

Package hvfloat

Rotating and scaling of objects and captions ver 2.00

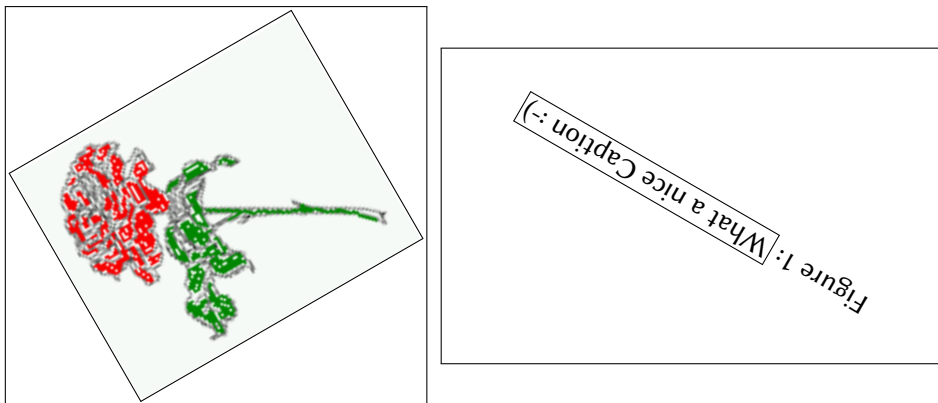
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The package hvfloat defines a macro to place objects and captions of floats in different positions with different rotating angles.

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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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}
```

`\hvSet` allows the global setting of keywords and `\setDefault`s sets all keywords to its default value as shown in Table 2 on the facing 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 1 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 `\defhvstyle` 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 (l) eft (b) ottom (t) op (r) ight (e) ven (o) 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) ottom (c) enter (t) op.
<code>objectPos</code>	<code>c</code>	The horizontalplacement of the object relative to the document. Possible values are (l) eft (c) enter (r) 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>fullpage</code>	<code>false</code>	Put the caption on the bottom of the preceding or following page and the object alone a page.
<code>separatorLine</code>	<code>true</code>	Put a line with a predefined width of 0.4pt between the text and the caption. Only valid for the keyword <code>fullpage</code> .
<code>use0Box</code>	<code>false</code>	Instead of passing the object as parameter to the <code>hvFloat</code> , the contents maybe saved in the box <code>\hv0Box</code> With <code>use0Box=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 ...
\caption{...}% caption below the object
\end{figure}
```

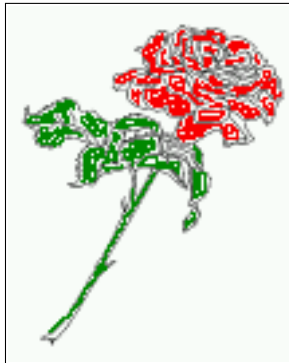


Figure 2: Without any keywords (only the fbox package option)

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

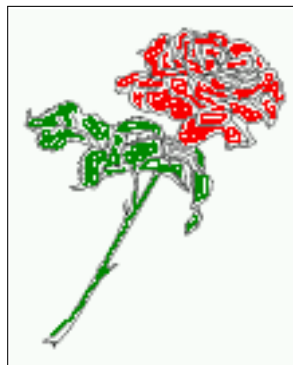
4.1 Default – natural width

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

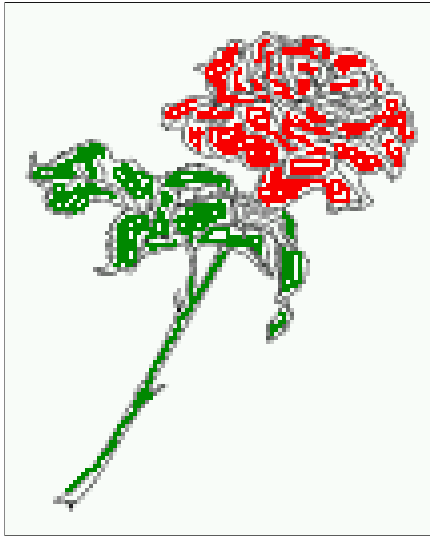


Figure 4: Caption right beside with a *natural* width, which is given by the width of the object, the separation between object and caption, and the current linewidth.

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}
```

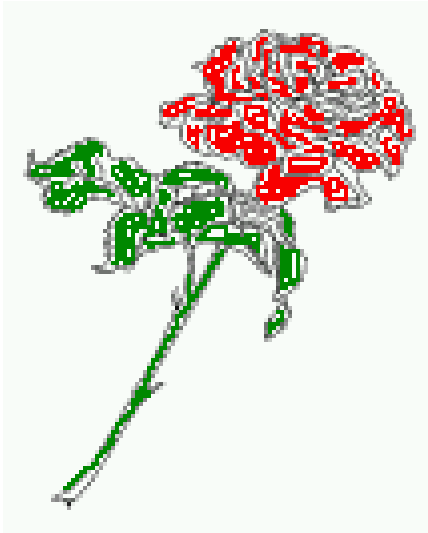
float



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.

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}
```



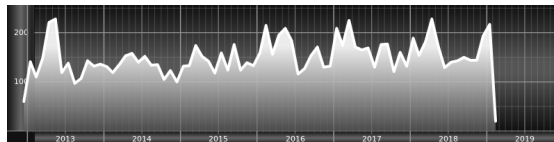
float

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

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
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.

5 Caption right or left of 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}
```



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

5 Caption right or left of the object

5.1 Caption right with specific length

Code for figure 9:

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

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



float capPos=l

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]{%}
```

6 Caption inner or outer

{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}

float



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.

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}
```

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.



float
capPos=i

Now the same Image with `capPos=0`. The current pagenumber is 15, an odd page. We now set a pagebreak at the end of the second image to see if it works with *inner/outer*.



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

float

We have an odd 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 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:

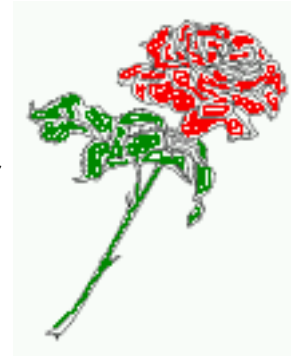
```
\hvFloat[%
capWidth=0.5,% of \columnwidth
capPos=0,% ==> OUTER
capAngle=0,
```

7 Vertical Position of the Caption

```
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=o} }{fig:22}
```

float

Figure 15: Caption vertically centered right beside the float with a caption width of 0.5\columnwidth and `capPos=o`



We have an even page, the reason why figure 12 has the caption for *inner* on the right side 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:

```
\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}
```

Figure 17: Caption at
top left beside the float



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}
```



Figure 18: Caption cen-
tered right beside the
float

float

8 Horizontal Position of the Float

The code for figure 19:

```
\hvFloat[%
  capWidth=0.25,
  capPos=r,
  capVPos=t,
```

9 Wide floats

```
objectPos=l,  
]{figure}{\includegraphics{rose}}{%  
Caption at top right beside the float and object position left}{fig:7}
```

float



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

The code for figure 20:

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

float

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



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}
```

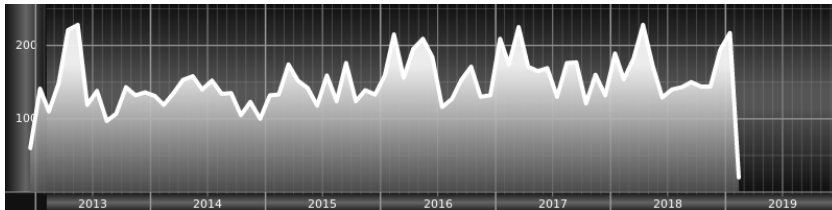
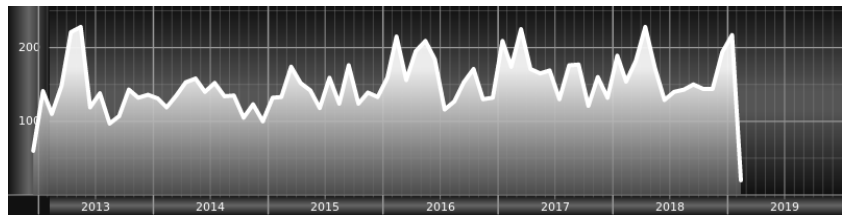


Figure 21: Caption at top right beside the float and object position left and the option wide. Caption at top right beside the float and object position left and the option wide.

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.

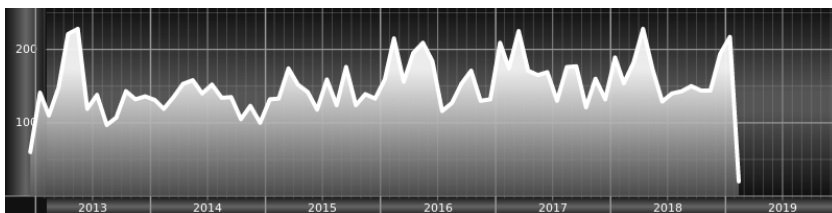


Figure 23: Caption at top right beside the float and object position right and the option wide.

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 24).

Code for figure 24:

