The captdef package

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1 Why this package?

LaTeX provides a command (`\caption`) for adding a caption to a float environment (that is to say, a `figure` or a `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 a means of defining caption commands, which creates things that look as if they were created by `\caption`, and which work outside of a float.

The float package provides an alternative to `\captdef`-defined commands, in the float `[H]` option ("place the environment *here* without doing any of this floating stuff"). So why use captdef? — its great advantage is simplicity; you load it, and it defines just *three* macros, while float defines lots and lots. (Of course, if you need others of float's capabilities, captdef loses its advantage. . .).

2 How the package works

The package defines a command

```
\DeclareCaption{command}{counter}
```

which creates a 'caption'-like command, which uses `counter` for its numbering.

The package then goes on to declare the commonly-needed caption commands `\figcaption` and `\tabcaption`:

```
\captdef{\figcaption}{figure}
\captdef{\tabcaption}{table}
```

3 The potential problem

Commands defined by `\captdef` place a caption in text, and also step the `figure` (or `table` or whatever) counter. The float environments do the same.

Now, consider the sequence:

---

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

and suppose the `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

⟨*earlier text*⟩
...
⟨*intervening text*⟩
...
⟨*inline figure stuff*⟩
Figure ⟨*n+1*⟩: ...
...
⟨*yet more text*⟩
...
⟨*figure stuff*⟩
Figure ⟨*n*⟩: ...

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 `\captdef`-defined commands with floats of the same type in the same document. (Or be extra-specially careful about what's happening if you must.)