# Fluff it up!

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# Readme

# README file

- Simple `Markdown` file in the root directory (`./README.md`)
- Sometimes all you have to read:
  - purpose of the package
  - basic usage of the package
  - how to install the package
  - stage of the development
  - citation, license information and much more
- use `usethis::use_readme_md()` or `usethis::use_readme_rmd()` if you want to include examples of code

See examples of `README` files on GitHub, e.g. c14bazAAR

# Versioning

# Semantic versioning

`<major>.<minor>.<patch>`, e.g. 4.2.0

- **major version** `usethis::use_version("major")`

  incremented when an existing function is changed or removed, i.e. the change might (oh it will!) break existing code

- **minor version** `usethis::use_version("minor")`

  new functionality is added but the code is backward compatible, i.e. old code works but there are some new functions

- **patch** `usethis::use_version("patch")`

  updates to existing functions, bugs are fixed etc.

## Versioning pacakges in development

- Start at **0.0.0.9000** and increment when adding features `usethis::use_version("dev")`

# Licenses

# Licenses

- There are many options and differences under various legal systems, in general, you want your code to be accessible...
- What if I do not specify an **open source** license?

https://choosealicense.com/ helps you with choosing a license...

- Most common options for software:
  - **MIT License**: simple & permissive

    *"Do whatever you want with my stuff."*

  - **GNU GPLv3**: *copyleft* license

    *"Do whatever you want, but always show the source code."*
- What about the `CC-BY-Licenses`?
  - These are licenses for the data (etc.), `CC-BY-4.0` and `CC-BY-SA-4.0` should not be used for software.

    https://creativecommons.org/choose/

# Adding a license

- License lives in the `LICENSE` file
- It is specified in a proper field in the `DESCRIPTION`

`usethis::use_*_license()` helper function:

- `usethis::use_mit_license("First Last")`

  to use MIT License

- `usethis::use_gpl3_license()`

  to use GNU GPL v3

- `usethis::use_cc0_license()` or `usethis::use_ccby_license()`

  to use CC License, with a *data* package only!

# Citations

# Citations

*We have invested a lot of time and effort in creating R, please cite it when using it for data analysis.*

- Citing packages employed in your analysis is a good practice (as well as citing books, articles and other sources you use. . . )
- `R` makes this super easy!

`citation()` returns citation for `R`

`citation(package = "pckgname")` returns citation for a package

sometimes, there are several items you can cite and no BiBTeX, wrap the `citation()` call into `toBibtex()` function: `toBibtex(citation(package = "spatstat"))`

# Citing R

```
> citation()

To cite R in publications use:

  R Core Team (2021). R: A language and environment (...)
  R Foundation for  Statistical Computing, Vienna, (...)
  URL https://www.R-project.org/.

A BibTeX entry for LaTeX users is

  @Manual{,
    title = {R: A Language and Environment (...)},
    author = {{R Core Team}},
    organization = {R Foundation for Statistical (...)},
    (...)
  }
```

# Adding a citation to your package

- if you do not add it yourself, it is generated from `DESCRIPTION`
- lives in a file `inst/CITATION`

**`usethis::use_citation()`** creates the file for you:

```
citHeader("To cite myAMAZINGpackage in publications use:")
citEntry(
  entry    = "Article",
  title    = "myAMAZINGpacakge",
  author   = as.person("first last"),
  journal  = "Amazing packages journal",
  year     = "2021",
  volume   = "4",
  number   = "2",
  pages    = "42-69",
  url      = "www.myAMAZINGwebsite.org",
  textVersion = paste(
    "First, Last 2021: myAMAZINGpackage. Amazing packages journal
    4(2), 42-69. www.myAMAZINGwebsite.org"))
```

# Communities

# Fostering community development

- Use git with GitHub or GitLab so people can cooperate

  (slightly more on this in the *Advanced topics*)
- Be clear on **how** to contribute by including
  - Contributing guidelines
  - Code of conduct (`usethis::use_code_of_conduct()`)
  - How to troubleshoot issues etc.

# Exercise

# Exercise I

## Add and explore basic `README` file, fill it in

## Add a development version (0.0.0.9000)

## Add license

1. Explore the `DESCRIPTION` file, what does it say about the license?
2. Add MIT License with your name to your package.
3. Explore the `DESCRIPTION`, `LICENSE` and `LICENSE.md` files

# Exercise II

## Citations

1. Load your package
   (`devtools::load_all()` or `Ctrl+Shift+L` in `Rstudio`)
2. See the default citation `citation("pckgname")`
3. Let's edit the citation!
4. Use `usethis::use_citation()` to generate a `CITATION` file
5. Fill in the gaps!
6. Load the package.
7. Inspect the citation.
8. Repeat until:
   - 8.1 You get no error messages and/or
   - 8.2 It is perfect...