```

\hvFloat[%
    floatPos=p,
    capPos=b,
    rotAngle=90,
    objectPos=c
]{figure}{\includegraphics[width=0.9\textheight]{CTAN}}{%
    Caption at top right beside the float and object position right}{fig:9}

```

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

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.

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.

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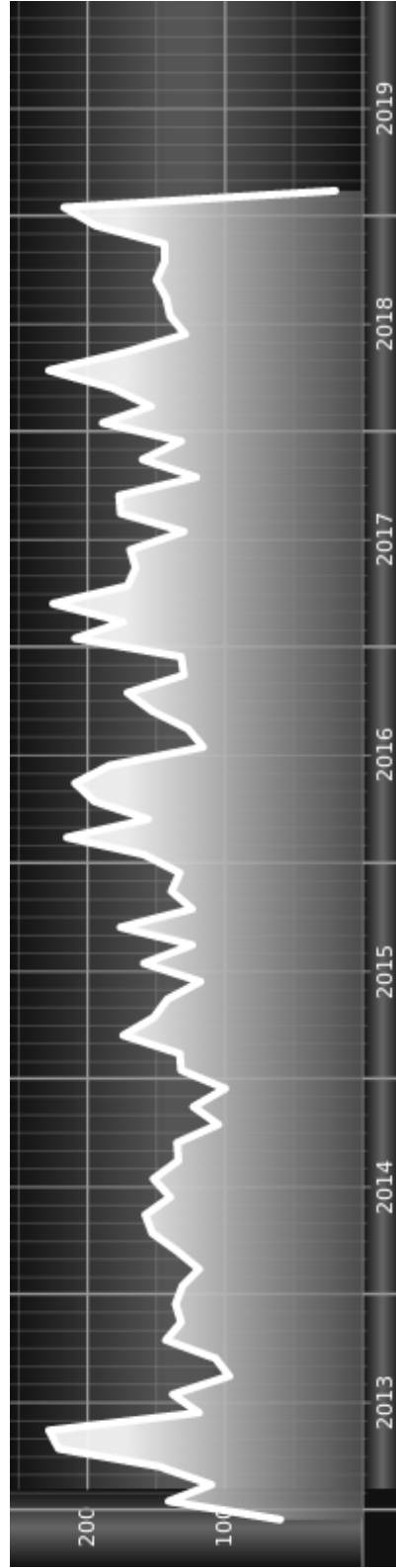


Figure 24: Caption at top and together with the object rotated

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 25:

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

float

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 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.

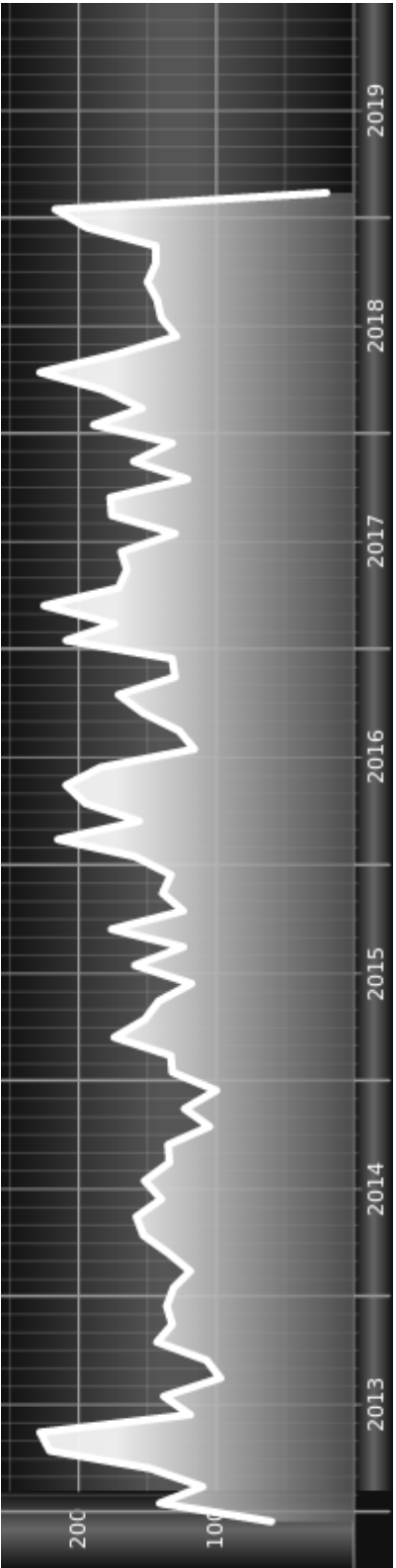


Figure 25: Caption right beside the float and object position left. The caption rotated by -90 degrees

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,
]{figure}{\includegraphics{rose}}%
[Nonfloat Captions]{%
  Caption of a "nonfloat" Object, using the \texttt{nonfloat} Package}{fig:11}
```

float



Figure 26: Caption of a “nonfloat” Object, using the nonfloat Package

The image 26 is exactly placed where the command \hvFloat appears. There are only commands for figure and table environments:

```
\newcommand{\figcaption}{\def\@capttype{figure}\caption}
\newcommand{\tabcaption}{\def\@capttype{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} & 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\\\hline
\end{tabular}%
}
```

The code for table 4 and 5 is:

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

\hvFloat[%
floatPos=hb,
use0Box=true,
objectAngle=90,
capPos=r,
capVPos=t,
capWidth=0.3]{table}{\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`

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>\setDefaultts</code>	command	sets all options to the defaults

Table 5: Demonstration of the use0Box Parameter

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.

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:

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.

Table 7: A caption for a nice table

left	center	right
L	C	R

```
\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}
```

15 Full page objects in onecolumn mode

15.1 Using the textarea

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, nbut makes only real sense in the twoside mode. Without any additional argument the caption is set first and the object on the follwing page:

```
\hvFloat[fullpage]%
{figure}%
{\includegraphics[fullpage]{frose}}%
% {\includegraphics[width=\linewidth,height=\textheight,keepaspectratio=false]{rose}}%
[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 whch has no
real meaning because it fills only the space for a long caption.}%
{fig:fullpage0}
```

float

Figure 1 on the facing page shows the behaviour if only the optional argument Lkeywordfull-page is used. With this default setting the caption is always placed *before* the following object. 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.

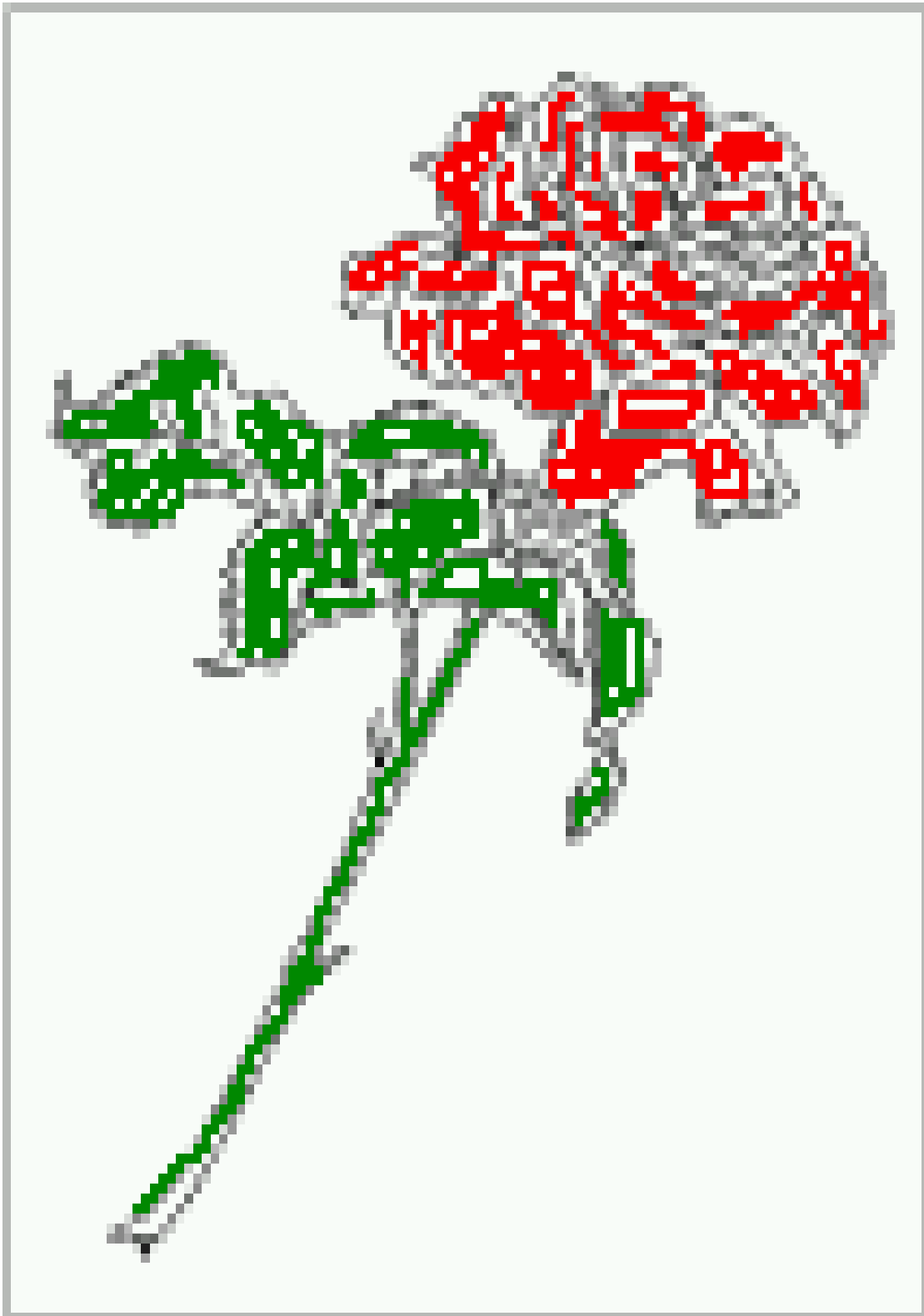
Table 8: Valid optional arguments for a full page object.

Name	Type	Description
fullpage	true false	places an object on an own page
capPos	l r e d	caption on l)eft (before object), r)ight (after object), e)ven or od)d page
separatorLine	length	the length of the separation line between text and caption. With setting 0pt no line is used.

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

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”?

Figure 27: A Caption of a “fullpage” object, which follows on the next page. This can be an even or odd page. And some more text whch has no real meaning because it fills only the space for a long caption.



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.

