fg. One hundred and sixty-three item is a list</li> <li>fh. One hundred and sixty-four item is a list</li> <li>fi. One hundred and sixty-five item is a list</li> <li>fj. One hundred and sixty-six item is a list</li> <li>fk. One hundred and sixty-seven item is a list</li> <li>fl. One hundred and sixty-eight item is a list</li> <li>fm. One hundred and sixty-nine item is a list</li> <li>fn. One hundred and seventy item is a list</li> <li>fo. One hundred and seventy-one item is a list</li> <li>fp. One hundred and seventy-two item is a list</li> <li>fq. One hundred and seventy-three item is a list</li> <li>fr. One hundred and seventy-four item is a list</li> <li>fs. One hundred and seventy-five item is a list</li> <li>ft. One hundred and seventy-six item is a list</li> <li>fu. One hundred and seventy-seven item is a list</li> <li>fv. One hundred and seventy-eight item is a list</li> <li>fw. One hundred and seventy-nine item is a list</li> <li>fx. One hundred and eighty item is a list</li> <li>fy. One hundred and eighty-one item is a list</li> <li>fz. One hundred and eighty-two item is a list</li> <li>ga. One hundred and eighty-three item is a list</li> <li>gb. One hundred and eighty-four item is a list</li> <li>gc. One hundred and eighty-five item is a list</li> <li>gd. One hundred and eighty-six item is a list</li> <li>ge. One hundred and eighty-seven item is a list</li> <li>gf. One hundred and eighty-eight item is a list</li> <li>gg. One hundred and eighty-nine item is a list</li> <li>gh. One hundred and ninety item is a list</li> <li>gi. One hundred and ninety-one item is a list</li> <li>gj. One hundred and ninety-two item is a list</li> <li>gk. One hundred and ninety-three item is a list</li> <li>gl. One hundred and ninety-four item is a list</li> <li>gm. One hundred and ninety-five item is a list</li> <li>gn. One hundred and ninety-six item is a list</li> <li>go. One hundred and ninety-seven item is a list</li> <li>gp. One hundred and ninety-eight item is a list</li> <li>gq. One hundred and ninety-nine item is a list</li> <li>gr. Two hundred item is a list</li> <li>gs. Two hundred and one item is a list</li> <li>gt. Two hundred and two item is a list</li> <li>gu. Two hundred and three item is a list</li> <li>gv. Two hundred and four item is a list</li> <li>gw. Two hundred and five item is a list</li> <li>gx. Two hundred and six item is a list</li> <li>gy. Two hundred and seven item is a list</li> <li>gz. Two hundred and eight item is a list</li> <li>ha. Two hundred and nine item is a list</li> <li>hb. Two hundred and ten item is a list</li> <li>hc. Two hundred and eleven item is a list</li> <li>hd. Two hundred and twelve item is a list</li> <li>he. Two hundred and thirteen item is a list</li> <li>hf. Two hundred and fourteen item is a list</li> <li>hg. Two hundred and fifteen item is a list</li> <li>hh. Two hundred and sixteen item is a list</li> <li>hi. Two hundred and seventeen item is a list</li> <li>hj. Two hundred and eighteen item is a list</li> <li>hk. Two hundred and nineteen item is a list</li> <li>hl. Two hundred and twenty item is a list</li> <li>hm. Two hundred and twenty-one item is a list</li> <li>hn. Two hundred and twenty-two item is a list</li> <li>ho. Two hundred and twenty-three item is a list</li> <li>hp. Two hundred and twenty-four item is a list</li> <li>hq. Two hundred and twenty-five item is a list</li> <li>hr. Two hundred and twenty-six item is a list</li> <li>hs. Two hundred and twenty-seven item is a list</li> <li>ht. Two hundred and twenty-eight item is a list</li> <li>hu. Two hundred and twenty-nine item is a list</li> <li>hv. Two hundred and thirty item is a list</li> <li>hw. Two hundred and thirty-one item is a list</li> <li>hx. Two hundred and thirty-two item is a list</li> <li>hy. Two hundred and thirty-three item is a list</li> <li>hz. Two hundred and thirty-four item is a list</li> <li>ia. Two hundred and thirty-five item is a list</li> <li>ib. Two hundred and thirty-six item is a list</li> <li>ic. Two hundred and thirty-seven item is a list</li> <li>id. Two hundred and thirty-eight item is a list</li> <li>ie. Two hundred and thirty-nine item is a list</li> <li>if. Two hundred and forty item is a list</li> <li>ig. Two hundred and forty-one item is a list</li> <li>ih. Two hundred and forty-two item is a list</li> <li>ii. Two hundred and forty-three item is a list</li> <li>ij. Two hundred and forty-four item is a list</li> <li>ik. Two hundred and forty-five item is a list</li> <li>il. Two hundred and forty-six item is a list</li> <li>im. Two hundred and forty-seven item is a list</li> <li>in. Two hundred and forty-eight item is a list</li> <li>io. Two hundred and forty-nine item is a list</li> <li>ip. Two hundred and fifty item is a list</li> <li>iq. Two hundred and fifty-one item is a list</li></ul></li></ul>
--

Figure 38: Output of odd2s1c (pages 4–11)

## 15 Full page objects in onecolumn mode

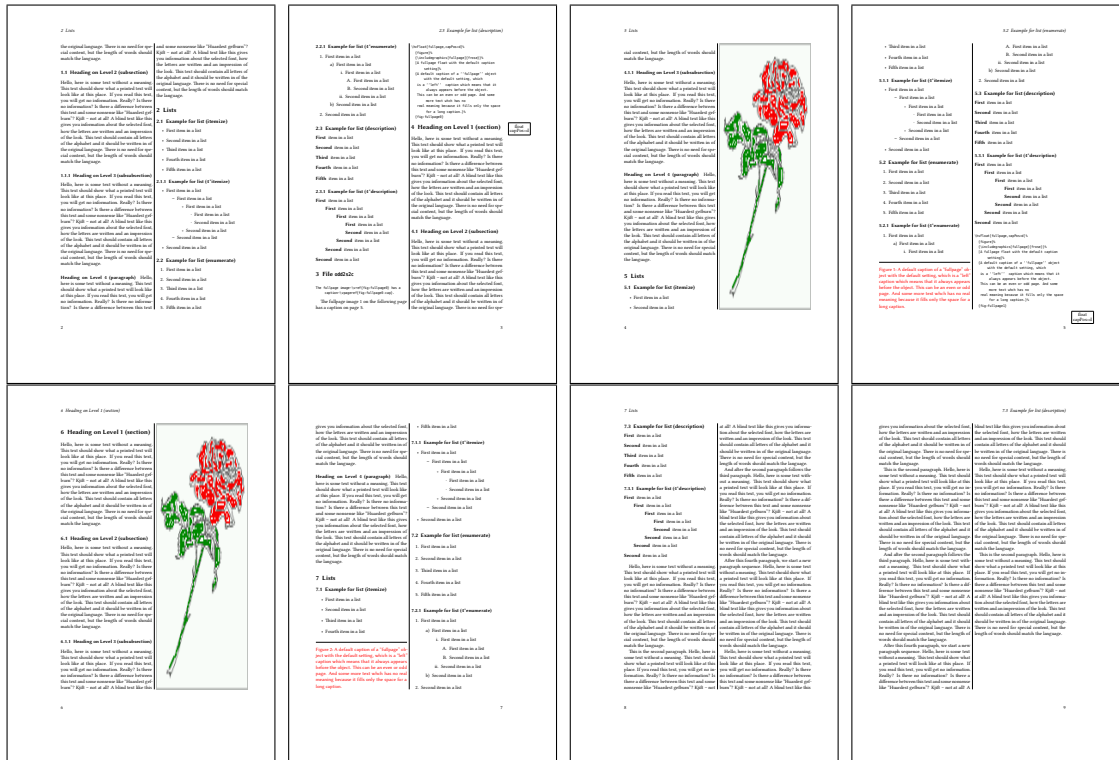


Figure 39: Output of odd2s2c (pages 2–9)

### 15.1.5 Using capPos=i or capPos=o — caption on the inner or outer side

These settings make no sense in onecolumn mode.

## 15.2 Using the paper size

With the macro `\IncludeGraphics`, which has the same syntax as the well-known `\includegraphics`, the width and height of the object are set to the paper dimensions `\paperwidth` and `\paperheight`. It can be used in one- and twoscolumn mode!

```
\Float[fullpage]
\hvFloat[fullpage,capPos=l]{figure}%
{\IncludeGraphics{frose}}%
[A float which needs the complete paper width and height.]%
{A Caption of a “fullpage” object, which follows on the next page.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{fig:fullpage4}
```

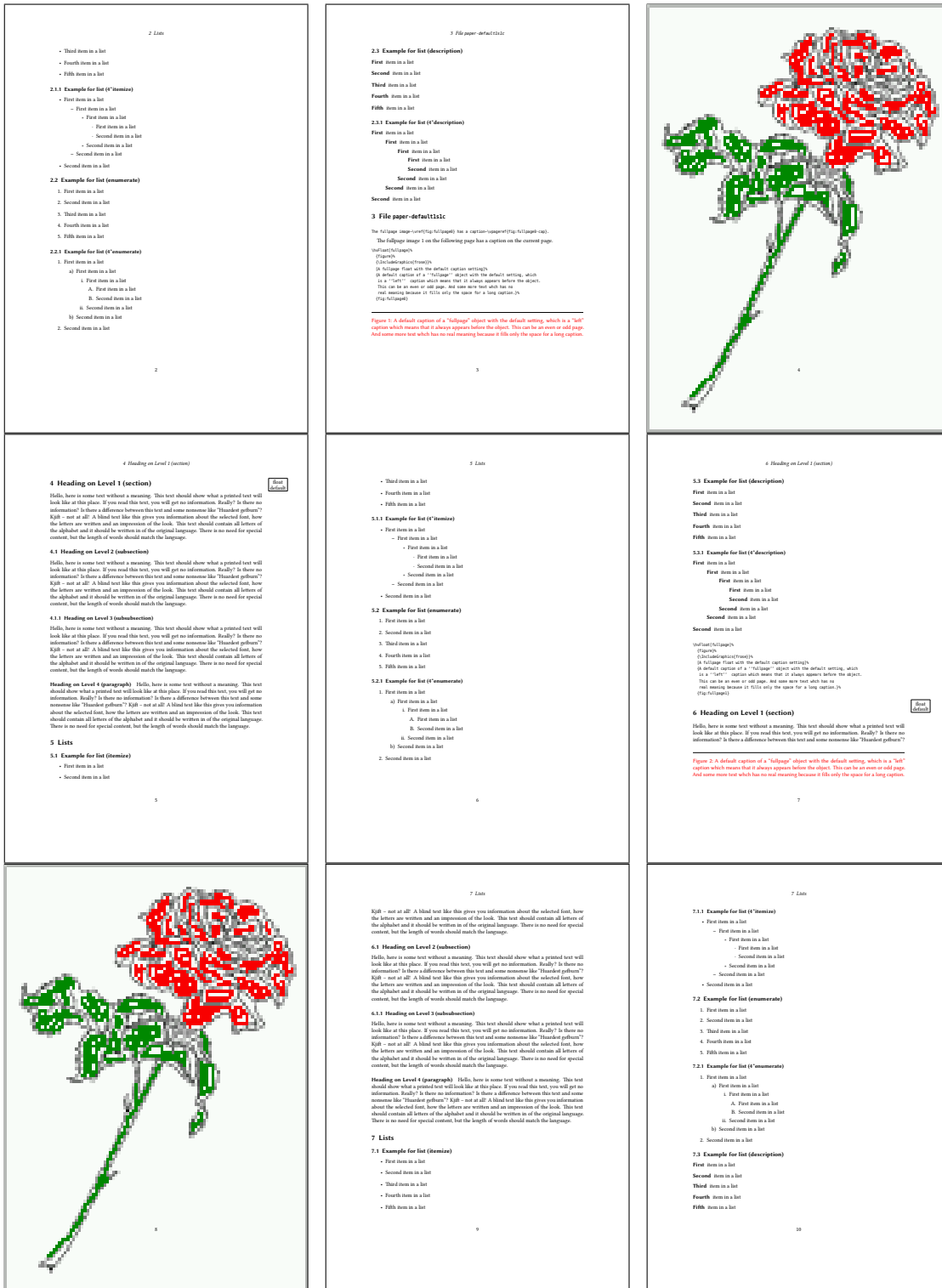


Figure 40: Output of paper-default1s1c (pages 2–10)

### 15.3 Multifloats

Multifloats is the name for more than one image and/or tabular in *one* floating environment. Every image and/or tabular has its own caption, which is different to a subcaption. The syntax for multiple floats is

```
\hvFloat[Options]{float type}{floating object}[short caption]{long caption}{label}
+{float type}{floating object}[short caption]{long caption}{label}
+...
+{float type}{floating object}[short caption]{long caption}{label}
```

The + symbol defines an additional Object which will be part of the same floating environment. It's up too the user to be sure that one page or one column can hold all defined objects. Every object gets its own caption which is the reason why figures and tabulars and ... can be mixed:

```
\captionsetup{singlelinecheck=false}
\hvFloat[fullpage,capPos=l,multiFloat]%
+{figure}{\includegraphics[width=\linewidth]{CTAN}}%% no 1
[Short caption A]%
{A Caption A of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{img:demo0}%
+{table}{\begin{tabular}{lrcp{3cm}}\hline % no 2
Linksbündig & Rechtsbündig & Zentriert & Parbox\\\hline
L & R & C & P\\
left & right & center & Text with possible linebreaks\\
\multicolumn{4}{c}{Multicolumn over all columns}\\\hline
\end{tabular}}%
[Short Caption B]%
{A Caption B of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page.}%
+{figure}{\includegraphics[width=\linewidth]{CTAN}}%% no 3
{A Caption C of a "fullpage" object, which follows on the left or
right column.}%
{img:demo1}
+{figure}{\includegraphics[width=\linewidth]{CTAN}}%% no 4
{A Caption C of a "fullpage" object, which follows on the left or
right column.}%
{img:demo2}
```

The page with the objects has no additional informations it holds only the figures and/or tabulars. If you want it like subfigures or subtabulars then go to [section 16 on page 42](#). The setting `\captionsetup{singlelinecheck=false}` is needed if you want the captions always left aligned.



