

# Plant UML With Citations

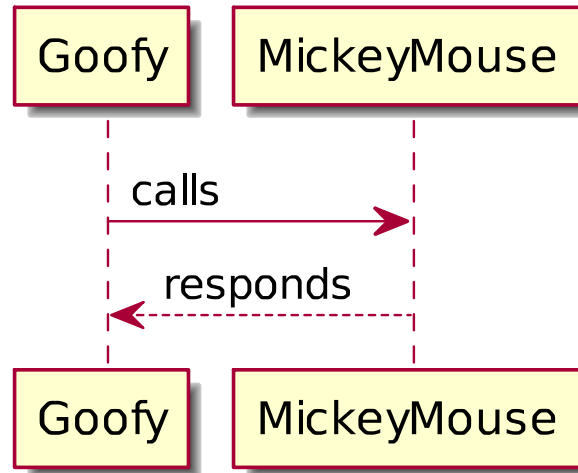
## R Markdown

This is a very simple implementation of a plantuml in an Rmarkdown page <http://rmarkdown.rstudio.com><sup>(1)</sup>. In R-markdown you would normally cite with a syntax line `[@reference]`. In order to cite within the graphics we are exporting the graphics as latex and citing using latex. That means you cite using either `\cite{reference}` or `\citep{reference}`. we are using natbib which means we use `\citep`. Using `[@reference]` still works (not all configuration is set)<sup>(3)</sup>.

## Example UML

The example below is a very simply UML diagram. It is exported as an image, as per normal and contains no reference citation.

```
# create the uml as a variable and plot it
plot(
  plantuml (
    |
    "Goofy" As Goofy -> MickeyMouse: calls
    Goofy <-- MickeyMouse: responds
    |
  ),
  vector=T
)
```



We want to add a reference within labels and nodes. We need to escape the backslashes in the code to ensure they are not mis-interpreted so it becomes `\\citep{reference}` when within a UML.

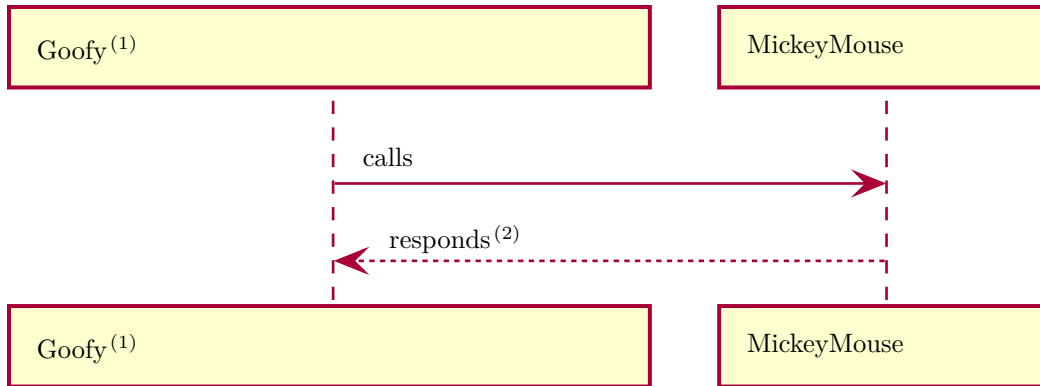
```

# create the uml as a variable including citation with \\citep{} and save it to latex temp file
plot(
  plantuml (
    '
    "Goofy \\citep{R-rmarkdown}" As Goofy -> MickeyMouse: calls
    Goofy <-- MickeyMouse: responds \\citep{R-base}
    '
  ),
  vector=T,
  file = "myNewUml.latex"
)

# Read the temp file back in
latex <- read_file("myNewUml.latex")

# Remove the useless header!
latex <- gsub("\\\\\\\\\\\\\\\\\\\\cite", "\\\\\\\\\\\cite", latex)
l <- substr(latex, regexpr("(definecolor)", latex)-3, regexpr("(end.document})", latex)-3)
#tools::parseLatex(l)
cat(l)

```



## References

- [1] JJ Allaire, Yihui Xie, Jonathan McPherson, Javier Luraschi, Kevin Ushey, Aron Atkins, Hadley Wickham, Joe Cheng, Winston Chang, and Richard Iannone. *rmarkdown: Dynamic Documents for R*, 2019. URL <https://CRAN.R-project.org/package=rmarkdown>. R package version 1.12.
- [2] R Core Team. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria, 2019. URL <https://www.R-project.org/>.
- [3] Yihui Xie. *knitr: A General-Purpose Package for Dynamic Report Generation in R*, 2019. URL <https://CRAN.R-project.org/package=knitr>. R package version 1.22.