15.1.1 Using capPos=r

The caption will be printed right which is the same as *after* the full page object.

```
\hvFloat[fullpage, capPos=r]%
{figure}%
{\includegraphics[fullpage]{rose}}%
[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:fullpage1}
```

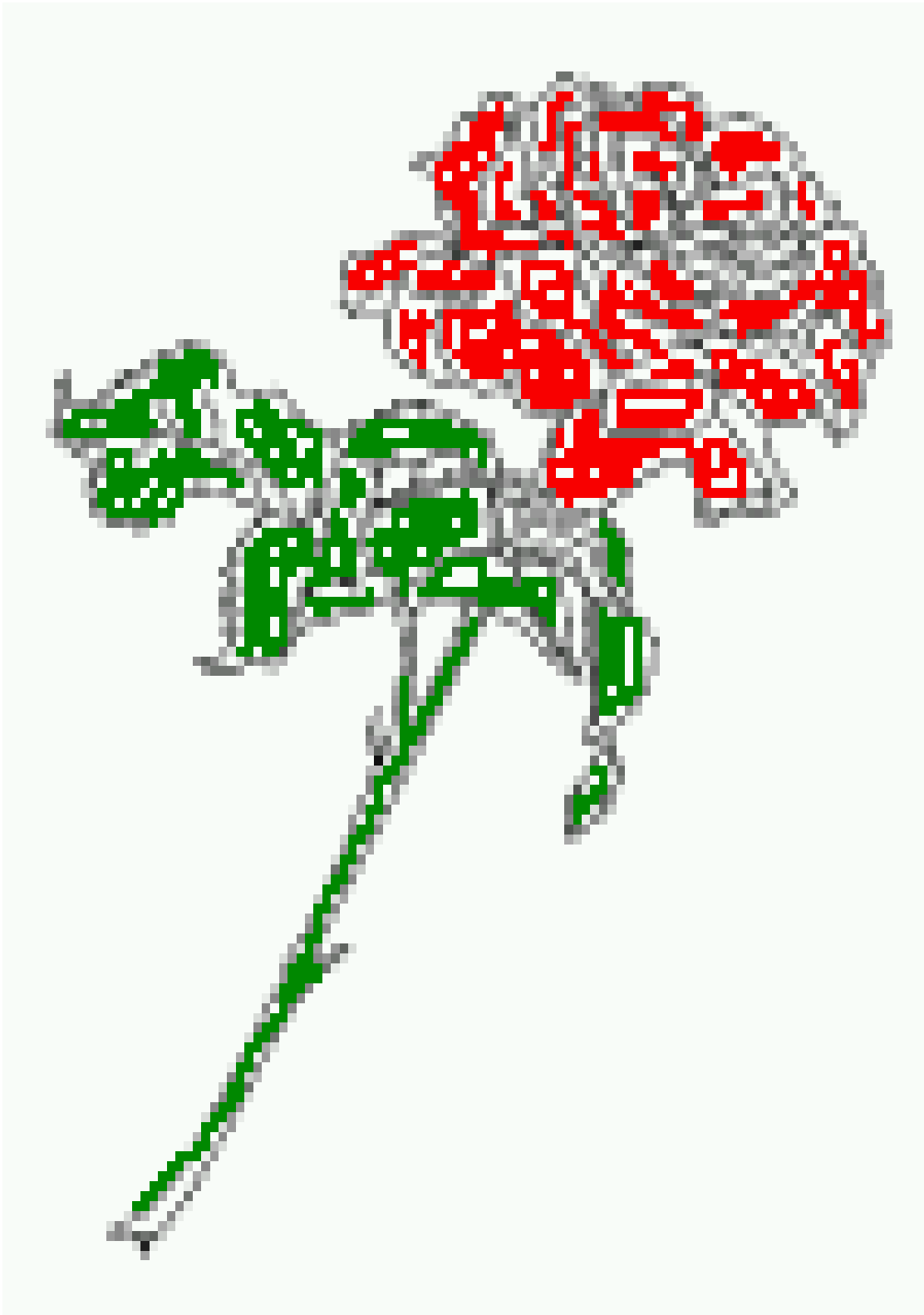
float capPos=r

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.

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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 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.

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

Figure 28: 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.

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.

15.1.2 Using capPos=e – caption on an even page

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

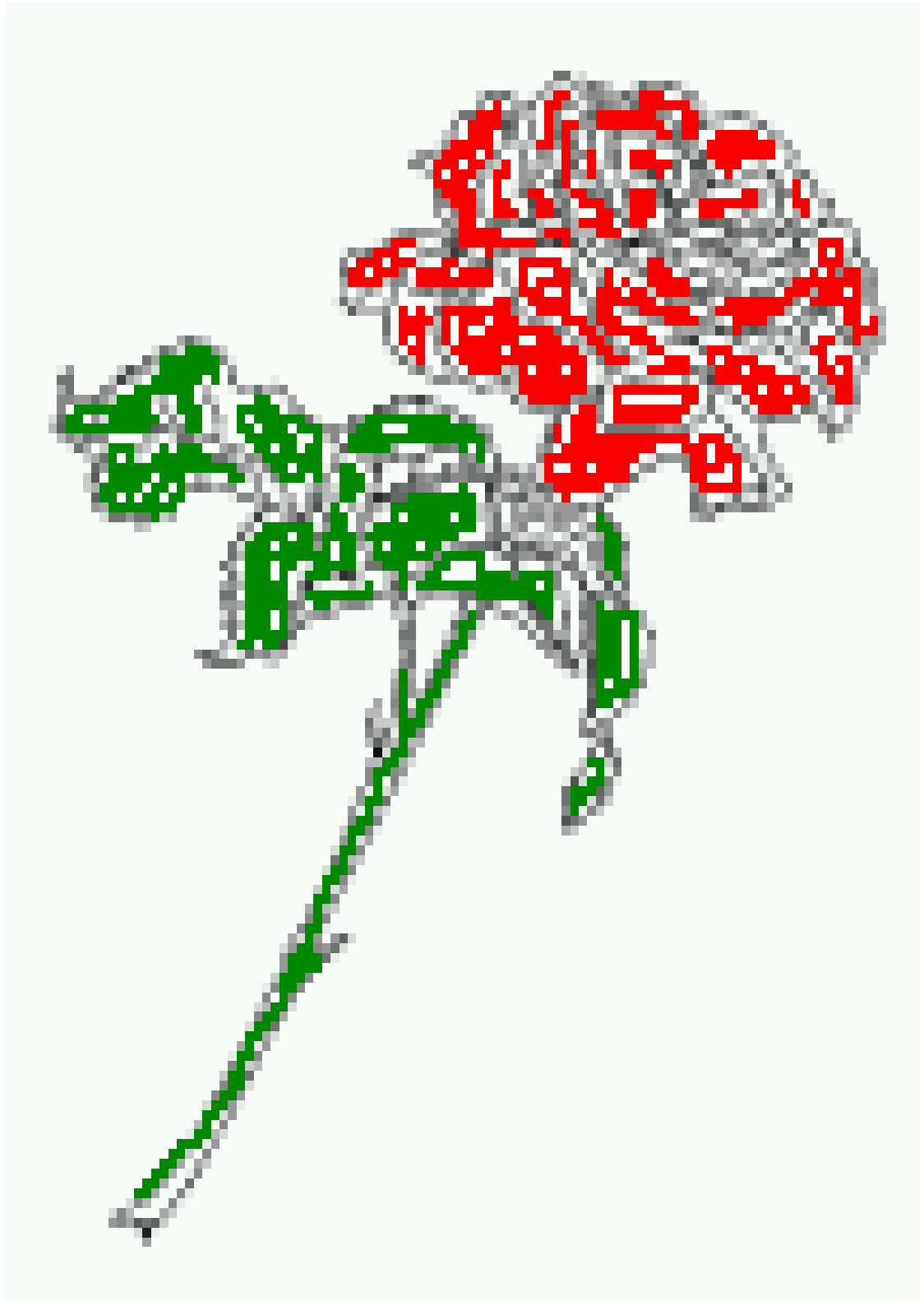
```
\hvFloat[fullpage, capPos=e]%
{figure}%
{\includegraphics[fullpage]{rose}}%
[A float which needs the complete page width and height.]%
{A Caption of a ‘‘fullpage’’ object, which follows on the next page.
This can be an even or odd page. And some more text which has no
real meaning because it fills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

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 capPos=e

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 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.

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

Figure 29: 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.

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.

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.

15.1.3 Using capPos=d — caption on an odd page

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