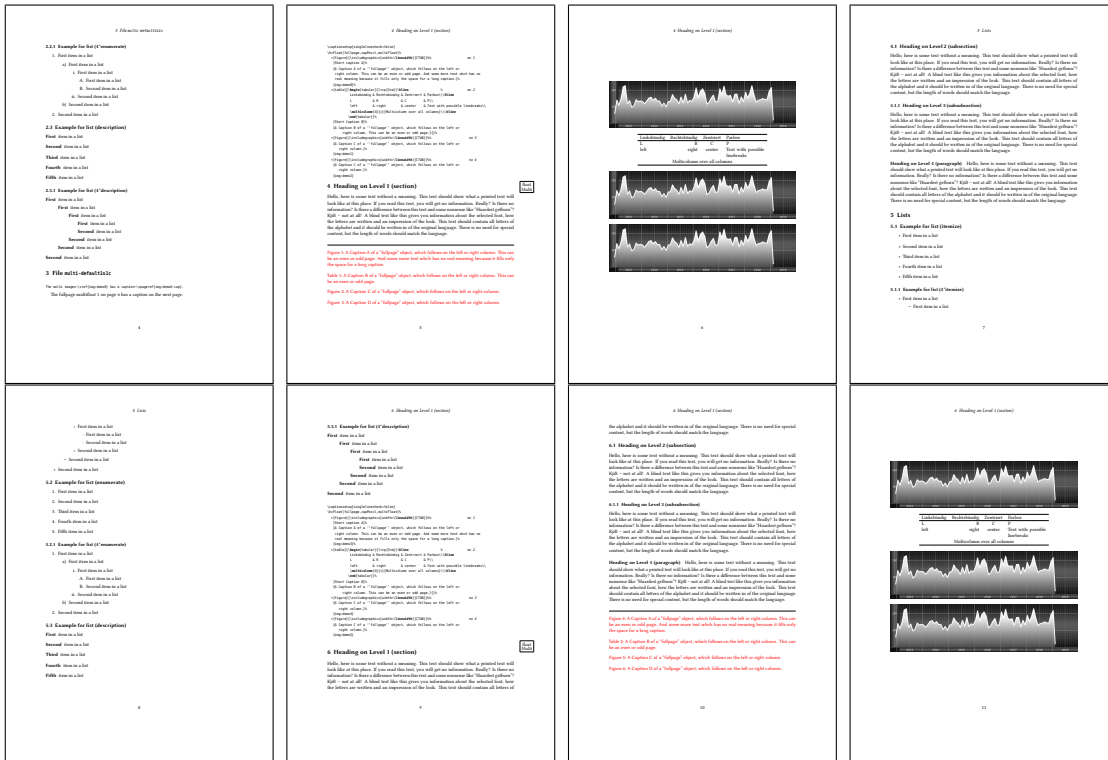


Figure 41: Output of multi-default1s1c (pages 4–11)

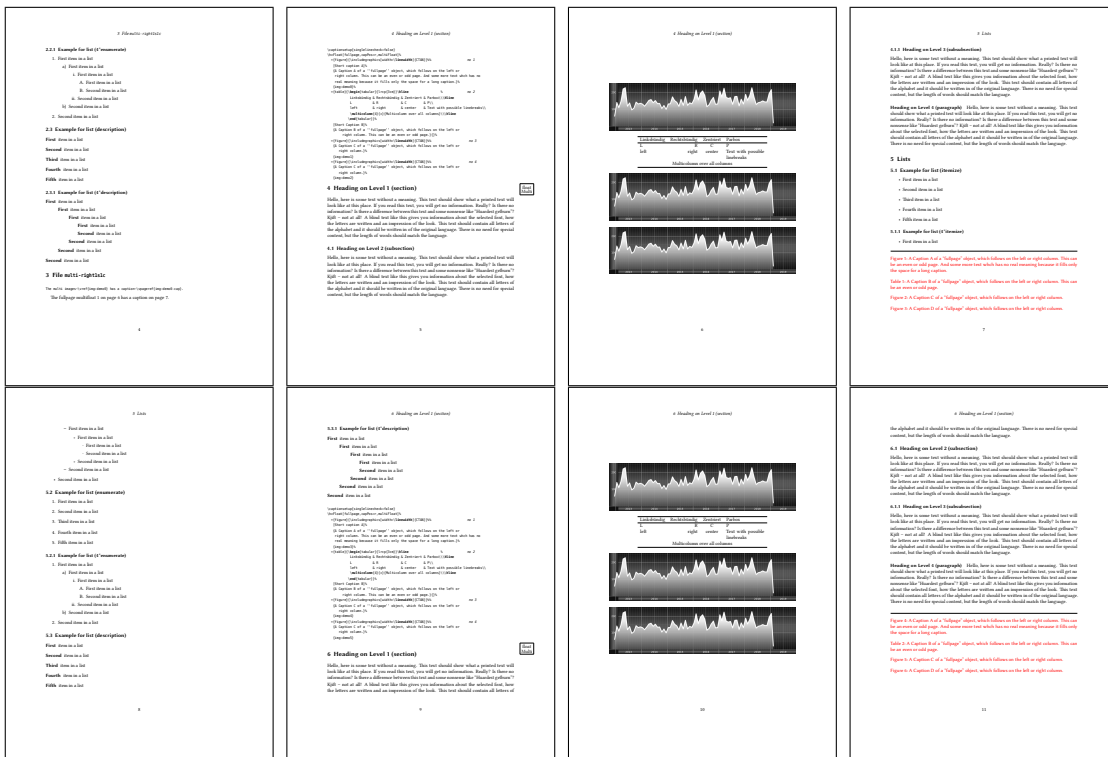


Figure 42: Output of multi-right1s1c (pages 4–11)

## 16 Subfloat page

A subfloat page can have only one type of floats which will have one main caption and individual subcaptions. The syntax is similar to the one for a multifloat page:

```
\hvFloat [Options] +{float type}{<empty>} [short caption] {long caption}{label}
               +{<empty>}{floating object} [short caption] {long caption}{label}
               +...
               +{<empty>}{floating object} [short caption] {long caption}{label}
```

Some arguments are ignored for a subfloat, one can leave them empty. The first line defines only the type and the main caption, the object entry is ignored! All additional lines will have the same float type, the reason why the float type entry is ignored.

```
\hvFloat[fullpage,capPos=l,objectFrame,subFloat]%
+{figure}{}[Short main caption of the objects]%   main short lsi entry
  {The main caption of a "fullpage" object, which follows on the left or
    right column. This can be an even or odd page. And some more text which has no
    real meaning because it fills only the space for a long caption.}%   main caption
  {sub:demo0}%
+{}{\includegraphics[width=\linewidth]{CTAN}}%
  [Short caption B]%
  {A Caption B of a "fullpage" sub object.}%   subcaption
  {}%
+{}{\includegraphics[width=\linewidth]{CTAN}}%
  {A Caption C of a "fullpage" object, which follows on the left or right column.}%
  {sub:demo1}
+{}{\includegraphics[width=\linewidth]{CTAN}}%
  {A Caption D of a "fullpage" object}%
  {sub:demo2}
+{}{\includegraphics[width=\linewidth]{CTAN}}%
  {A Caption E of a "fullpage" object}%
  {sub:demo3}
```

The keyword `subFloat` defines the images or tabulars as subfloats. The package `subcaption` is loaded by default and should be activated with `\captionsetup[sub][singlelinecheck]`.

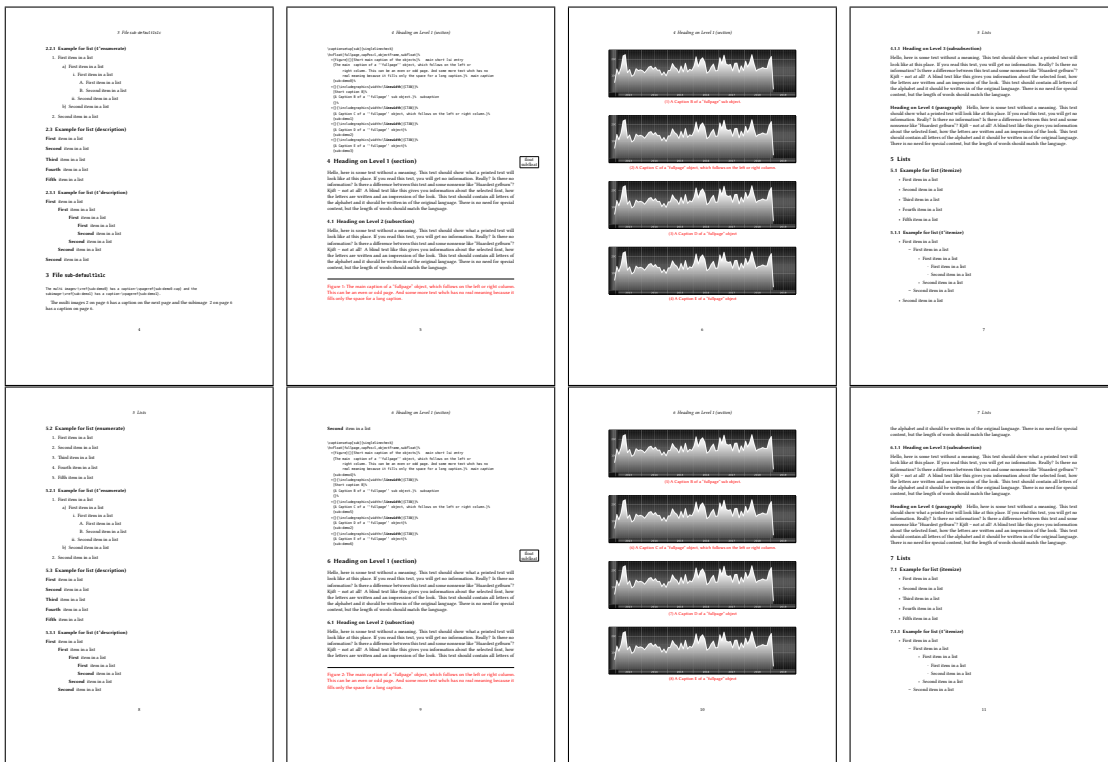


Figure 43: Output of sub-default1s1c (pages 4–11)

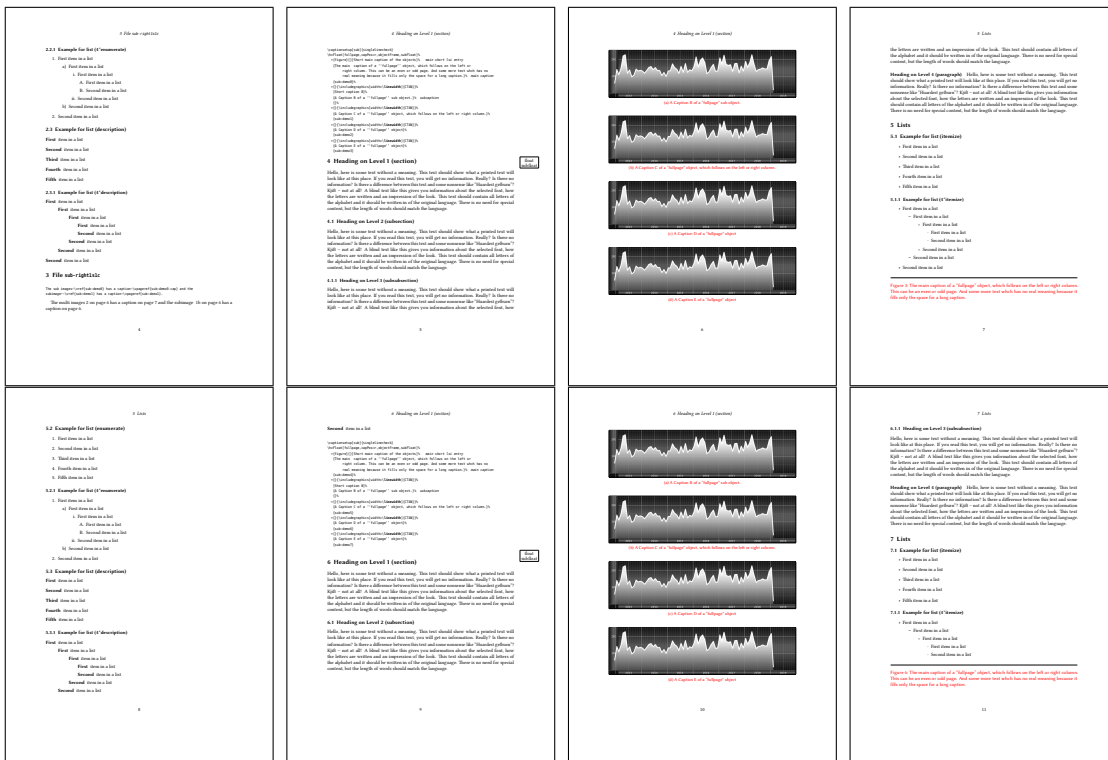


Figure 44: Output of sub-right1s1c (pages 4–11)

# 17 Full page objects in twocolumn mode

## 17.1 Default setting

For the twocolumn mode the caption can be in the left (first) or right (second) column. With the default which is equivalent to the setting `capPos=1`, the caption is always placed *before* the object. This can be the first or the second column. With `capPos=L` it is possible to get the caption in the twocolumn mode always in the left (first) column (see figure 46 on the facing page)

```
\hvFloat[fullpage]{figure}%
{\includegraphics[width=\columnwidth,height=0.9\textheight]{froze}}%
[A float which needs the complete column width and height.]%
{A Caption of a "fullpage" object, which follows on the next column.
This is always the right column on an even or odd page. And some more
text which has no real meaning because it fills only the space for a long
caption.}%
{fig:fullpage0-2}
```

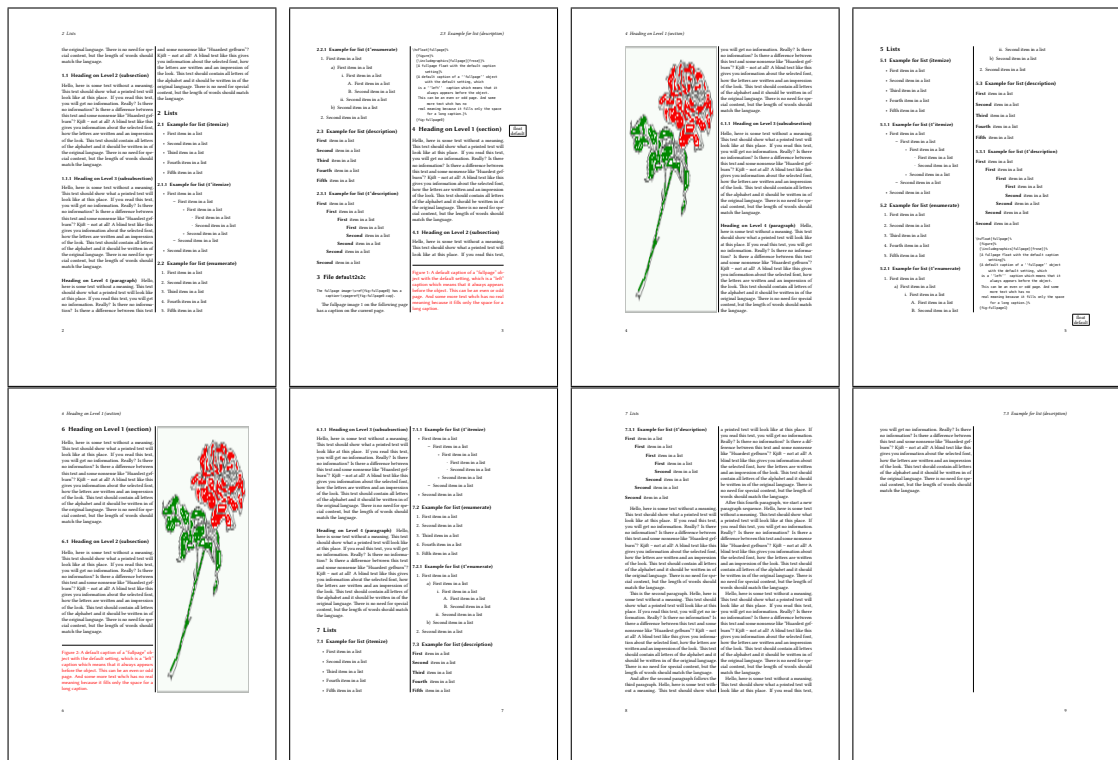


Figure 45: Output of default2s2c (pages 2–9)

Depending to the used documentclass it can be a problem, if the caption should be placed on the first page of the whole document. In such a case use one of the other setting. Table 8 on page 30 shows the valid optional arguments for a full page floating object. In the following we

use some blind text to show the other setting for full page objects. Such text has no meaning here.

