The \texttt{capt-of} package

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1 Why this package?

\LaTeX{} provides a command (\texttt{\caption}) for adding a caption to a float environment (that is to say, a \texttt{figure} or a \texttt{table}, “out of the box”).

The command is a good one, and many users want to use it. Often, they end up using a float environment, in a case where it’s not strictly necessary, and get entangled in the positioning problems that floats pose for the innocent user. Using this package, the user can have standard-looking captions without the need of a float environment.

This package defines an alternative command, \texttt{\captionof}, which sets things up so that \texttt{\caption} will work outside of a float.

The \texttt{float} package provides an alternative to \texttt{\captionof}, in the float \texttt{[H]} option (“place the environment \texttt{here} without doing any of this floating stuff”). So why use \texttt{capt-of}? — its great advantage is simplicity; you load it, and it defines one macro, while \texttt{float} defines lots and lots. (Of course, if you need others of \texttt{float}’s capabilities, \texttt{capt-of} loses its advantage...).

2 The potential problem

\texttt{\captionof} defines a caption in text; it also steps the \texttt{figure} (or \texttt{table} or whatever) counter. The float environments do the same.

Now, consider the sequence:

\begin{verbatim}
<earlier text>
\begin{figure}
  <figure stuff>
  \caption{...}
  \end{figure}
...
<intervening text>
...
<inline figure stuff>
\end{verbatim}

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\captionof{figure}{...}

and suppose the \texttt{figure} environment doesn’t fit anywhere between where it’s specified and the inline figure (so that it will float to somewhere later).

We will then see a document with

\begin{quote}
\langle \text{earlier text} \rangle
\quad \ldots
\quad \langle \text{intervening text} \rangle
\quad \ldots
\quad \langle \text{inline figure stuff} \rangle
\quad \text{Figure } (n+1): \ldots
\quad \ldots
\quad \langle \text{yet more text} \rangle
\quad \ldots
\quad \langle \text{figure stuff} \rangle
\quad \text{Figure } (n): \ldots
\end{quote}

That is, the figure numbers have got out of order, because the floating figure was specified before the inline figure.

\LaTeX{} won’t do this when everything is specified as a float: it keeps floats of the same type in order (which is why floats stack up if a single one won’t fit).

The moral of that little tale is to say: don’t use \texttt{\captionof} and floats of the same type in the same document. (Or be extra-specially careful about what’s happening if you must.)

3 \textbf{The code (such as it is)}

\begin{verbatim}
\captionof Usage: \captionof{⟨type⟩}{⟨move⟩}{⟨caption⟩}

\texttt{type} is ‘\texttt{figure}’ or ‘\texttt{table}’ (or some type you’ve defined with the \texttt{float} package)

\texttt{move} is the optional moving argument of \texttt{\caption} (the thing that goes to the list of tables/figures)

\texttt{caption} is the text of the caption

It’s probably best to use \texttt{\captionof} within an enclosing group (e.g., \texttt{\begin{⟨center⟩} figure \captionof{⟨figure⟩}{⟨blah blah⟩} \end{⟨center⟩}})

1 \newcommand\captionof[1]{\def\@captype{#1}\caption}

2 \endinput

3 ⟨/package⟩
\end{verbatim}