```
\hvFloat[fullpage, capPos=d]%
{figure}%
{\includegraphics[fullpage]{rose}}%
[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 whch has no
real meaning because it fills only the space for a long caption.}
{fig:fullpage2}
```

float capPos=d

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.

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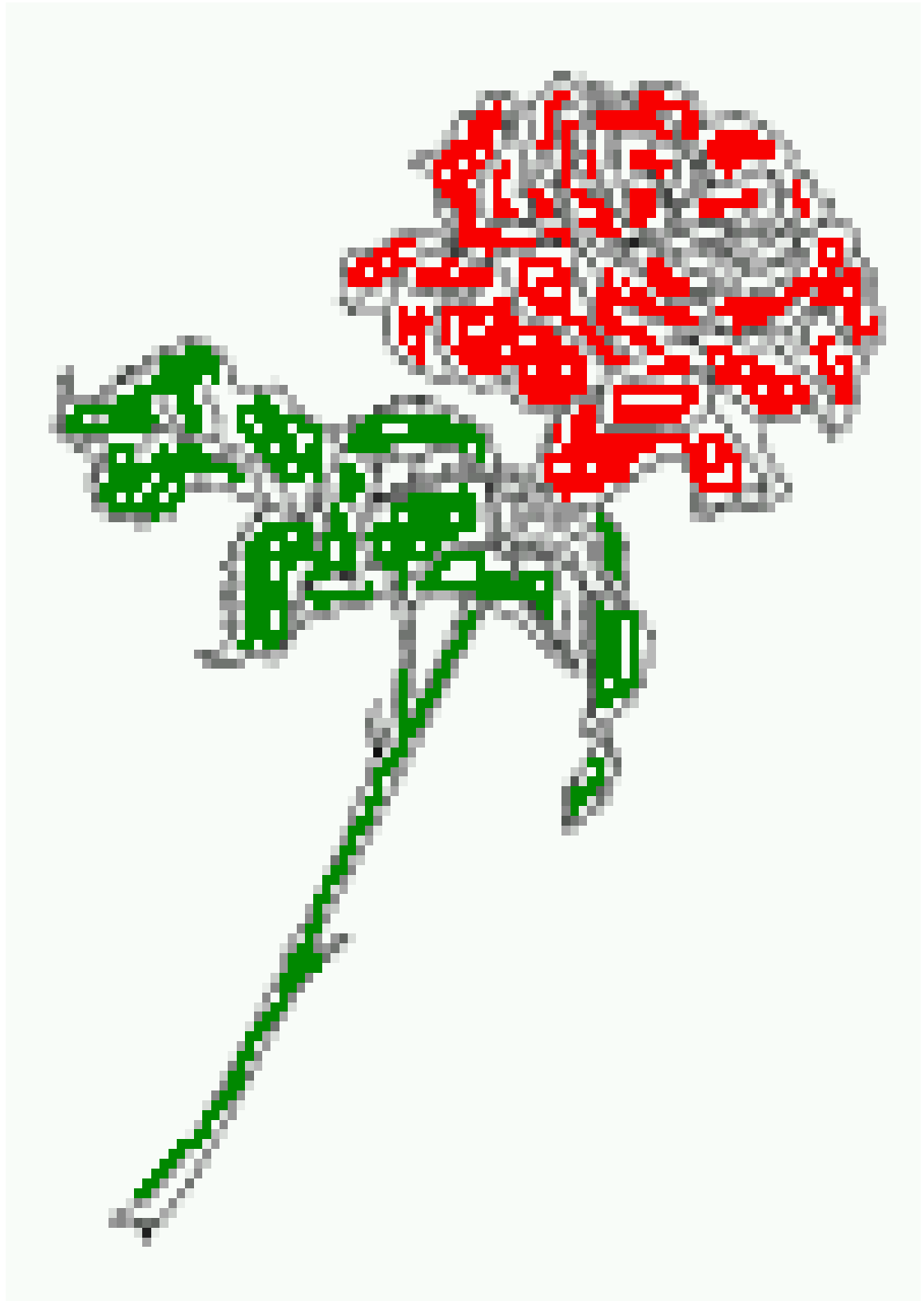
This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest 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.

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Figure 30: 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.



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.

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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`.

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.

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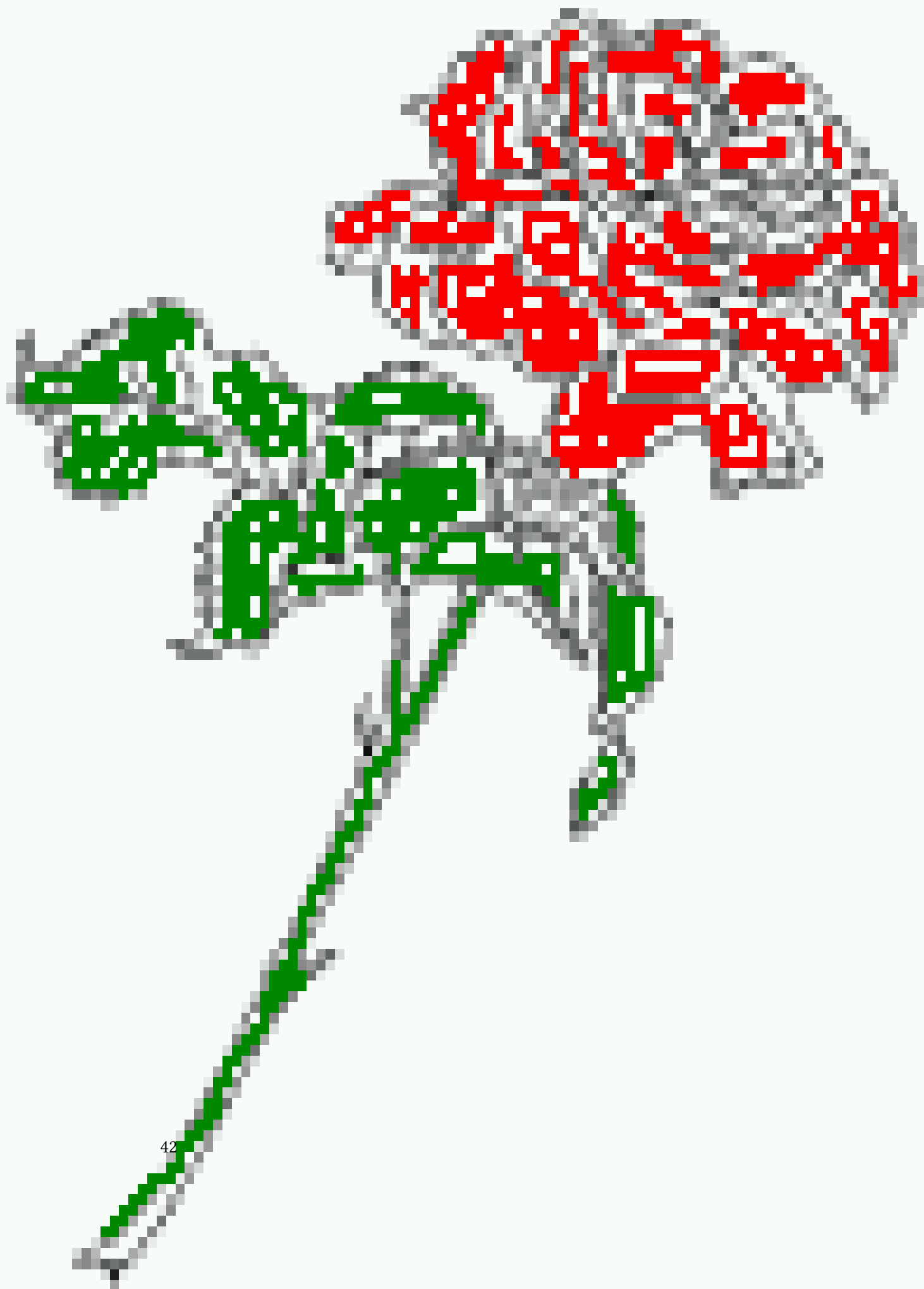
float capPos=d

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.

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Figure 31: 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.



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.

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16 Full page objects in twocolumn mode

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.

16.1 Using the `textarea`

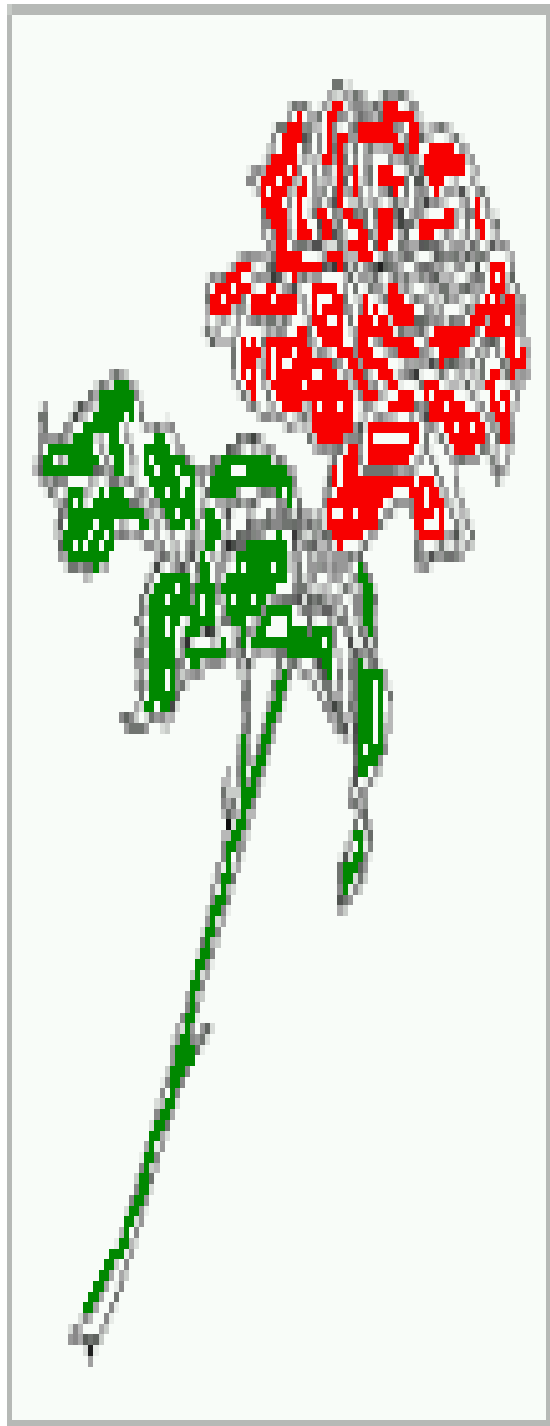
For an image or table which needs the whole space of a page the caption can be printed at the bottom of the preceeding or following page. It is possible in oneside and twoside mode, nbut makes only real sense in the twoside mode. Without any additional argument the caption is set first and the object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