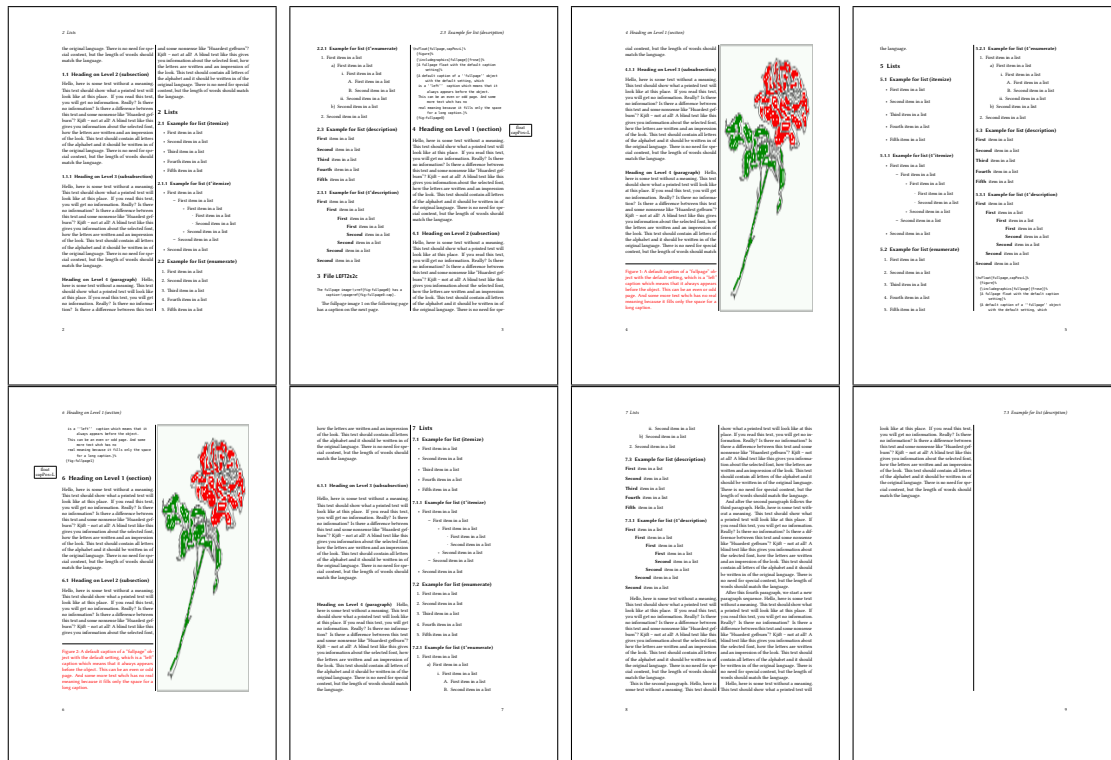


Figure 46: Output of LEFT2s2c (pages 2–9)

### 17.1.1 Using capPos=r

The caption will be printed always right of the object which is the same as *after* the full page object. With capPos=R it is possible to get the caption in the twocolumn mode always in the right (second) column (see figure 48 on the following page)

```
\hvFloat[fullpage, capPos=r]{figure}%
{\includegraphics[fullpage]{rose}}%
```

[A float which needs the complete column width and height.]%

{A Caption of a "fullpage" object, which is on the left column.

This is always the right column on an even or odd page. And some more text which has no real meaning because it fills only the space for a long caption.%

```
{fig:fullpage1-2}
```

# 17 Full page objects in twocolumn mode

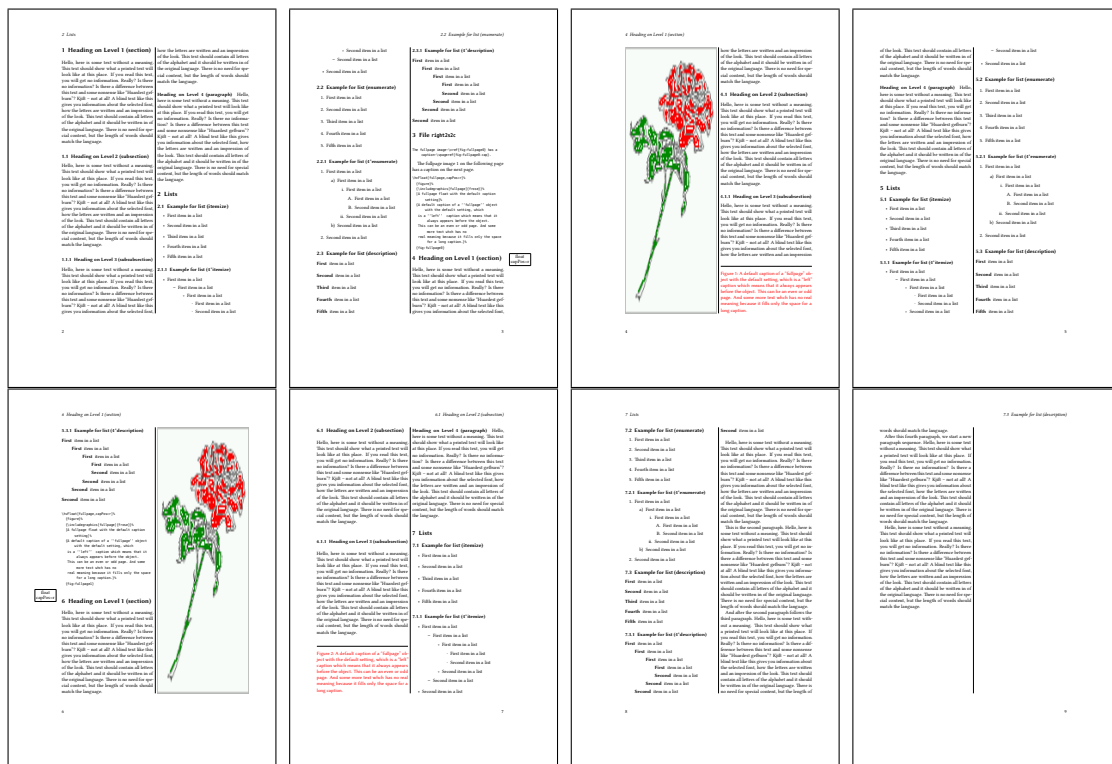


Figure 47: Output of right2s2c (pages 2–9)

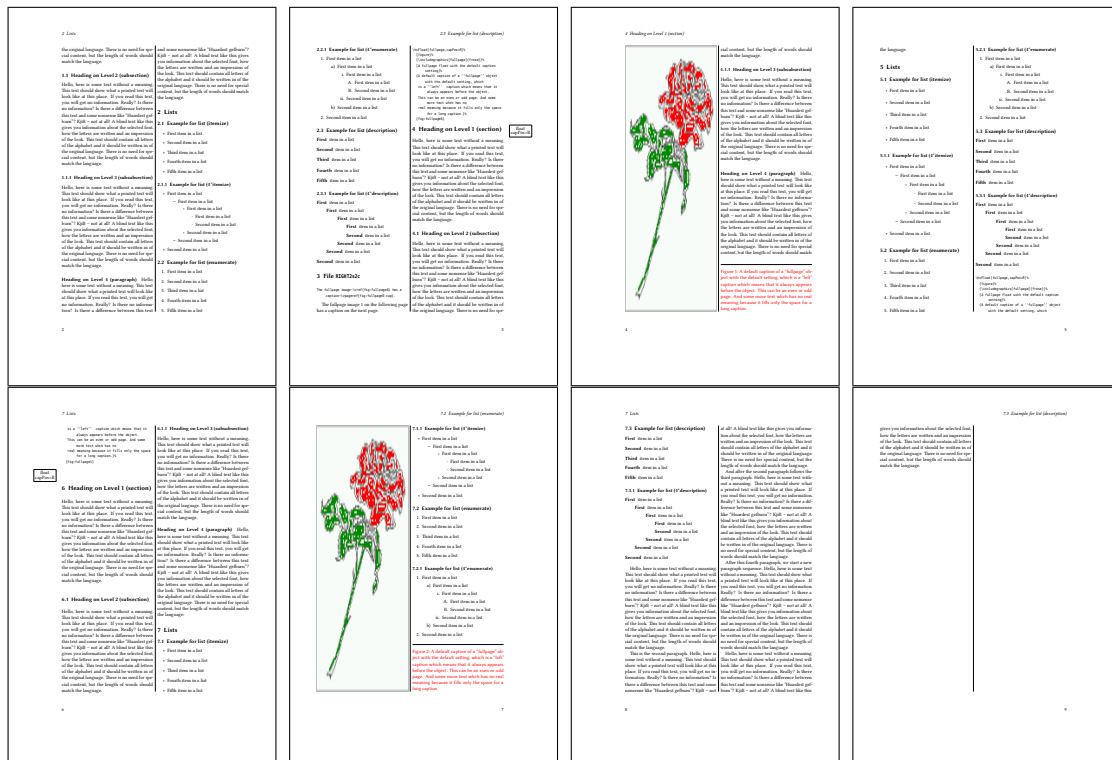


Figure 48: Output of RIGHT2s2c (pages 2–9)

### 17.1.2 Using capPos=e — caption on an even page

There can be a problem if there is not enough space on the bottom of the even page. Then the caption will be on the next page which is an odd one. In such a case use a manually \clearpage or wait for an update of hvfloat.

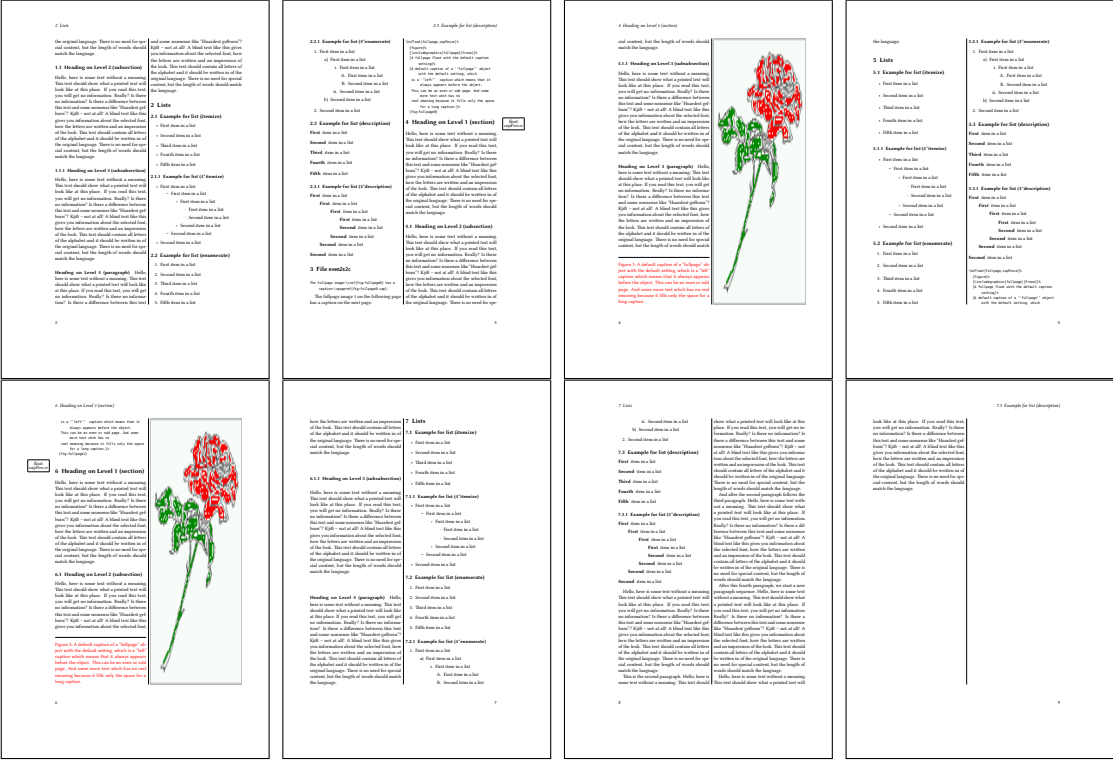


Figure 49: Output of even2s2c (pages 2–9)

## 17 Full page objects in twocolumn mode

### 17.1.3 Using capPos=d — caption on an odd page

There can be a problem if there is not enough space on the bottom of the even page. Then the caption will be on the next page which is an odd one. In such a case use a manually `\clearpage` or wait for an update of `hvfloat`.