```
\hvFloat[fullpage]{figure}%
{\includegraphics[width=\columnwidth,height
=0.9\textheight]{frose}}%
[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}
```

float
default

Figure 6 shows the behaviour if only the optional argument `fullpage` is used. With this default setting the caption is always placed *before* the following object. Depending to the

Figure 32: 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.



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 on page 28 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.

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.

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```
\hvFloat[fullpage]{figure}%
{\includegraphics[fullpage]{froese}}%
[A second float which needs the complete
column width and height.]%
{A Caption of a second ‘‘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:fullpage0-222}

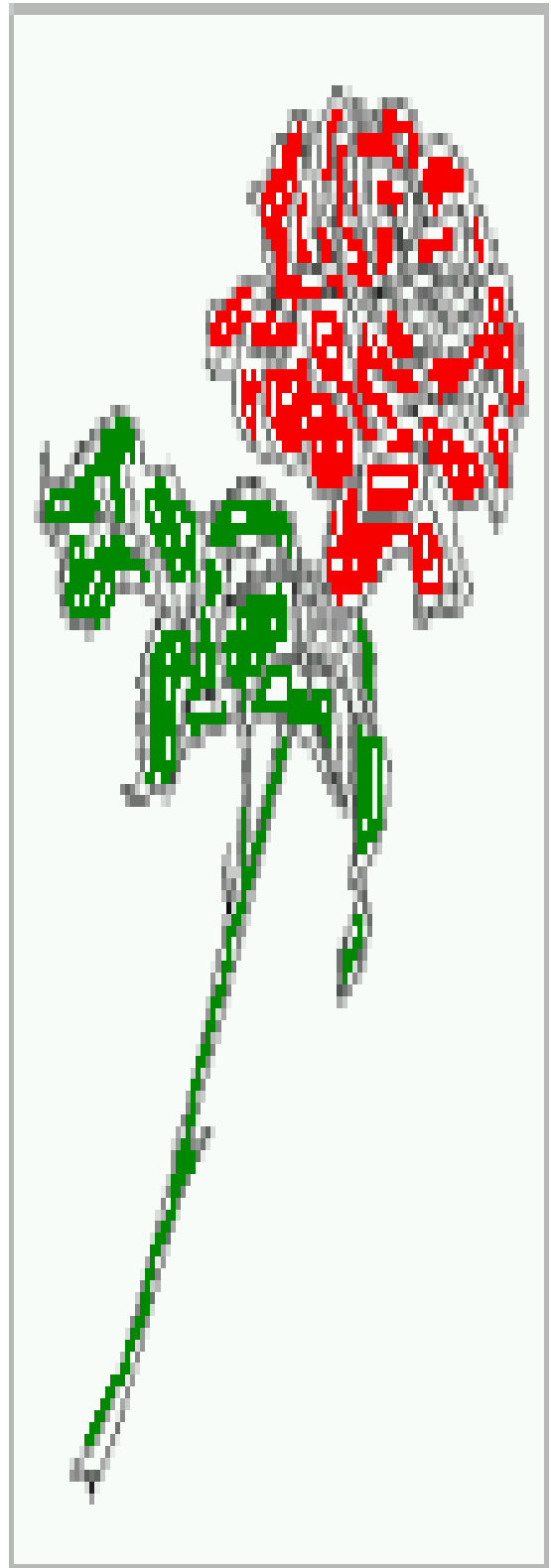
float
default

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.

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And after the second paragraph follows the

Figure 33: A Caption of a second “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.



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.

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16.1.1 Using capPos=r

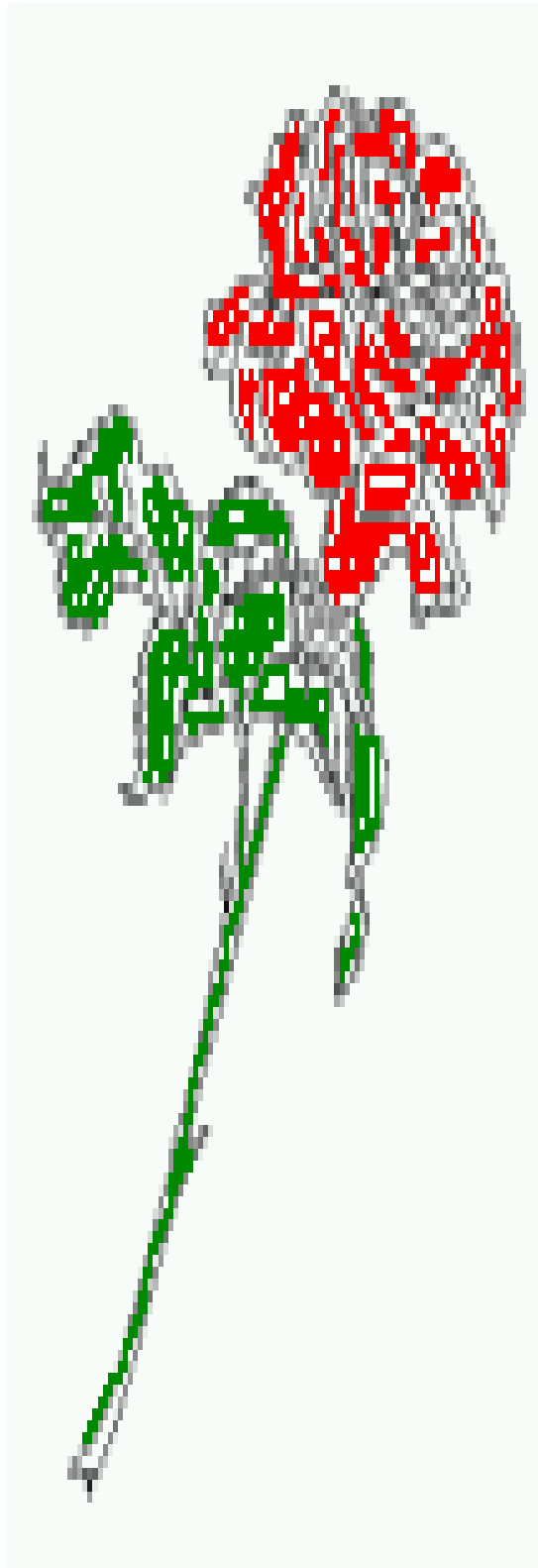
The caption will be printed right which is the same as *after* the full page object.

```
\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 whch has no real meaning because it
fills only the space for a long
caption.}%
{fig:fullpage1-2}
```

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.

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float capPos=r



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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.

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Figure 34: 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.

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```
\hvfFloat[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 whch has no real meaning because it
fills only the space for a long
caption.}%
{fig:fullpage1-2b}
```

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.

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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.

16.1.2 Using `capPos=i` — caption in the inner column

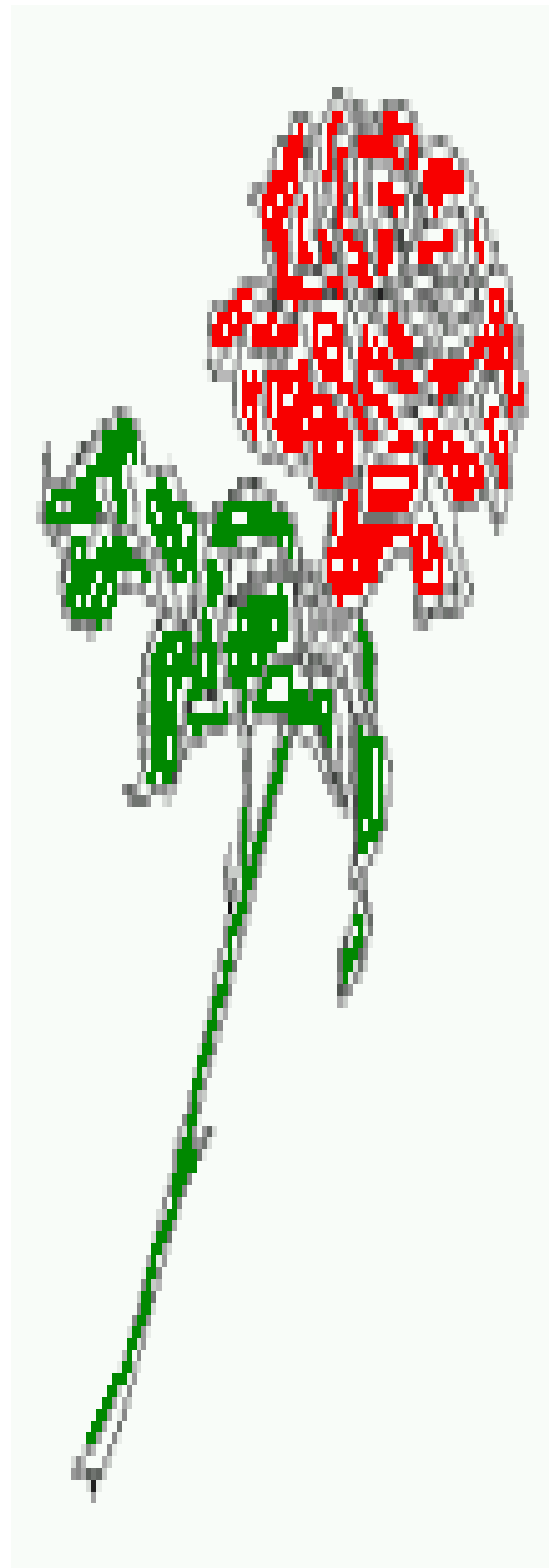
The caption will be printed in the right column for an even page and in the left column for an odd page.

```
\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}
```

float capPos=i

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



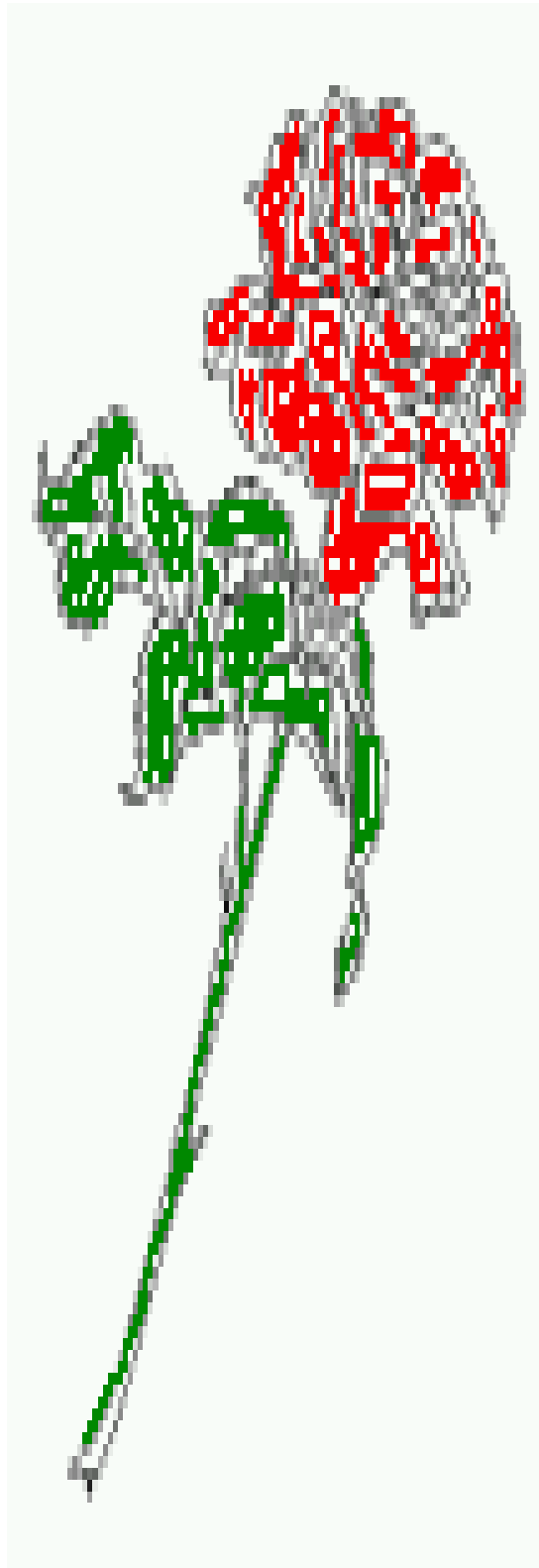
no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet 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.

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.

Figure 35: 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.

Figure 36: 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.



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.

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```
\hvFloat[fullpage, capPos=i]{figure}%
{\includegraphics[fullpage]{rose}}%
[A second float which needs the complete
column width and height.]%
```

```
{A Caption of a second ‘‘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:fullpage3-22}
```

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.

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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

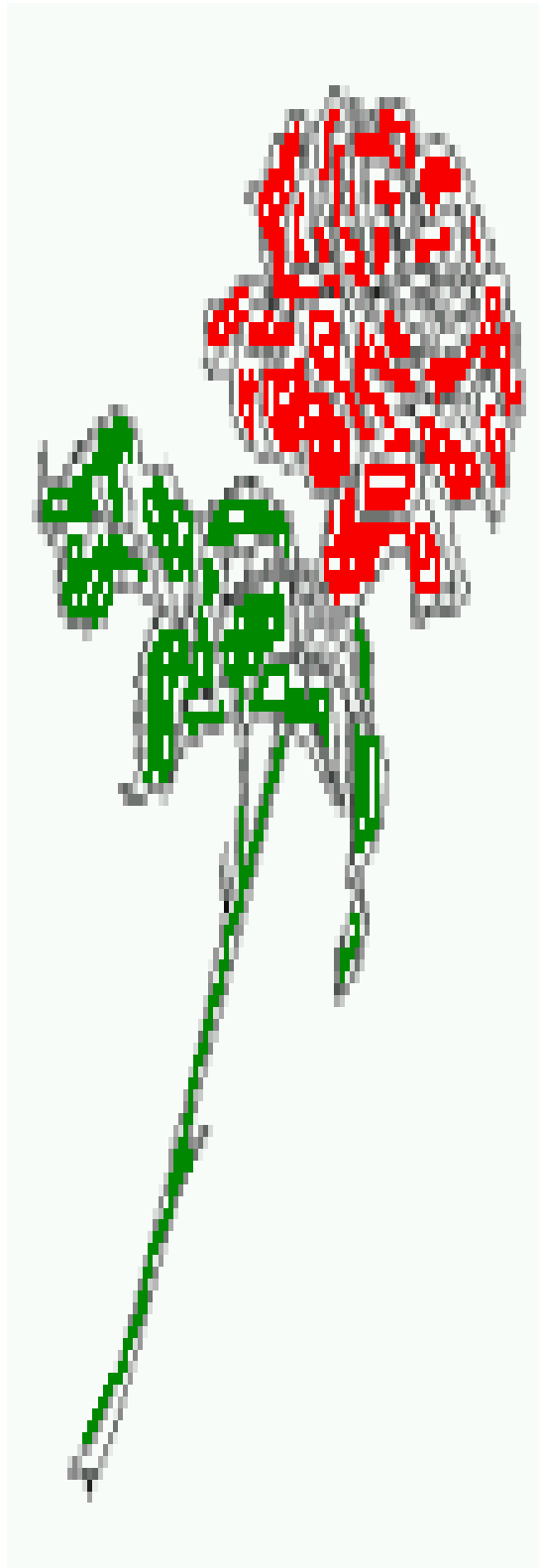
float capPos=i

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.

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Figure 37: A Caption of a second “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.



16.1.3 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.

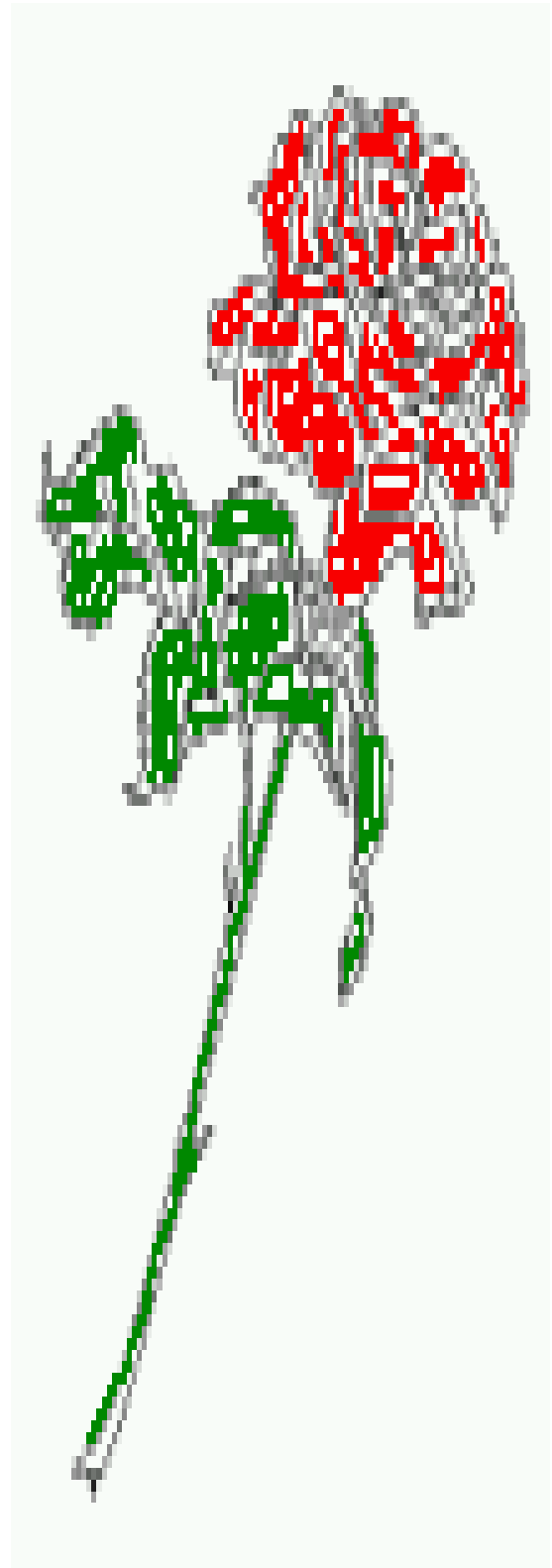
```
\hvFloat[fullpage, capPos=0]{figure}%
{\includegraphics[fullpage]{rose}}%
[A float which needs the complete page width
and height with \texttt{capPos=0}.]%
{A Caption of a “fullpage” object, which has
the caption position in the
outer page. This can be an even or odd page.
And some more text which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

float
capPos=0

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 dif-

Figure 38: 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.



ference 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.

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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.

```
\hvFloat[fullpage, capPos=0]{figure}%
{\includegraphics[fullpage]{rose}}%
```

[Again a float which needs the complete page width and height with V
 {Again a caption of a “fullpage” object, which has the caption pos
 outer page. This can be an even or odd page. And some more text who
 real meaning because it fills only the space for a long caption.}{f

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.

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float capPos=0

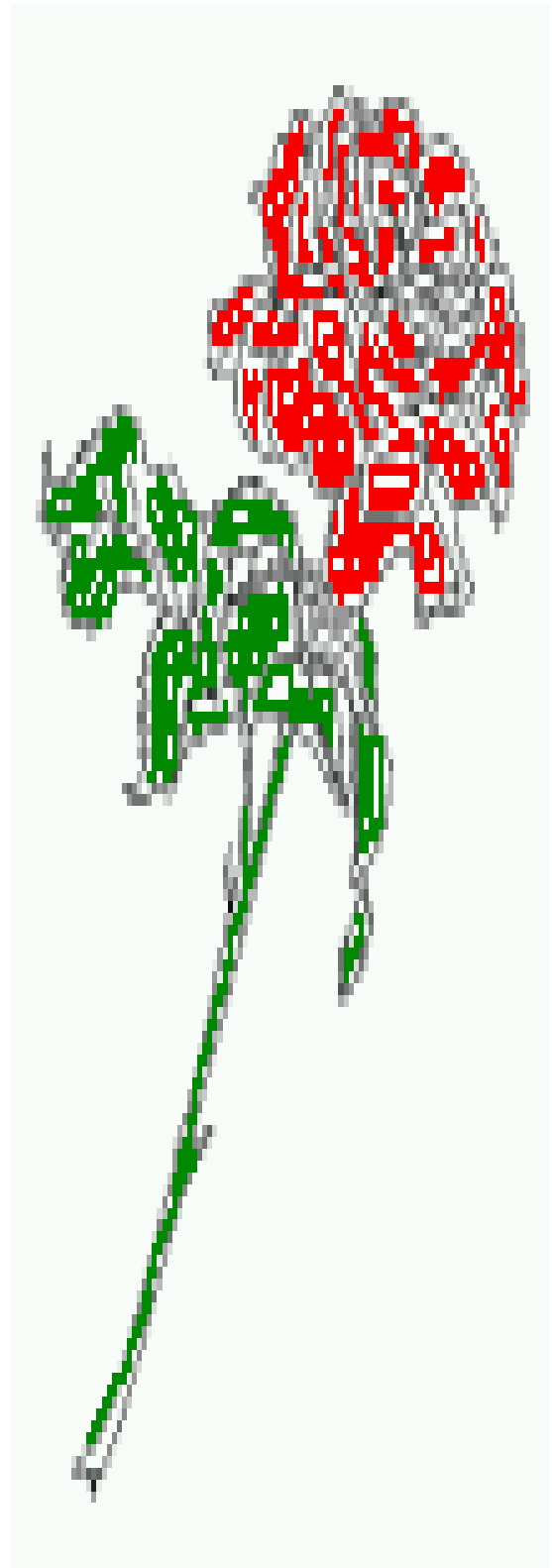
no need for special content, but the length of words should match the language.