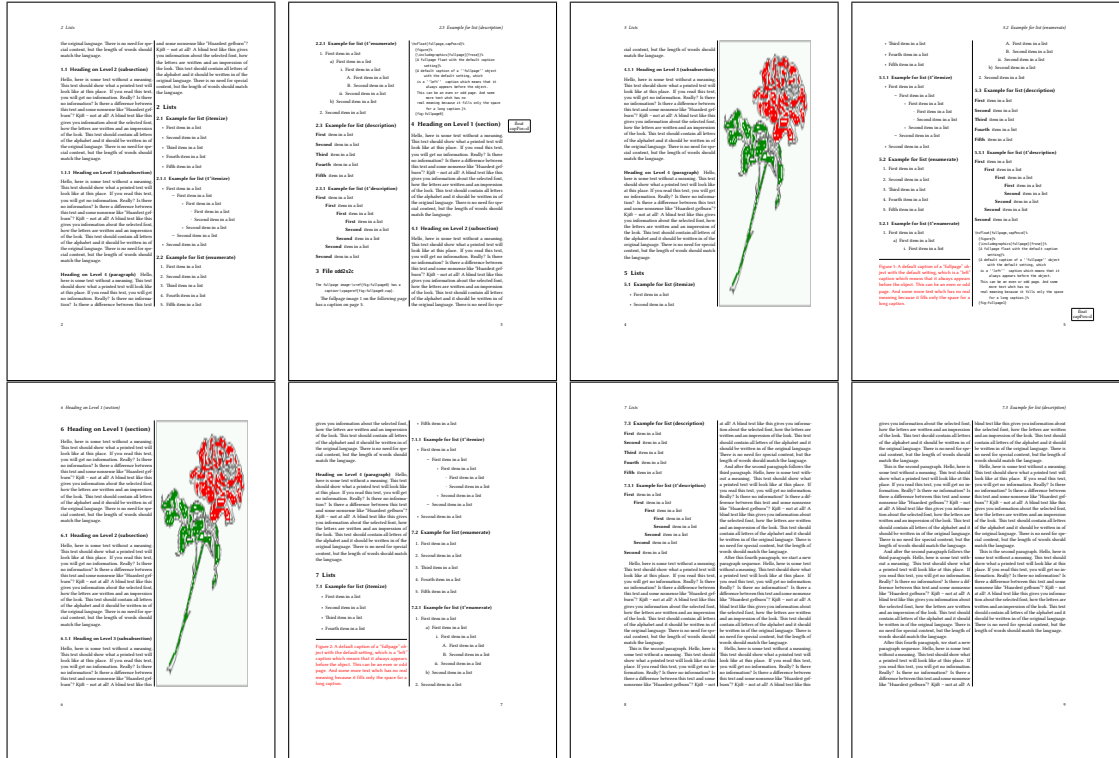


Figure 50: Output of odd2s2c (pages 2–9)



### 17.1.4 Using capPos=i — caption in the inner column

The caption will be printed in the right column for an even page and in the left column for an odd page.

```
\hvFloat[fullpage,capPos=i]{figure}{\includegraphics[fullpage]{rose}}%  
[A float which needs the complete column width and height.]%  
{A Caption of a "fullpage" object, which follows on the left or right column.  
This can be an even or odd page. And some more text which has no  
real meaning because it fills only the space for a long caption.}{fig:fullpage3-2}
```

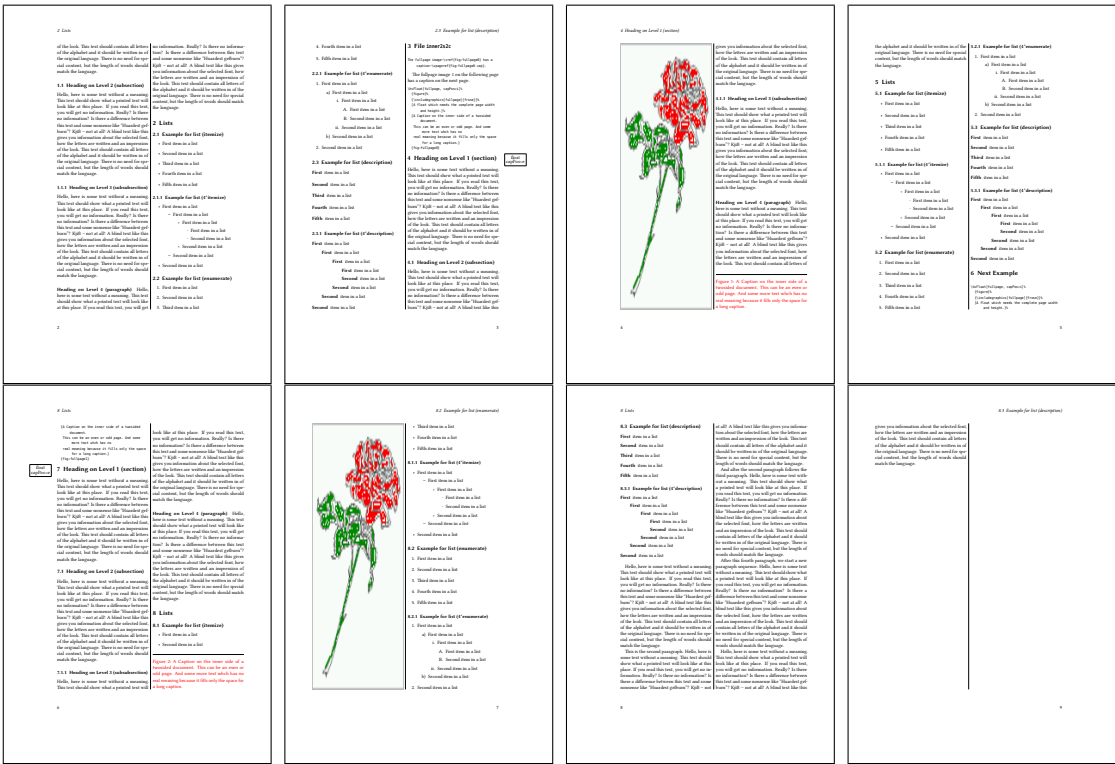


Figure 51: Output of inner2s2c (pages 2–9)

## 17 Full page objects in twocolumn mode

### 17.1.5 Using capPos=0 — caption on the outer column

The caption will be printed on the left column an odd page, the object can appear before or after this caption.

```
\hvfloate[fullpage, capPos=0]{figure}%  
{\includegraphics[fullpage]{rose}}%  
[A float which needs the complete page width and height with \texttt{capPos=0}.]  
{A Caption of a "fullpage" object, which has the caption position in the  
outer page. This can be an even or odd page. And some more text which has no  
real meaning because it fills only the space for a long caption.}{fig:fullpage2-2a}
```

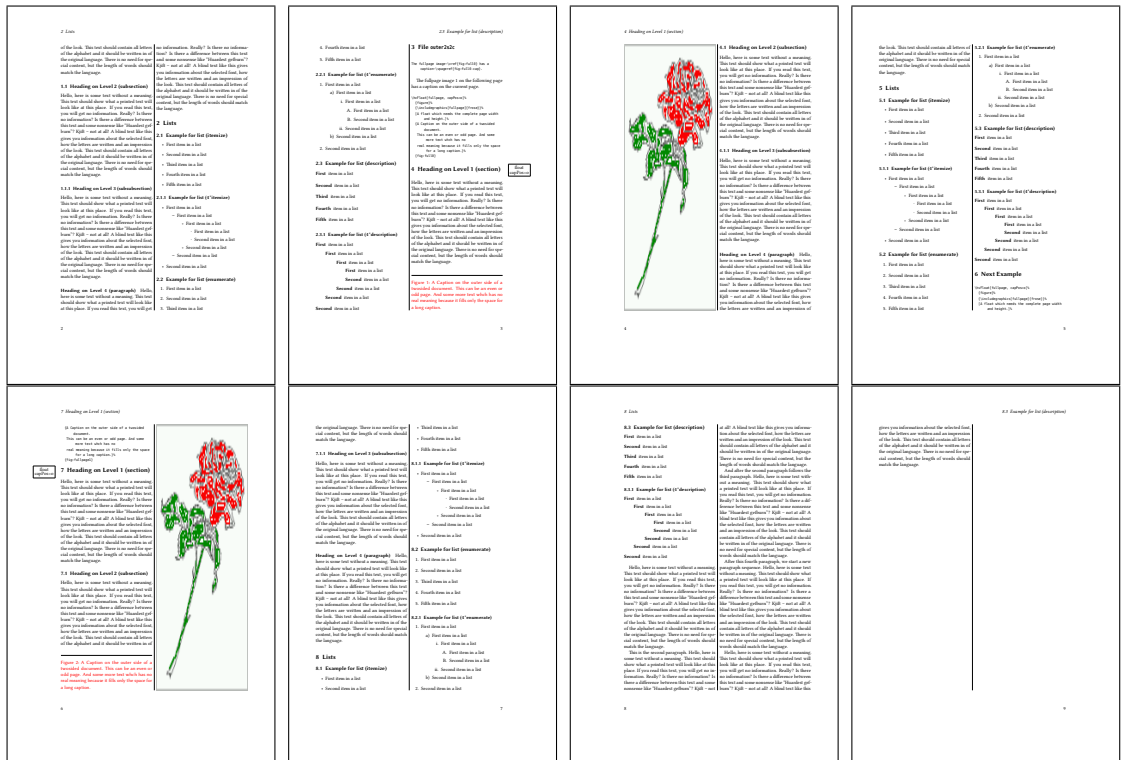


Figure 52: Output of outer2s2c (pages 2–9)

## 17.2 Using full page in twocolumn mode

With the star version of `\hvfloat` The object is placed over both columns, the whole page. In such a case the only useful caption position is `capPos=i` for *inner*.

```
\hvfloat*[fullpage, capPos=i]{figure}%
{\includegraphics[FullPage]{rose}}}%
[A float which needs the complete page width and height with \texttt{capPos=0}.]
%
{A caption of a "fullpage" object in twocolumn mode: It uses the star version
of \textbackslash hvfloat. The object goes over both columns.}{fig:two}
```

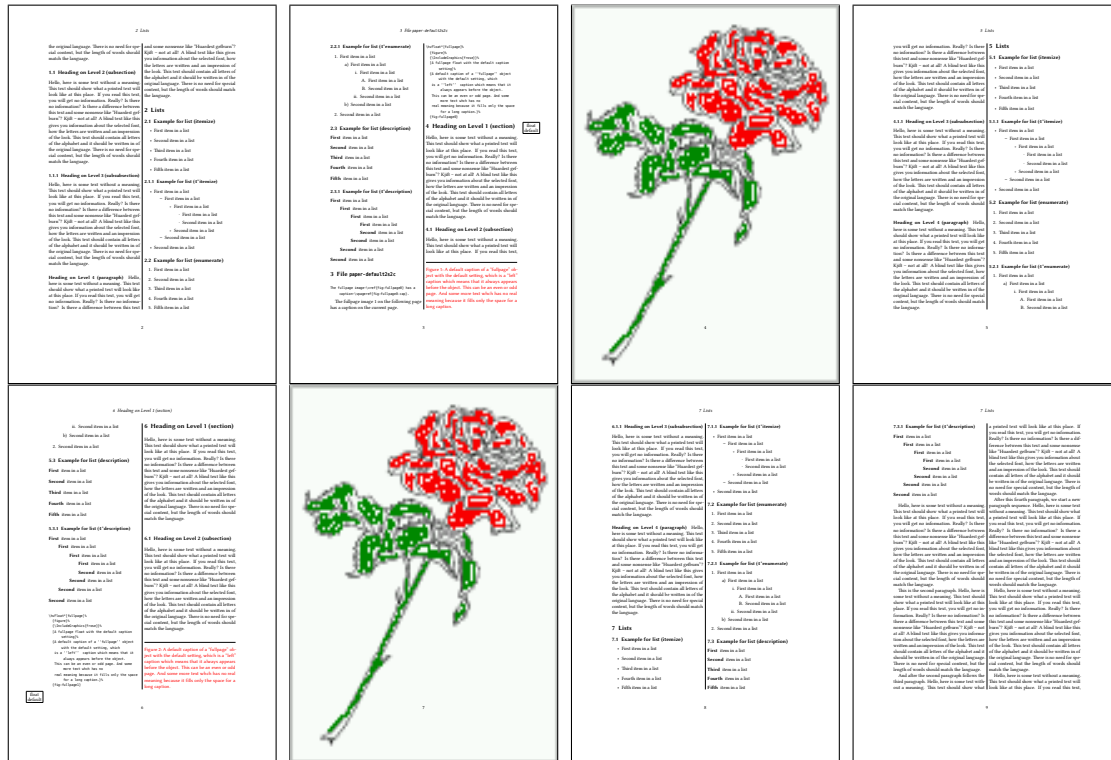


Figure 53: Output of paper-default2s2c (pages 2–9)

## 17 Full page objects in twocolumn mode

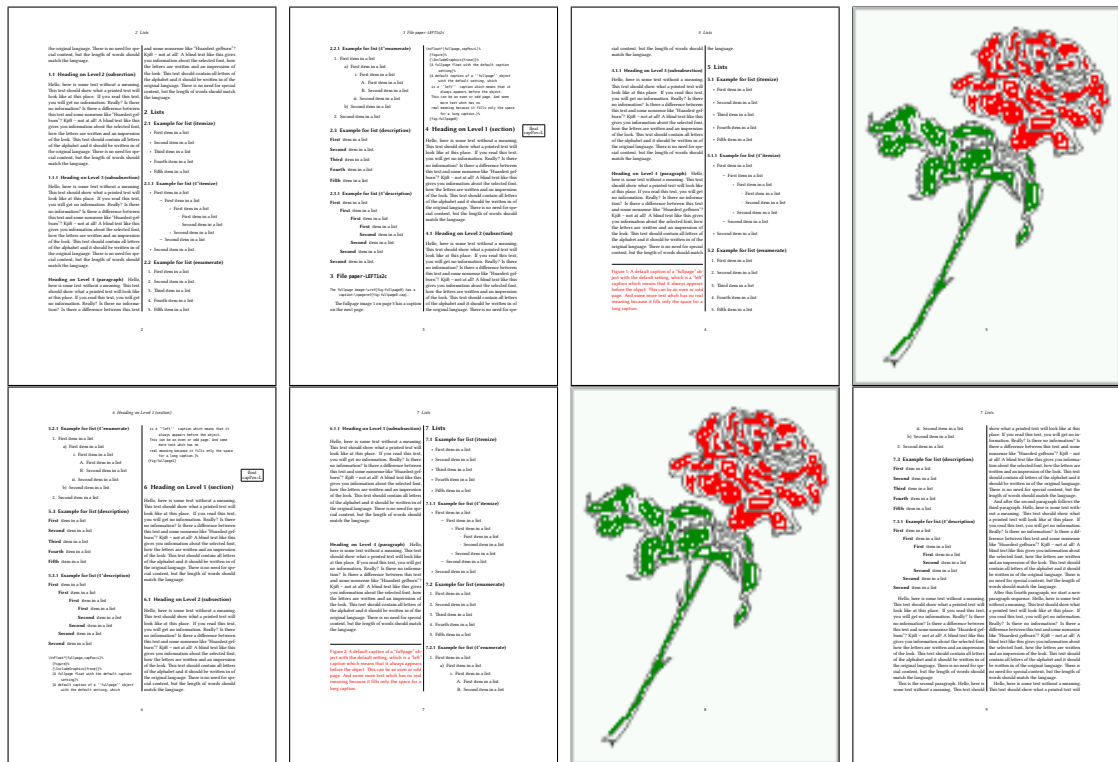


Figure 54: Output of paper-LEFT2s2c (pages 2–9)

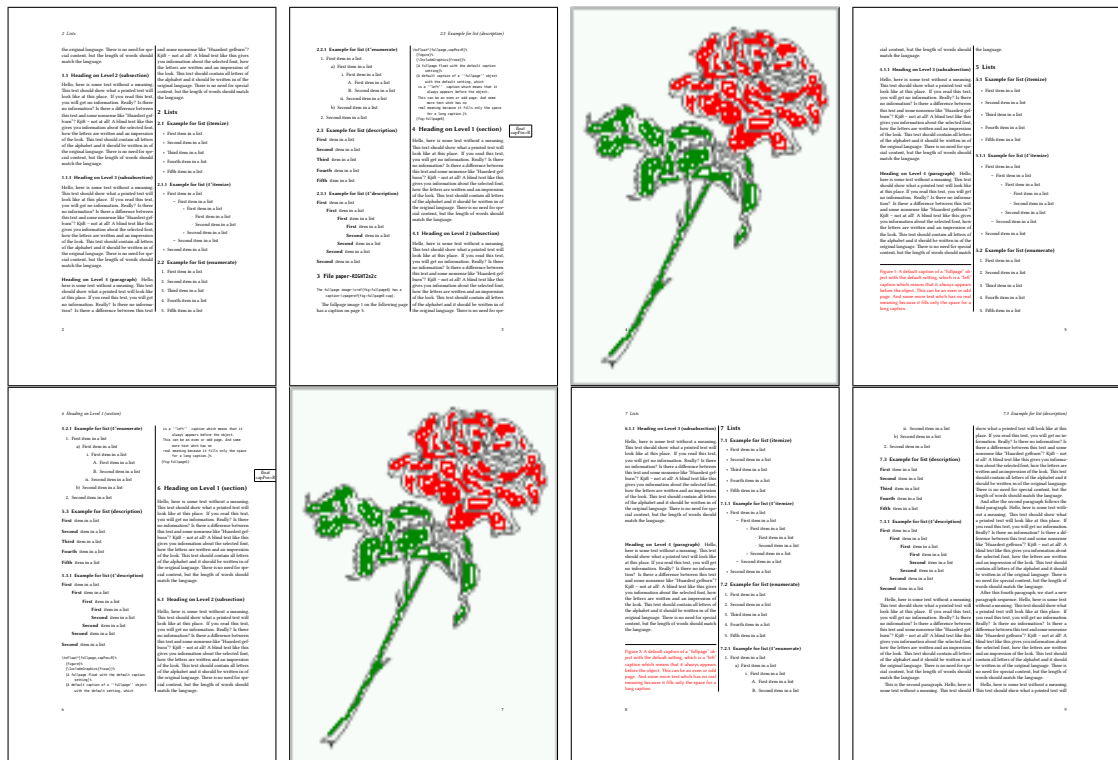


Figure 55: Output of paper-RIGHT2s2c (pages 2–9)

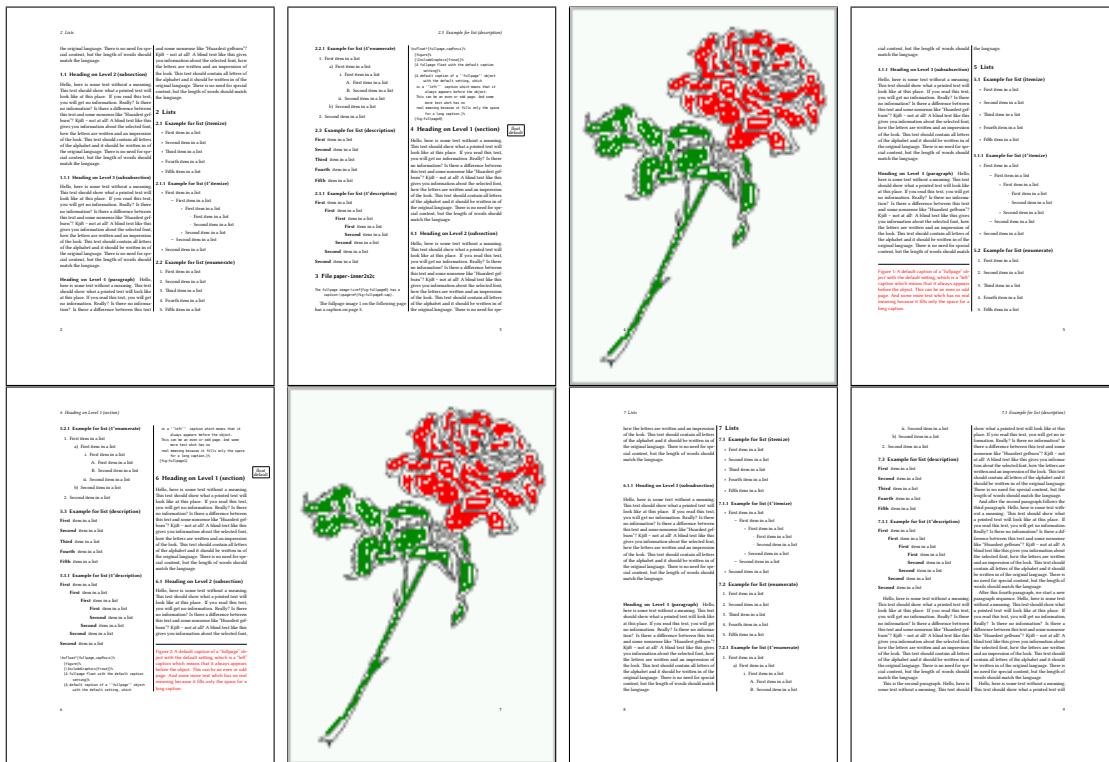


Figure 56: Output of paper-inner2s2c (pages 2–9)

## 17.3 Multifloats

Multifloats is the name for more than one image and/or tabular in *one* floating environment. Every image and/or tabular has its own caption, which is different to a subcaption. The + symbol defines an additional Object which will be part of the same floating environment. It's up too the user to be sure that one page or one column can hold all defined objects. Every object gets its own caption which is the reason why figures and tabulars and ... can be mixed:

```
\captionsetup{singlelinecheck=false}
\hvFloat[fullpage,multiFloat,capPos=i]%
+{figure}{\includegraphics[height=0.4\textheight]{rose}}% no 1
[Short caption A]%
{A Caption A of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{multi:demo0}%
+{table}{\begin{tabular}{lr}\hline
Linksbündig & Rechtsbündig\\
L & R \\
left & right \\
\multicolumn{2}{c}{Multicolumn}\hline
\end{tabular}}% no 2
```

## 17 Full page objects in twocolumn mode

```
\end{tabular}}%
[Short Caption B]%
{A Caption B of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page.}%
}%
+{figure}{\includegraphics[height=0.4\textheight]{rose}}%% no 3
{A Caption C of a "fullpage" object, which follows on the left or
right column.}%
{multi:demol}
```

The page with the objects has no additional informations it holds only the figures and/or tabulars. If you want it like subfigures or subtabulars then go to section [16 on page 42](#). The setting `\captionsetup{singlelinecheck=false}` is needed if you want the captions always left aligned.

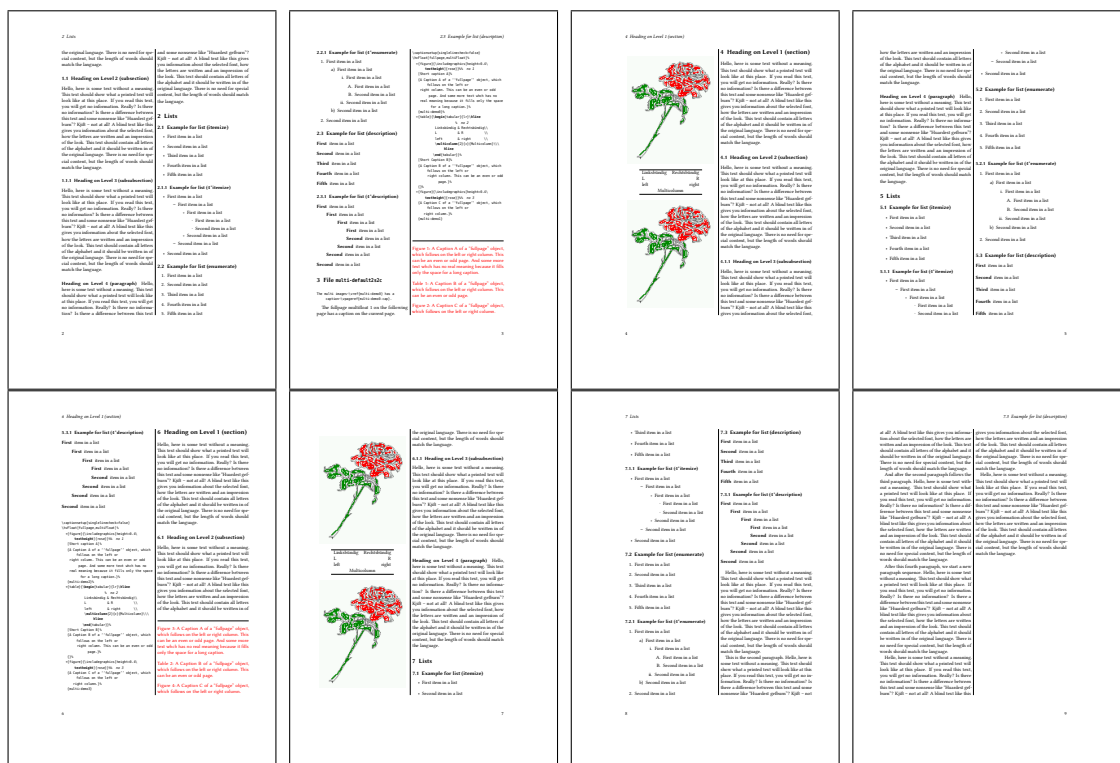


Figure 57: Output of multi-default2s2c (pages 2-9)

## 18 Subfloat page

A subfloat page can have only one type of floats which will have one main caption and individual subcaptions. Some arguments are ignored for a subfloat, one can leave them empty. The first line defines only the type and the main caption, the object entry is ignored! All additional lines will have the same float type, the reason why the float type entry is ignored.

```
\captionsetup[sub]{singlelinecheck}
\hvFloat[fullpage,capPos=l,objectFrame,subFloat]%
+{figure}{}[Short main caption of the objects]% main short lsi entry
  {The main caption of a ‘‘fullpage’’ object, which follows on the left or
    right column. This can be an even or odd page. And some more text which has no
    real meaning because it fills only the space for a long caption.}% main caption
  {sub:demo00}%
+{}{\includegraphics[height=0.28\textheight]{rose}}%
  [Short caption B]%
  {A Caption B of a ‘‘fullpage’’ sub object.}% subcaption
  {}%
+{}{\includegraphics[height=0.28\textheight]{rose}}%
  {A Caption C of a ‘‘fullpage’’ object, which follows on the left or right column.}%
  {sub:demo10}
+{}{\includegraphics[height=0.28\textheight]{rose}}%
  {A Caption D of a ‘‘fullpage’’ object}%
  {sub:demo20}
```

The keyword `subFloat` defines the images or tabulars as subfloats. The package `subcaption` is loaded by default. For the subcaptions the `singlelinecheck` should be true (see listing).



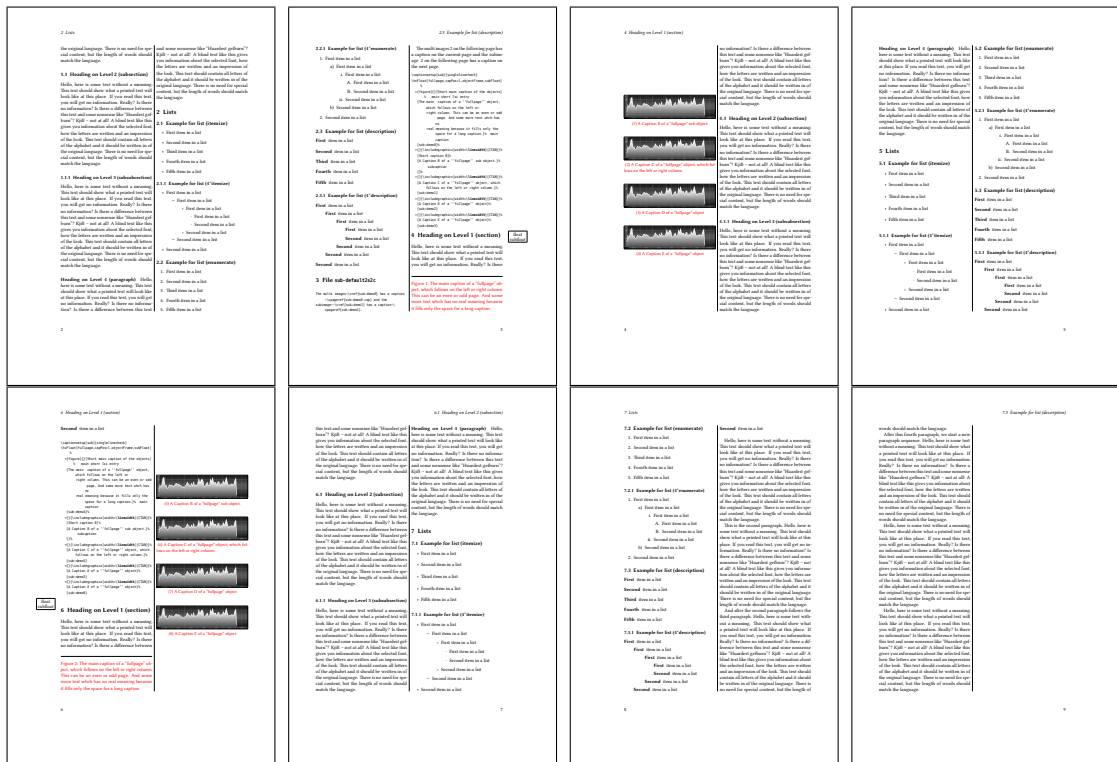


Figure 58: Output of sub-default2s2c (pages 2-9)

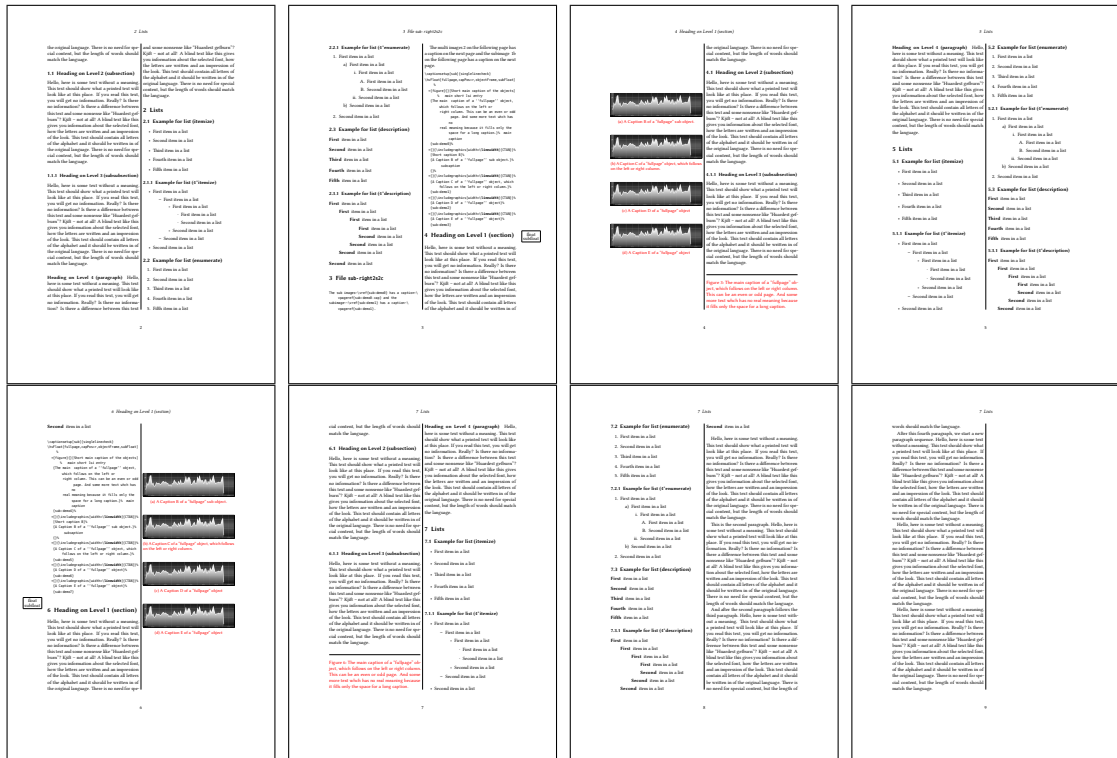


Figure 59: Output of sub-right2s2c (pages 2-9)



## 19 References to the page

With the command `\pageref` one can have a reference to the page number of a caption. For the `fullpage` option this can be the wrong page if someone wants a reference to the page where the object is set. Let's assume that we use something like

```
\setDefault{
\hvfFloat[fullpage,capPos=e]{figure}%
  {\includegraphics{frose}}%
  [A float which needs the complete paper width and height.]%
  [A Caption of a "fullpage" object, which follows on the next page.
   This can be an even or odd page. The object uses the complete paper dimensions]%
  {demo:fullpage}
```

The label `demo:fullpage` is used for the *image* and not for the caption! Internally another label called `demo:fullpage-cap` is set on the caption page which can be before or behind the object (depending on the optional argument of `capPos`). For example:

The caption of figure~\ref{demo:fullpage-cap} is on page~\pageref{demo:fullpage-cap}, but the image itself is on page~\pageref{demo:fullpage}.