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.

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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.

Figure 39: Again 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.



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.

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16.2 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=0]{figure}%
{\includegraphics[FullPage]{rose}}%
[Again a float which needs the complete page
 width and height with \texttt{capPos=0}.]
%
[Again 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:two}
```

float capPos=0

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

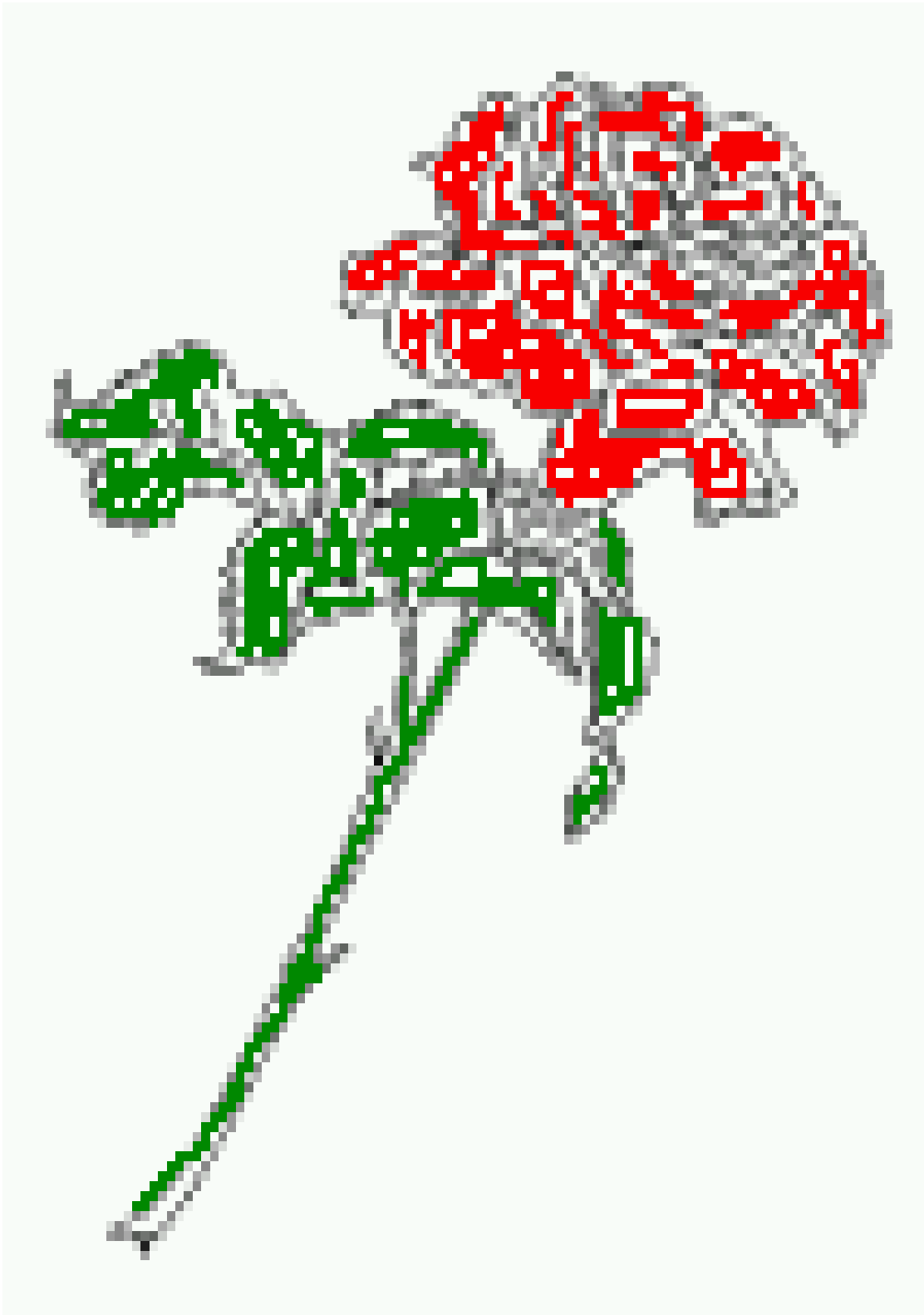
Figure 40: Again a caption of a “fullpage” object, which has the caption position in the outer page. This can be an even or odd page. And some more text which has no real meaning because it fills only the space for a long caption.

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.

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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.

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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

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16.3 Using the paper size

With the macro `\IncludeGraphics` (two uppercase letters!), 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`.

```
\hvFloat[fullpage, capPos=d]{figure}%
  {\IncludeGraphics{froze}}%
  [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}%
  {fig:paper}
```

float capPos=o

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.

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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.

17 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

```
\hvfFloat[fullpage]{figure}{\includegraphics{rose}}{A Caption}{fig:demo}
```

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

The caption of figure~\ref{fig:fullpage0-cap} is on page~\pageref{fig:fullpage0-cap}, but the image itself is on page~\pageref{fig:fullpage0}.

The caption of figure 27 is on page 28, but the image itself is on page 29.

Whith the package `varioref` one can get something like: see figure 4 on page 38, which uses a correct page number of the floatinmg object and not the caption page number which is on page 37.

Whith the package `\lpack{varioref}` one can % an additional get something like: see figure~\vref{fig:fullpage2}, which uses a correct page number of the floatinmg object and not the caption page number which is~\vpageref{fig:fullpage2-cap}.

18 Defining a style

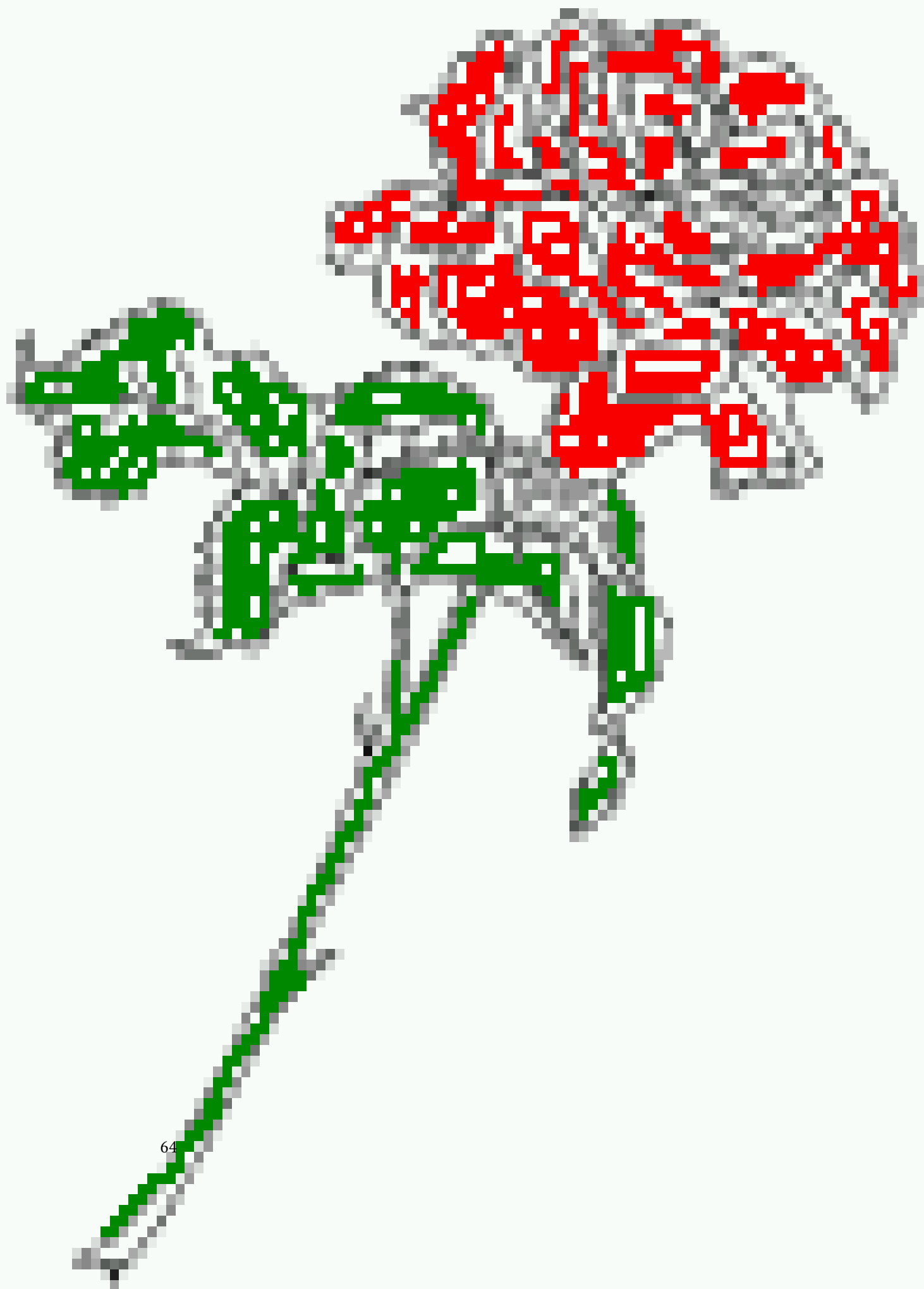
With `\defhvstyle` one can define a special style to get rid of the individual setting:

```
\defhvstyle{name}{setting}
```

For example:

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

Figure 41: 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




```
\hvFloat[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 42: Caption at bottom right beside the float with a caption width of 0.5\columnwidth .