The caption of figure 61 is on page 58, but the image itself is on page 59. With package `varioref` it is:

With the package `\pack{varioref}` ([\url{https://ctan.org/pkg/varioref}](https://ctan.org/pkg/varioref)) one can get something like: see figure~\vref{demo:fullpage}, which uses a correct page number of the floating object and not the caption page number which is~\vpageref{demo:fullpage-cap}. The figure~\ref{demo:fullpage} is on page~\pageref{demo:fullpage} and the caption on page~\pageref{demo:fullpage-cap}

With the package `varioref` (<https://ctan.org/pkg/varioref>) one can get something like: see figure 61 on page 59, which uses a correct page number of the floating object and not the caption page number which is on the next page. The figure 61 is on page 59 and the caption on page 58

## 20 Defining a style

With `\defhvstyle` one can define a special style to get rid of the individual setting:

`\defhvstyle{name}{setting}`

For example:

```
\defhvstyle{RightCaption}{floatPos=htb, capWidth=0.5, capPos=r, capVPos=b, objectPos=c}

\hvfFloat[style=RightCaption]{figure}{\includegraphics{rose}}%
  [Caption vertically centered right beside the float with a caption width of
   \texttt{0.5\textbackslash columnwidth}.]{fig:style}
```



Figure 60: Caption at bottom right beside the float with a caption width of  $0.5\text{\columnwidth}$ .

## 21 Global float setting

Instead of writing the following sequence into the preamble:

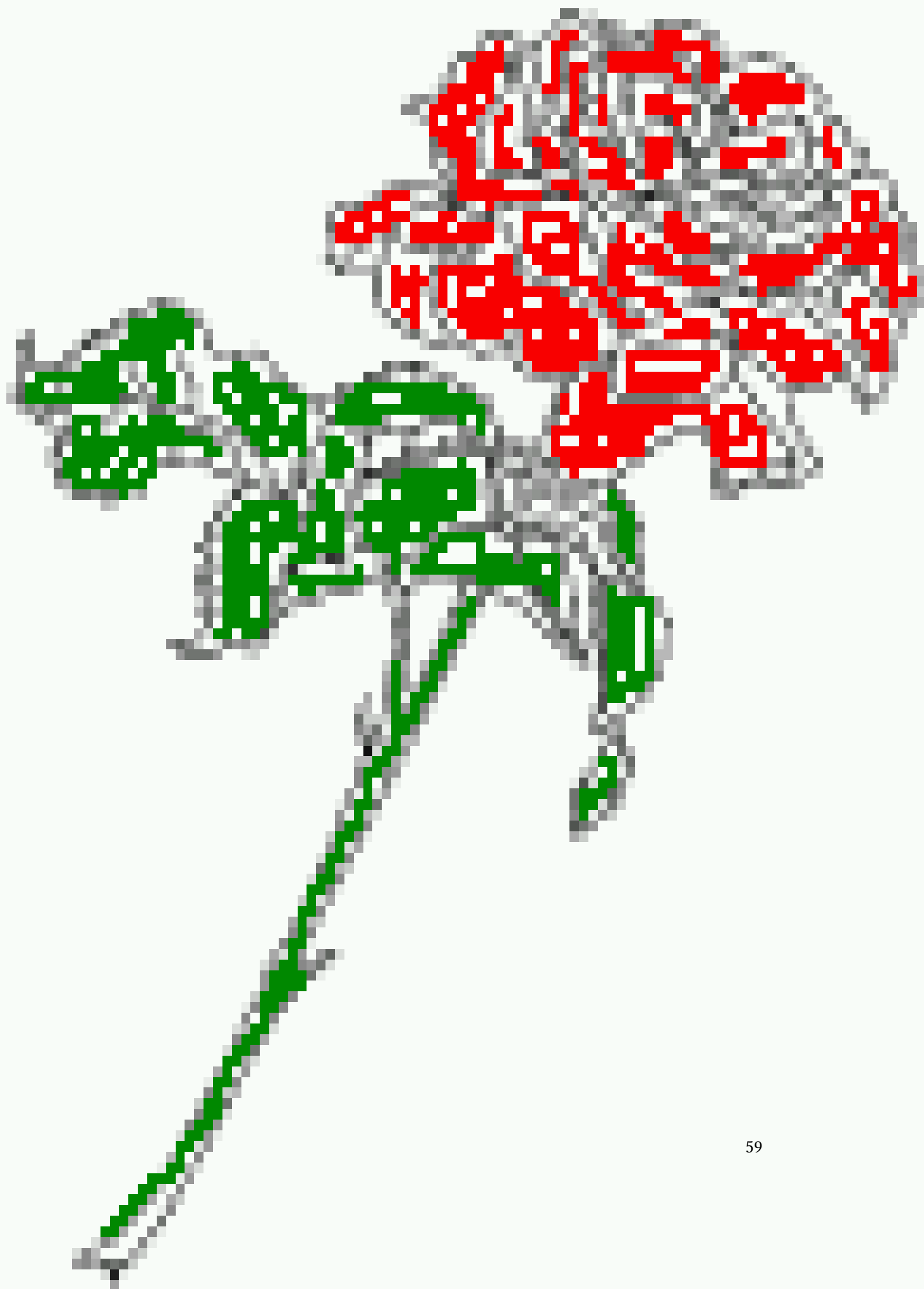
```
\makeatletter
\renewcommand\fps@figure{tb}
\renewcommand\fps@table{t}
\makeatother
```

you can change the global setting of floats by loading the package `hvfloa-fps`. It allows optional package options to set the global placement:

```
\usepackage[figure=tb,table=t]{hvfloa-fps}
```

---

Figure 61: A Caption of a “fullpage” object, which follows on the next page. This can be an even or odd page. The object uses the complete paper dimensions



## Index

### A

\abovecaptionskip (skip), 6  
\addtolength, 6

### B

\belowcaptionskip (skip), 6

### C

capAngle (keyword), 7  
capPos (keyword), 7, 14, 20, 29f, 32, 34, 36,  
38, 44f, 47–51, 57  
\captionof, 28  
\captionsetup, 40, 42, 54  
capVPos (keyword), 7  
capWidth (keyword), 7, 9ff  
\clearpage, 47f  
\columnwidth (length), 9

### D

d (value), 29, 36, 48  
\defhvstyle, 6ff, 57

### E

e (value), 29, 34, 47

### F

false (value), 40, 54  
fbox (package option), 6  
\fbox, 6  
\figcaption, 6, 8, 26f  
figure (environment), 7, 9, 25  
float (package), 25  
floatCapSep (keyword), 7, 9  
floatPos (keyword), 7, 20  
\frame, 9  
fullpage (keyword), 30, 57

### H

h (value), 11  
\hvFloat, 6, 26f, 40, 42  
\hvfloat, 51  
\hvFloat, 6, 8, 25  
hvfloat (package), 6, 47f

hvfloat-fps (package), 58  
hvFloatEnv (environment), 8, 28  
\hv0Box, 26  
\hvSet, 6  
\hvset, 6  
\hvSet, 6  
hypcap (package), 6  
hyperref (package option), 6  
hyperref (package), 6

### I

i (value), 14, 29, 38, 49, 51  
\IncludeGraphics, 38  
\includegraphics, 38

### K

Keyword  
- capPos, 14, 20, 29f, 32, 34, 36, 38, 44f,  
47–51  
- capWidth, 10f  
- floatPos, 20  
- objectPos, 21  
- singlelinecheck, 40, 54

### L

l (value), 30  
L (value), 30  
l (value), 21, 44  
L (value), 44  
LEFT (value), 30  
\linewidth (length), 10  
\listoffigures, 6  
lscap (package), 20

### M

multiFloat (keyword), 30

### N

nonFloat (keyword), 6f, 25  
nonfloat (keyword), 26  
nonFloat (keyword), 25  
nonfloat (package), 25

**O**

o (value), 14, 20, 29, 38, 50  
 objectAngle (keyword), 7  
 objectFrame (keyword), 7, 9  
 objectPos (keyword), 7, 21  
 onecolumn, 38  
 onese, 30  
 onlyText (keyword), 26

**P**

p (value), 20  
 \pageref, 57  
 \paperheight (length), 38  
 \paperwidth (length), 38  
 pdfscape (package), 20

**R**

r (value), 32  
 R (value), 45  
 r (value), 45  
 rotAngle (keyword), 7  
 \rotatebox, 13

**S**

separatorLine (keyword), 30  
 \setDefault, 6, 8, 26f  
 \setlength, 6  
 singlelinecheck (keyword), 40, 42, 54f  
 style (keyword), 7  
 subcaption (package), 42, 55  
 subFloat (keyword), 30, 42, 55

**T**

\tabcaption, 6, 8, 26f  
 table (environment), 7, 9, 25  
 \textwidth (length), 28  
 twocolumn, 29, 44  
 twoside (package option), 30, 34, 36  
 twoside, 14

**U**

use0Box (keyword), 7, 26

**V**

Value

-d, 29, 36, 48  
 -e, 29, 34, 47  
 -false, 40, 54  
 -h, 11  
 -i, 14, 29, 38, 49, 51  
 -l, 30, 44  
 -L, 44  
 -l, 21  
 -L, 30  
 -l, 30  
 -LEFT, 30  
 -o, 14, 20, 29, 38, 50  
 -p, 20  
 -R, 45  
 -r, 32, 45  
 -w, 10

varioref (package), 57

**W**

w (value), 10  
 wide (keyword), 7, 9, 18

## 22 The Package Source

```

%% $Id: hvfloat.sty 988 2019-03-20 21:34:05Z herbert $
%%
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{hvfloat}[2019/02/03 rotating of floating objects]
%%
%% IMPORTANT NOTICE:
%%
%% This is file 'hvfloat.sty',
%%
%% Herbert Voss <hvoss@tug.org>
%%
%% This program can be redistributed and/or modified under the terms
%% of the LaTeX Project Public License Distributed from CTAN archives
%% in directory macros/latex/base/lppl.txt.
%%
%% DESCRIPTION:
%%
%% 'hvfloat' offers rotating of captions and objects for floats
%%
\def\fileversion{2.10}
\def\filedate{2019/03/20}
\message{'hvfloat' v\fileversion, \filedate\space (Herbert Voss)}
%
\newif\ifhv@fbox \hv@fboxfalse
\newif\ifhv@hyperref \hv@hyperreffalse
\DeclareOption{fbox}{\hv@fboxtrue\setlength{\fboxsep}{1pt}}
\DeclareOption{hyperref}{\hv@hyperreftrue}

\ProcessOptions

\PassOptionsToPackage{hypcap}{caption}
\RequirePackage{caption}
\PassOptionsToPackage{hypcap}{subcaption}
\RequirePackage{subcaption}
\ifhv@hyperref
  \RequirePackage{hyperref}
% \RequirePackage{hypcap}
\fi
%\AtBeginDocument{\providecommand\capstart{}}% in no hyperref/hypcap is loaded
%
\RequirePackage{expl3,multido}
\RequirePackage{graphicx}

\RequirePackage{xkeyval}
\RequirePackage{ifoddpage}
%
\RequirePackage{afterpage}

\newlength\hvObjectWidth
\newlength\hvCapWidth
\newlength\hvWideWidth
\newlength\hvMultiFloatSkip

```

```

\newlength\hvMaxCapWidth
\newsavebox\hvObjectBox
\newsavebox\hvCaptionBox
\newsavebox\hvOBox
%
\newif\ifhv@capbeside \hv@capbesidefalse

\def\hv@Top{t}
\def\hv@Bottom{b}
\def\hv@Right{r}
\def\hv@RIGHT{R}
\def\hv@Left{l}
\def\hv@LEFT{L}
\def\hv@Center{c}
\def\hv@Outer{o}
\def\hv@Inner{i}
\def\hv@Even{e}
\def\hv@Odd{d}
\def\hv@Natural{n}
\def\hv@Width{w}
\def\hv@Height{h}
\def\hv@Zero{0}
%

\def\hv@figure{figure}
%
\define@key{hvSet}{floatPos}{htbp}{%      LaTeX's position parameters htpb
  \def\hvSet@floatPos{#1}%
}
\define@key{hvSet}{rotAngle}[0]{%      rotates caption AND image together
  \def\hvSet@rotAngle{#1}%
}
\define@key{hvSet}{capWidth}[n]{%      (n)atural width|object (w)idth|object (h)eight|<scale of \columnwidth
  >
  \def\hvSet@capWidth{#1}%
}
\define@key{hvSet}{capAngle}[0]{%      -360...+360
  \def\hvSet@capAngle{#1}%
}
\define@key{hvSet}{capPos}[b]{%      (l)eft|(b)ottom|(t)op|(r)ight|(i)nn(er)|(o)uter|(e)ven|(o)d(d)
  \def\hvSet@capPos{#1}%      it is relativ to the object, (e),(d) only valid for fullpage float
  \edef\@tempa{#1}%
  \ifx\hv@Bottom\@tempa
    \hv@capbesidefalse
  \else
    \ifx\hv@Top\@tempa
      \hv@capbesidefalse
    \else
      \hv@capbesidetrue
    \fi
  \fi
}
\define@key{hvSet}{capVPos}[c]{%      (b)ottom|(c)enter|(t)op