19 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}
```

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20 The Package Source

```

%% $Id: hvfloat.sty 963 2019-03-14 10:33:52Z herbert $
%%
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{hvfloat}[2019/02/03 rotating of floating objects]
%%
%% IMPORTANT NOTICE:
%%
%% This is file 'hvfloat.sty',
%%
%% Herbert Voss <hvoss@tug.de>
%%
%% 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{2.00}
\def\filedate{2019/02/03}
\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

\ifhv@hyperref
  \RequirePackage{hyperref}
  \RequirePackage{hypcap}
  % \newcommand\fltref[1]{\ref{#1}\vpageref{#1-flt}}%%
\fi
\AtBeginDocument{\providecommand\capstart{}}% in no hyperref/hypcap is loaded
%
\RequirePackage{graphicx}

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

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

\newlength\hvMaxCapWidth
\newsavebox\hvObjectBox

```

```

\newsavebox\hvCaptionBox
\newsavebox\hvOBox
%
\newif\ifhv@useOBox
\newif\ifhv@nonFloat
\newif\ifhv@onlyText
\newif\ifhv@wide
\newif\ifhv@fullpage
\newif\ifhv@FullPage
\newif\ifhv@capbeside \hv@capbesidefalse
\newif\ifhv@separatorLine \hv@separatorLinetrue
\newif\ifhv@objectFrame \hv@objectFramefalse

\def\hv@Top{t}
\def\hv@Bottom{b}
\def\hv@Right{r}
\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)nner|(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
    \global\hv@capbesidefalse
  \else
    \ifx\hv@Top\@tempa
      \global\hv@capbesidefalse
    \else
      \global\hv@capbesidettrue
    \fi
  \fi

```

```

\fi
}
\define@key{hvSet}{capVPos}[c]{%      (b)ottom|(c)enter|(t)op
  \def\hvSet@capVPos{#1}%      it is relativ to the object
}
\define@key{hvSet}{objectPos}[c]{%      (l)eft|(c)enter|(r)ight|(i)nnner|(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}{use0Box}[true]{%      use of the hv0Box contents
  \@nameuse{hv@use0Box#1}%
}
\define@key{hvSet}{nonFloat}[true]{%      Do not use float environment
  \@nameuse{hv@nonFloat#1}%
}
\define@key{hvSet}{onlyText}[false]{%      Write the caption only as text
  \@nameuse{hv@onlyText#1}%
}
\define@key{hvSet}{wide}[true]{%      Write the caption only as text
  \@nameuse{hv@wide#1}%
}
\define@key{hvSet}{fullpage}[true]{%      fullpage float with caption on other page
  \@nameuse{hv@fullpage#1}%
%      \def\hvSet@capWidth{n}%
}
\define@key{hvSet}{FullPage}[true]{%      fullpage float with caption on other page
  \@nameuse{hv@FullPage#1}%
%      \def\hvSet@capWidth{n}%
}
\define@key{hvSet}{separatorLine}[true]{% separator line for caption of a full page float
  \@nameuse{hv@separatorLine#1}%
}%
\define@key{hvSet}{objectFrame}[true]{%      a frame around the object with no separation
  \@nameuse{hv@objectFrame#1}%
}%
\define@key{hvSet}{style}{%
  \@ifundefined{hv@#1}%
  {\errmessage{Custom style '#1' undefined}}%
  {\beginingroup
    \edef\x{\endgroup\noexpand\setkeys{hvSet}{\@nameuse{hv@#1}}}\x}%      use a defined style
}

\def\hvset#1{\setkeys{hvSet}{#1}}
%
\def\defhvstyle#1#2{\@namedef{hv@#1}{#2}}
%

\newcommand{\setDefaults}{%
  \hvset%

```

```

floatPos=htbp, rotAngle=0, capWidth=n, capAngle=0,
capPos=b, capVPos=c, objectPos=c, objectAngle=0,
floatCapSep=5, useOBox=false, nonFloat=false,
onlyText=false, wide=false, fullpage=false, FullPage=false,
separatorLine,objectFrame=false}%
}
%
\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\@captype{figure}%
  \ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi}
\newcommand\tabcaption[2][{}]{\def\@captype{table}%
  \ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi}
%
\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\if@hvstar

\def\hvFloat{\ifnextchar*%
  {\@hvstarttrue
   \hv@maxImageWidth=\textwidth
   \hvFloat@i}%
  {\@hvstarfalse
   \hv@maxImageWidth=\columnwidth
   \hvFloat@i*}%
}

\setDefaults

```



```

%\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]#2#3{%
  \begingroup
  \setlength\hvWideWidth{\dimexpr\linewidth+\marginparwidth}%
  \hv@maxImageWidth=\textwidth
  \global\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@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi}%
\else
  \savebox{\hvObjectBox}{%
    \rotatebox{\hvSet@objectAngle}{%
      \ifhv@useOBox\usebox{\hvOBox}\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\hv@WideWidth}%
          \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\hv@WideWidth}%
        \else
          \setlength\hvCapWidth{\hvSet@capWidth\columnwidth}%
        \fi
      \fi
    \fi
  \fi
\fi
\saveCaptionSkip          % we put this space ourselves
\ifx\hvSet@capAngle\hv@Zero % need rotation?
  \sbox\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
    \fi
  \else

```

```

\let\@capttype\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}%
}%
\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\@capttype\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
\begingroup% 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
\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
\ifoddpagoroneside\hv@capPos=0\else\hv@capPos=2\fi
\else
\ifx\hvSet@capPos\hv@Outer
\ifoddpagoroneside\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}
%
\newcounter{hvpfigure}
\newcounter{hvpitable}

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

\def\set@caption@object{% first caption, then object
  \begin{\hv@floatType}[!b]
  \capstart
  \belowcaptionskip=0pt% local change
  \ifhv@separatorLine\drawSepLine\fi
  \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
  \end{\hv@floatType}%
%
  \if@hvstar
    \begin{\hv@floatType*}[!p]
  \else
    \begin{\hv@floatType}[!p]
  \fi
  \edef\@captype{hvp\@captype}%
  \capstart
  \refstepcounter{\@captype}%
  \expandafter\ifx\expandafter\relax\hv@label\relax\else
    \expandafter\label\expandafter{\hv@label}%
  \fi
  \ifhv@objectFrame\frame{\hv@floatObject}\else\hv@floatObject\fi
  \if@hvstar
    \end{\hv@floatType*}%
  \else
    \end{\hv@floatType}%
  \fi
}

\def\set@object@caption{% first object, then caption
  \if@hvstar
    \begin{\hv@floatType*}[!p]
  \else
    \begin{\hv@floatType}[!p]
  \fi
  \edef\@captype{hvp\@captype}%
  \capstart
  \refstepcounter{\@captype}%
  \expandafter\ifx\expandafter\relax\hv@label\relax\else

```

```

\expandafter\label\expandafter{\hv@label}%
\fi
\ifhv@objectFrame\frame{\hv@floatObject}\else\hv@floatObject\fi
\if@hvstar
\end{\hv@floatType*}%
\else
\end{\hv@floatType}%
\fi
%
\begin{\hv@floatType}[!b]
\capstart
\belowcaptionskip=0pt% local change
\ifhv@separatorLine\drawSepLine\fi
\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
\end{\hv@floatType}%
}
%
\def\do@@@hvFloat{% special float page: caption <-> fullpage image
% \typeout{\hvfloat: \hvSet@capPos}%
% \ifoddpage\typeout{\hvfloat: Oddpage}\else\typeout{\hvfloat: Evenpage}\fi
\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
\hv@@capPos=0
\fi
\fi
\fi
\fi
\fi
\checkoddpage
\ifcase\hv@@capPos% caption before object 0->left
\if@twocolumn
\if@firstcolumn
\ifhv@FullPage\afterpage{\set@caption@object}\else\set@caption@object\fi
\else
\afterpage{\set@caption@object}%
\fi
\else
\set@caption@object
\fi

```

```

\or%           caption after object 1->right
\if@twocolumn
\if@firstcolumn
\afterpage{\null\afterpage{\set@object@caption}}%
\else
\set@object@caption%
\fi
\else
\set@object@caption
\fi
\or%           caption on even page 2->left page
\ifoddpage\set@object@caption\else\set@caption@object\fi
\or%           caption on odd page 3->right page
\ifoddpage\set@caption@object\else\afterpage{\set@caption@object}\fi
\or%           caption on the inner column 4->inner
\if@twocolumn
\ifoddpage
\if@firstcolumn
\set@caption@object
\else
\afterpage{\set@object@caption}%
\fi
\else% even page (left)
\afterpage{%
\if@firstcolumn
\set@caption@object
\else
\afterpage{\set@caption@object}%
\fi
}%
\fi
\or%           caption on the outer column
\if@twocolumn
\ifoddpage
\afterpage{\if@firstcolumn\set@caption@object\else\afterpage{\set@caption@object}\fi}%
\else% even page (left)
\if@firstcolumn
\set@caption@object
\else
\afterpage{\set@object@caption}%
\fi
\fi
\fi
\endgroup% startet at main \hvFloat
}%
%

\endinput

```