```

## 22 The Package Source

```

\def\hvSet@capVPos{#1}%      it is relativ to the object
}
\define@key{hvSet}{objectPos}[c]{%      (l)eft|(c)enter|(r)ight|(i)nner|(o)uter
\def\hvSet@objectPos{#1}%      it is relativ to the document
}
\define@key{hvSet}{objectAngle}[0]{%      -360..+360
\def\hvSet@objectAngle{#1}%
}
\define@key{hvSet}{floatCapSep}[5]{%      a width with the unit pt
\def\hvSet@floatCapSep{#1}%
}
\define@key{hvSet}{multiFloatSkip}[\normalbaselineskip]{% a width with the unit pt
\setlength\hvMultiFloatSkip{#1}%
}
\define@boolkey{hvSet}[hv@]{use0Box}[true]{}%      use of the hv0Box contents
\define@boolkey{hvSet}[hv@]{nonFloat}[true]{}%      Do not use float environment
\define@boolkey{hvSet}[hv@]{onlyText}[true]{}%      Write the caption only as text
\define@boolkey{hvSet}[hv@]{wide}[true]{}%      Write the caption only as text
\define@boolkey{hvSet}[hv@]{fullpage}[true]{}%      fullpage float with caption on other page
\define@boolkey{hvSet}[hv@]{FullPage}[true]{}%      fullpage float with caption on other page
\define@boolkey{hvSet}[hv@]{subFloat}[true]{}%      typeset values as subfloats
\ifhv@subFloat\setkeys{hvSet}{multiFloat=false}\fi
}%
\define@boolkey{hvSet}[hv@]{multiFloat}[true]{%      typeset values as continous floats
\ifhv@multiFloat\setkeys{hvSet}{subFloat=false}\fi
}%
\define@boolkey{hvSet}[hv@]{separatorLine}[true]{}%      separator line for caption of a full page float
\define@boolkey{hvSet}[hv@]{objectFrame}[true]{}%      a frame around the object with no separation
\define@key{hvSet}{style}{%
\@ifundefined{hv@#1}%
{\errmessage{Custom style '#1' undefined}}%
{\begingroup
\edef\x{\endgroup\noexpand\setkeys{hvSet}{\@nameuse{hv@#1}}\x}%      use a defined style
}

\def\hv@set#1{\begingroup\edef\x{\endgroup\noexpand\setkeys{hvSet}{#1}}\x}
%
\def\defhvstyle#1#2{\@namedef{hv@#1}{#2}}
%

\newcommand{\setDefaults}{%
\hv@set{%
floatPos=htbp, rotAngle=0, capWidth=n, capAngle=0,
capPos=b, capVPos=c, objectPos=c, objectAngle=0,
floatCapSep=5, use0Box=false, nonFloat=false,
onlyText=false, wide=false, fullpage=false, FullPage=false,
multiFloat=false, subFloat=false,
separatorLine, objectFrame=false, multiFloatSkip=\normalbaselineskip,
}%
}
\newcommand\reset@special@float{%
\hv@set{subFloat=false, fullpage=false, FullPage=false, multiFloat=false}}

```



```

\def\hv@vskip{\vspace{\hvMultiFloatSkip}}

%
\newlength\hvAboveCaptionSkip
\newlength\hvBelowCaptionSkip
\newcount\hv@capPos

\newlength\fbboxlinewidth
\AtBeginDocument{%
  \setlength\fbboxlinewidth{\dimexpr\linewidth-2\fbboxrule-2\fbboxsep}%
}
\setlength\belowcaptionskip{\abovecaptionskip}% it is in latex.ltx = 0pt
\newcommand\saveCaptionSkip{%
  \setlength{\hvAboveCaptionSkip}{\abovecaptionskip}
  \setlength{\hvBelowCaptionSkip}{\belowcaptionskip}
  \setlength{\abovecaptionskip}{0pt}
  \setlength{\belowcaptionskip}{0pt}
}
\newcommand\restoreCaptionSkip{%
  \setlength\abovecaptionskip{\hvAboveCaptionSkip}%
  \setlength\belowcaptionskip{\hvBelowCaptionSkip}%
}
%
\newcommand\figcaption[2][\def\@captive{figure}%
  \begingroup\ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi\endgroup
\newcommand\tabcaption[2][\def\@captive{table}%
  \begingroup\ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi\endgroup
%
\newlength\hv@maxImageWidth
\AtBeginDocument{\hv@maxImageWidth=\columnwidth}

\define@key{Gin}{fullpage}[true]{%
  \def\Gin@ewidth{\columnwidth}%
  \def\Gin@eheight{\textheight}%
  \Gin@boolkey{false}{iso}%
}
\define@key{Gin}{FullPage}[true]{%
  \def\Gin@ewidth{\textwidth}%
  \def\Gin@eheight{\textheight}%
  \Gin@boolkey{false}{iso}%
}
\newcommand\IncludeGraphics[2][\%
  \checkoddpage
  \vspace*{\the\dimexpr-\lin-\voffset+\topskip-\headheight-0.5\baselineskip}%
  \ifoddpage
    \hspace*{\dimexpr-\oddsidemargin-\parindent-\lin}%
  \else
    \hspace*{\dimexpr-\evensidemargin-\parindent-\lin}%
  \fi
  \includegraphics[#1,width=\paperwidth,height=\paperheight,keepaspectratio=false]{#2}%
}

\newcommand\put@CaptionBox[1][0]{%
  \ifcase#1

```

```

\ifhv@fbox
  \fbox{\parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}}%
\else
  \parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}%
\fi
\or
\ifhv@fbox
  \fbox{\raisebox{-\height}{\usebox{\hvCaptionBox}}}%
\else
  \raisebox{-\height}{\usebox{\hvCaptionBox}}%
\fi
\or
\ifhv@fbox\fbox{\usebox{\hvCaptionBox}}\else\usebox{\hvCaptionBox}\fi
\fi
}

\newcommand\put@ObjectBox[1][0]{%
  \ifcase#1
    \ifhv@fbox
      \fbox{\parbox{\wd\hvObjectBox}{\usebox{\hvObjectBox}}}%
    \else
      \parbox{\wd\hvObjectBox}{\ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi}%
    \fi
  \or
    \ifhv@fbox
      \fbox{\raisebox{-\height}{\usebox{\hvObjectBox}}}%
    \else
      \raisebox{-\height}{\ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi}%
    \fi
  \or
    \ifhv@fbox
      \fbox{\usebox{\hvObjectBox}}%
    \else
      \ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi%
    \fi
  \fi
}

\newif\ifhv@star
\newif\if@hvsustar
\setDefaults

\def\hvFloat{\@ifnextchar*%
  {\hv@startrue\hv@maxImageWidth=\textwidth\hvFloat@i}%
  {\hv@starfalse\hv@maxImageWidth=\columnwidth\hvFloat@i*}%
}

%\newcommand*{\hvFloat}[5][+]{%
%  [#1]: keyvalues
%  #2: type figure | table | ...
%  #3: float contents
%  [#4]: short caption
%  #5: caption
%  #6: label

```

```

%
\def\hvFloat@i*{\@ifnextchar[{\do@hvFloat}{\do@hvFloat[]}}

\def\do@hvFloat[#1]{%
  \begingroup
  \setlength\hvWideWidth{\dimexpr\linewidth+\marginparwidth}%
  \hv@maxImageWidth=\textwidth
  \hv@capbesidefalse
  \reset@special@float
  \setcounter{hv@pfigure}{\value{figure}}%
  \setcounter{hv@ptable}{\value{table}}%
  \gdef\hv@save@setting{#1}%
  \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
%|ifhv@multiFloat\typeout{>>>>>>>multiFloat!!}\else\typeout{>>>>>>> KEIN MultiFloat!}\fi%
  \gdef\hv@floatType{figure}%
  \@ifnextchar+{\do@multiFloat}{\hvFloat@ii[#1]}%

\ExplSyntaxOn

\def\do@multiFloat+#1#2{%
  \clist_set:Nn\l_clist_Type{#1}%
  \clist_set:Nn\l_clist_Object{#2}%
  \@ifnextchar[{\do@multiFloat@i}{\do@multiFloat@i[]}%
}
\def\do@multiFloat@i[#1]#2#3{% lof-caption, caption, label
  \ifx\relax#1\relax
    \clist_set:Nn\l_clist_LofCaption{#1}%
  \else
    \clist_set:Nn\l_clist_LofCaption{#1}%
  \fi
  \clist_set:Nn\l_clist_Caption{#2}%
  \ifx\relax#3\relax
    \clist_set:Nn\l_clist_Label{#3}%
  \else
    \clist_set:Nn\l_clist_Label{#3}%
  \fi
  \@ifnextchar+{\do@multiFloat@ii}{}%
}
\def\do@multiFloat@ii+#1#2{%
  \clist_put_right:Nn\l_clist_Type{#1}%
  \clist_put_right:Nn\l_clist_Object{#2}%
  \@ifnextchar[{\do@multiFloat@iii}{\do@multiFloat@iii[]}%
}
\def\do@multiFloat@iii[#1]#2#3{% lof-caption, caption, label
  \ifx\relax#1\relax
    \clist_put_right:Nn\l_clist_LofCaption{#1}%
  \else
    \clist_put_right:Nn\l_clist_LofCaption{#1}%
  \fi
  \clist_put_right:Nn\l_clist_Caption{#2}%
  \ifx\relax#3\relax
    \clist_put_right:Nn\l_clist_Label{#3}%
  \else

```

## 22 The Package Source

```

\clist_put_right:Nn\l_clist_Label{#{3}}%
\fi
\@ifnextchar+\do@multiFloat@ii%
  {\def\hvSet@CapWidth{n}%
   \do@@@hvFloat}%
}
\ExplSyntaxOff

\newcounter{hv@pfigure}
\newcounter{hv@ptable}
\newcounter{subhv@pfigure}
\newcounter{subhv@ptable}

\def\drawSepLine{%
  \noindent
  \if@twocolumn\rule{\columnwidth}{0.4pt}\else\rule{\linewidth}{0.4pt}\fi
  \vspace{0pt}%
}

\newcount\hv@cmta
\newcount\hv@cmtb

\def\hvFloat@ii[#1]#2#3{%
  \hv@maxImageWidth=\textwidth
  \hv@capbesidefalse
  \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
  \gdef\hv@floatType{#2}%
  \ifx\relax#2\relax \setkeys{hvSet}{nonFloat=true}\fi
  \gdef\hv@floatObject{#3}%
  \@ifnextchar[{\do@hvFloat}{\do@@hvFloat[]}%
}
\def\do@hvFloat[#1]#2#3{%
  \gdef\hv@shortCap{#1}%
  \gdef\hv@longCap{#2}%
  \gdef\hv@label{#3}%
  \ifhv@fullpage
    \def\hvSet@CapWidth{n}% relative value
    \do@@@hvFloat% fullpage with caption on other page
  \else
    \do@@@hvFloat
  \fi
}
%
\def\do@@@hvFloat{% no special float page
  \def\@tempa{90}%
  \ifx\hvSet@rotAngle\@tempa
    \setlength\hvMaxCapWidth{\textheight}%
  \else
    \setlength\hvMaxCapWidth{\hvWideWidth}%
  \fi
}
%
% First we save the object in \hvObjectBox

```

```

%
\ifx\hvSet@objectAngle\hv@Zero % rotate the object?
  \savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
\else
  \savebox{\hvObjectBox}{%
    \rotatebox{\hvSet@objectAngle}{%
      \ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi
    }%
  }%
\fi
\setlength\hvObjectWidth{\wd\hvObjectBox}%
%
% Now we save the caption with its defined \hvCapWidth
%
\ifx\hvSet@capWidth\hv@Width% captionwidth=objectwidth
  \setlength\hvCapWidth{\hvObjectWidth}%
\else
  \ifx\hvSet@capWidth\hv@Height% captionwidth=objectheight
    \setlength\hvCapWidth{\ht\hvObjectBox}%
  \else
    \ifx\hvSet@capWidth\hv@Natural% captionwidth=\linewidth-\objectwidth-separation
      \ifhv@capbeside
        \ifhv@wide
          \setlength\hvCapWidth{\the\dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep pt\relax}%
        \else
          \setlength\hvCapWidth{\the\dimexpr\columnwidth-\hvObjectWidth-\hvSet@floatCapSep pt\relax}%
        \fi
      \else
        \setlength\hvCapWidth{\columnwidth}%
      \fi
    \else
      \ifhv@capbeside
        \ifhv@wide
          \setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
          \setlength\@tempdima{\the\dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep pt\relax}%
        \else
          \setlength\hvCapWidth{\hvSet@capWidth\columnwidth}%
          \setlength\@tempdima{\the\dimexpr\columnwidth-\hvObjectWidth-\hvSet@floatCapSep pt\relax}%
        \fi
        \ifdim\hvCapWidth>\@tempdima
          \setlength\hvCapWidth{\@tempdima}%
        \fi
      \else
        \ifhv@wide
          \setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
        \else
          \setlength\hvCapWidth{\hvSet@capWidth\columnwidth}%
        \fi
      \fi
    \fi
  \fi
\fi
\saveCaptionSkip % we put this space ourselves
\ifx\hvSet@capAngle\hv@Zero % need rotation?

```

```

\sbbox\hvCaptionBox{% NO rotation
  \begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation
    \ifhv@nonFloat
    \ifhv@onlyText\hv@longCap
    \else
      \ifx\hv@floatType\hv@figure
        \ifx\relax\hv@shortCap\relax \figcaption{\hv@longCap}\else\figcaption[\hv@shortCap]{\hv@longCap}\fi
      \else
        \ifx\relax\hv@shortCap\relax \tabcaption{\hv@longCap}\else\tabcaption[\hv@shortCap]{\hv@longCap}\fi
      \fi
    \fi
  \else
    \let\@captype\hv@floatType
    \expandafter\ifx\expandafter\relax\hv@shortCap\relax \caption{\hv@longCap}\else\caption[
      hv@shortCap]{\hv@longCap}\fi
  \fi
  \expandafter\label\expandafter{\hv@label}%
  \end{minipage}%
}%
\else
  \sbbox\hvCaptionBox{% Rotation
    \rotatebox{\hvSet@capAngle}{%
      \begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation
        \ifhv@nonFloat
        \ifhv@onlyText\hv@longCap
        \else
          \ifx\hv@floatType\hv@figure
            \ifx\relax\hv@shortCap\relax \figcaption{\hv@longCap}\else\figcaption[\hv@shortCap]{\hv@longCap}\fi
          \else
            \ifx\relax\hv@shortCap\relax \tabcaption{\hv@longCap}\else\tabcaption[\hv@shortCap]{\hv@longCap}\fi
          \fi
        \fi
      \else
        \let\@captype\hv@floatType
        \expandafter\ifx\expandafter\relax\hv@shortCap\relax \caption{\hv@longCap}\else\caption[
          hv@shortCap]{\hv@longCap}\fi
        \fi
        \label{\hv@label}%
        \end{minipage}%
      }% rotatebox
    }% \sbbox
  \fi
%
% now we have the object and the caption with the right
% rotated angles saved in different boxes
%%
\restoreCaptionSkip% save old values
\def\fps@figure{\hvSet@floatPos}%
\ifhv@nonFloat
  \begin{group}% Start the nonfloat part
  \checkoddpage
\else
  \begin{\hv@floatType}% Start the floating environment
  \checkoddpage

```

```

\fi
\ifx\hvSet@objectPos\hv@Right\raggedleft\fi
\ifx\hvSet@objectPos\hv@Center
  \ifhv@nonFloat\hspace*{\fill}\else\centering\fi
\fi
\ifx\hvSet@objectPos\hv@Outer
  \ifoddpage\raggedleft\fi
\fi
\ifx\hvSet@objectPos\hv@Inner
  \ifoddpage\else\raggedleft\fi
\fi
%
% to rotate object and caption together, we save all in another box
% the caption comes first, if its on the left or the top
% 0 caption left, inner and odd page, oneside inner
% 1 caption top
% 2 caption right, inner and even page, oneside outer
% 3 caption bottom
%
\ifx\hvSet@capPos\hv@Left\hv@capPos=0\else
\ifx\hvSet@capPos\hv@Top\hv@capPos=1\else
\ifx\hvSet@capPos\hv@Right\hv@capPos=2\else
\ifx\hvSet@capPos\hv@Bottom\hv@capPos=3\else
\ifx\hvSet@capPos\hv@Inner
  \ifoddpageoroneside\hv@capPos=0\else\hv@capPos=2\fi
\else
\ifx\hvSet@capPos\hv@Outer
  \ifoddpageoroneside\hv@capPos=2\else\hv@capPos=0\fi
\fi\fi\fi\fi\fi
%%
\savebox{\@tempboxa}{%
  \expandafter\ifcase\the\hv@capPos % 0 is LEFT START \ifcase
  \ifx\hvSet@capVPos\hv@Center
    \put@CaptionBox
    \hspace{\hvSet@floatCapSep pt}% capfloatsep
    \put@ObjectBox
  \else
    \ifx\hvSet@capVPos\hv@Top% caption and object at top aligned
      \put@CaptionBox[1]
      \hspace{\hvSet@floatCapSep pt}% capfloatsep
      \put@ObjectBox[1]
    \else% caption on bottom
      \put@CaptionBox[2]
      \hspace{\hvSet@floatCapSep pt}% capfloatsep
      \put@ObjectBox[2]
    \fi
  \fi% end caption left
\or %1 is top
  \ifdim\wd\hvCaptionBox>\wd\hvObjectBox
\begin{minipage}{\wd\hvCaptionBox}%
  \else
\begin{minipage}{\wd\hvObjectBox}%
  \fi
  \centering

```

```

\ifhv@fbox
\fbbox{\usebox{\hvCaptionBox}}\[\hvBelowCaptionSkip]%
\fbbox{\usebox{\hvObjectBox}}%
\else
\usebox{\hvCaptionBox}\[\hvBelowCaptionSkip]%
\usebox{\hvObjectBox}%
\fi
\end{minipage}%
\or %2 is right
\ifx\hvSet@capVPos\hv@Center
\put@ObjectBox
\hspace{\hvSet@floatCapSep pt}%
\put@CaptionBox
\else
\ifx\hvSet@capVPos\hv@Top
\put@ObjectBox[1]
\hspace{\hvSet@floatCapSep pt}% capfloatsep
\put@CaptionBox[1]
\else
\put@ObjectBox[2]
\hspace{\hvSet@floatCapSep pt}% capfloatsep
\put@CaptionBox[2]
\fi
\fi
\or %3 bottom
\ifdim\wd\hvCaptionBox>\wd\hvObjectBox
\begin{minipage}{\wd\hvCaptionBox}%
\else
\begin{minipage}{\wd\hvObjectBox}%
\fi
\centering
\ifhv@fbox
\fbbox{\usebox{\hvObjectBox}}\[\hvAboveCaptionSkip]%
\fbbox{\usebox{\hvCaptionBox}}%
\else
\ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi\[\hvAboveCaptionSkip]%
\usebox{\hvCaptionBox}%
\fi
\end{minipage}
\fi% \ifcase\the\hv@@capPos
}% End savebox Object and caption
%
% now we rotate the object and caption, if needed
%
\ifhv@wide
\ifoddpageoroneside\else\ifoddpage\else\hspace*{-\marginparwidth}\fi\fi% <- for wide and left page
\fi
\ifx\hvSet@rotAngle\hv@Zero
\usebox{\@tempboxa}%
\else
\rotatebox{\hvSet@rotAngle}{\usebox{\@tempboxa}}%
\fi
\ifhv@nonFloat
\ifx\hvSet@objectPos\hv@Center

```



```

\ifhv@nonFloat
\hspace{\fill}%
\fi
\fi
\endgroup% End the nonfloat part
\else
\end{\hv@floatType}% End the floating environment
\fi
\endgroup% startet at main \hvFloat
}
%
\newenvironment{hvFloatEnv}[1][\textwidth]
{\minipage{#1}\center}
{\endcenter\endminipage}
%
\def\do@@@hvFloat{% special float page: caption <-> fullpage image
\ifx\hvSet@capPos\hv@Right \hv@capPos=1
\else
\ifx\hvSet@capPos\hv@Even \hv@capPos=2
\else
\ifx\hvSet@capPos\hv@Odd \hv@capPos=3
\else
\ifx\hvSet@capPos\hv@Inner \hv@capPos=4
\else
\ifx\hvSet@capPos\hv@Outer \hv@capPos=5
\else
\ifx\hvSet@capPos\hv@RIGHT \hv@capPos=6
\else
\ifx\hvSet@capPos\hv@LEFT \hv@capPos=7
\else
\hv@capPos=0
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\fi
% \ifhv@multiFloat\typeout{>>>>do@@@hvFloat: multiFloatTRUE}\else\typeout{>>>>do@@@hvFloat: multiFloatFALSE}
}\fi
\checkoddpage
\ifcase\hv@capPos% caption before object 0-> _always_ left
\set@caption@object
\or% caption after object 1-> _always_ right
\set@object@caption
\or% caption on even page 2-> left page
\ifoddpage
\afterpage{\set@caption@object}%
\else% we are on an even page
\set@caption@object
\fi
\or% caption on odd page 3->right page
\if@twoside
\if@twocolumn

```

```

\ifoddpage
  \if@firstcolumn% on right side
    \set@caption@object
  \else
    \afterpage{\null\set@object@caption}% start next column
  \fi
\else% left (even) page
  \if@firstcolumn
    \afterpage{\set@object@caption}% start next column
  \else
    \set@object@caption
  \fi
\fi
\else % onecolumn
  \ifoddpage
    \set@object@caption
  \else
    \afterpage{\set@object@caption}
  \fi
\fi
\else % oneside
  \if@twocolumn
    \ifoddpage
      \if@firstcolumn% on right side
        \set@caption@object
      \else
        \set@object@caption%
      \fi
    \else
      \if@firstcolumn% on left side
        \afterpage{\set@object@caption}
      \else
        \set@object@caption%
      \fi
    \fi
  \else % onecolumn
    \ifoddpage
      \set@caption@object
    \else
      \set@object@caption
    \fi
  \fi
\fi
\or% caption on the inner column 4->inner
  \if@twocolumn
    \ifoddpage
      \set@object@caption
    \else
      \if@firstcolumn% on right side
        \afterpage{\null\set@caption@object}% start next column
      \else% left page/column
        \set@caption@object
      \fi
    \fi
  \fi

```

```

\else % onecolumn
  \set@caption@object
\fi
\or%          caption on the outer column 5->outer
\if@twocolumn
  \ifoddpage
    \if@firstcolumn
      \afterpage{\null\set@caption@object}%
    \else
      \set@caption@object%
    \fi
  \else% even page (left)
    \if@firstcolumn
      \set@caption@object
    \else
      \afterpage{\set@object@caption}%
    \fi
  \fi
\else
  \set@caption@object
\fi
\or%          caption after object 6->RIGHT for twoside/twocolumn
\if@twocolumn
  \if@firstcolumn
    \afterpage{\set@object@caption}%
  \else
    \set@object@caption
  \fi
\else% always caption _after_ object for onecolumn
  \set@object@caption
\fi
\or%          caption before object 7->LEFT for twoside/twocolumn
\if@twocolumn
  \if@firstcolumn
    \set@caption@object
  \else
    \afterpage{\set@caption@object}
  \fi
\else%          onecolumn
  \ifoddpage
    \afterpage{\set@caption@object}%
  \else
    \set@caption@object
  \fi
\fi
\endgroup% startet at main \hvFloat
}%
%

\ExplSyntaxOn

\def\getMultiCaptionAndLabel{%}
\hv@cntb=\clist_count:N\l_clist_Type

```

```

\advance\hv@cmtb by \@ne
\hv@cmta=1
\begingroup
\loop
\edef\@captive{\clist_item:Nn\l_clist_Type{\hv@cmta}}
\edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cmta}}%
\ifx\@tempa\@empty
\caption{\clist_item:Nn\l_clist_Caption{\hv@cmta}}%
\else
\expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{\hv@cmta}}%
\fi
\edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
\ifx\@tempa\@empty
\else
\expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cmta}-cap}\fi
\advance\hv@cmta by \@ne
\ifnum\hv@cmta<\hv@cmtb
\repeat
\endgroup
}
\def\getMultiObjectAndLabel{%
\hv@cmtb=\clist_count:N\l_clist_Type
\advance\hv@cmtb by \@ne
\hv@cmta=1
% \clist_show:N\l_clist_Label
% ist bereits gesetzt! \edef\@captive{\hv@p\@captive}
\loop
\def\@temp{\clist_item:Nn\l_clist_Object{\hv@cmta}}%
\ifhv@objectFrame\frame{\@temp}\else\@temp\fi
\edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
\ifx\@tempa\@empty
\else
\refstepcounter{\@captive}%
\expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
\fi
\ifnum\hv@cmta<\clist_count:N\l_clist_Type\par\hv@vskip\fi
\advance\hv@cmta by \@ne
\ifnum\hv@cmta<\hv@cmtb
\repeat
}

\def\getMultiSubCaptionAndLabel{%
\edef\@captive{\clist_item:Nn\l_clist_Type{1}}% the same for all subfloats
\edef\@tempa{\clist_item:Nn\l_clist_LofCaption{1}}%
\ifx\@tempa\@empty
\caption{\clist_item:Nn\l_clist_Caption{1}}%
\else
\expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{1}}%
\fi
\edef\@tempa{\clist_item:Nn\l_clist_Label{1}}%
\ifx\@tempa\@empty\else\expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{1}-cap}\fi
}

\def\getMultiSubObjectAndLabel{%

```

```
% \clist_show:N\l_clist_Object
\hv@cntb=\clist_count:N\l_clist_Caption
\advance\hv@cntb by \@ne
\hv@cmta=2
\loop
  \begingroup
    \def\@temp{\clist_item:Nn\l_clist_Object{\hv@cmta}}%
    \ifhv@objectFrame\frame{\@temp}\else\@temp\fi
    \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cmta}}%
    \ifx\@tempa\empty
      \subcaption{\clist_item:Nn\l_clist_Caption{\hv@cmta}}%
    \else
      \expandafter\subcaption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{\hv@cmta}}%
    \fi
    \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
    \ifx\@tempa\empty
    \else
      \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
    \fi
  \endgroup
  \ifnum\hv@cmta<\clist_count:N\l_clist_Type\par\hv@vskip\fi
  \advance\hv@cmta by \@ne
\ifnum\hv@cmta<\hv@cntb
\repeat
\edef\@tempa{\clist_item:Nn\l_clist_Label{1}}%   the main label at the end
\ifx\@tempa\empty
\else
%\typeout{>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>|@captype}%
% bereits gesetzt \edef\@captype{\hv@p\@captype}
\refstepcounter{\@captype}
\expandafter\label\expandafter{\@tempa}%
\fi
}
```

```
\def\set@caption@object{% first caption, then object
\begin{\hv@floatType}[!b]
% \capstart
\belowcaptionskip=0pt% local change
\ifhv@separatorLine\drawSepLine\fi
\ifhv@multiFloat
% \edef\@caption{\hv@p|\@caption}
\getMultiCaptionAndLabel
\else
\ifhv@subFloat
\getMultiSubCaptionAndLabel
\else
\expandafter\ifx\expandafter\relax\hv@shortCap\relax
\caption{\hv@longCap}%
\else
\caption[\hv@shortCap]{\hv@longCap}%
\fi
\expandafter\ifx\expandafter\relax\hv@label\relax\else
```

```

        \label{\hv@label-cap}
    \fi
\fi
\end{\hv@floatType}%
%
\ifhv@star
    \begin{\hv@floatType*}[!p]
\else
    \begin{\hv@floatType}[!p]
\fi
% \ifhv@subFloat
% \else
\edef\@capttype{\hv@p\@capttype}
% \fi
% \capstart
\ifx\hvSet@objectPos\hv@Right\raggedleft\else
    \ifx\hvSet@objectPos\hv@Left\raggedleft\else
        \ifx\hvSet@objectPos\hv@Center\centering
\fi\fi\fi
\ifhv@multiFloat
    \getMultiObjectAndLabel
\else
    \ifhv@subFloat
        \getMultiSubObjectAndLabel
    \else
        \refstepcounter{\@capttype}%
        \ifhv@objectFrame\frame{\hv@floatObject}\else\hv@floatObject\fi
        \expandafter\ifx\expandafter\relax\hv@label\relax
        \else
            \expandafter\label\expandafter{\hv@label}%
        \fi
    \fi
\fi
\fi
\ifhv@star
    \end{\hv@floatType*}%
\else
    \end{\hv@floatType}%
\fi
}
\def\set@object@caption{% first object, then caption
% \ifhv@multiFloat\typeout{>>>>set@object@caption: multiFloatTRUE}\else\typeout{>>>>set@object@caption:
% multiFloatFALSE}\fi
\ifhv@star
    \begin{\hv@floatType*}[!p]
\else
    \begin{\hv@floatType}[!p]
\fi
% \ifhv@subFloat
% \else
% \edef\@capttype{\hv@p\@capttype}
% \fi
% \capstart
\ifx\hvSet@objectPos\hv@Right\raggedleft\else

```

```

\ifx\hvSet@objectPos\hv@Left\raggedleft\else
\ifx\hvSet@objectPos\hv@Center\centering
\fi\fi\fi
\ifhv@multiFloat
\edef\@captype{\hv@p\@captype}
\getMultiObjectAndLabel
\else
\ifhv@subFloat
\getMultiSubObjectAndLabel
\else
\edef\@captype{\hv@p\@captype}%
\ifhv@objectFrame\frame{\hv@floatObject}\else\hv@floatObject\fi
\refstepcounter{\@captype}%
\expandafter\ifx\expandafter\relax\hv@label\relax\else
\expandafter\label\expandafter{\hv@label}%
\fi
\fi
\fi
\ifhv@star
\end{\hv@floatType}%
\else
\end{\hv@floatType}%
\fi
%
\begin{\hv@floatType}[!b]
% |capstart
\belowcaptionskip=0pt% local change
\ifhv@separatorLine\drawSepLine\fi
\ifhv@multiFloat
\getMultiCaptionAndLabel
\else
\ifhv@subFloat
\getMultiSubCaptionAndLabel
\else
\expandafter\ifx\expandafter\relax\hv@shortCap\relax
\caption{\hv@longCap}%
\else
\caption[\hv@shortCap]{\hv@longCap}%
\fi
\expandafter\ifx\expandafter\relax\hv@label\relax\else
\label{\hv@label-cap}
\fi
\fi
\fi
\end{\hv@floatType}%
}
%
\endinput

```