Package Development Lab Day 1

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Create a package

1. Create the package file structure by typing the following in the Console. Choose the path carefully so that you don't create a package inside another project.

```
library(devtools)
create_package("~/covidtime")  # you can change the path
```

Your RStudio session will now switch to the new `covidtime` package project.

2. Create a new R script, type in the following function, and save it as `day.R` in the R folder:

```
whatdayisit <- function() {
  format(Sys.Date(), "%A, %B %d, %Y")
}
```

3. Run the following in the Console:

```
library(devtools)
load_all()
```

4. Test the function in the Console:

```
whatdayisit()
```

5. Make some changes and repeat 3. and 4. Some ideas:

- Change `whatdayisit()` so the output begins with `Today is`

Add functions either in the same file or new R files:

- `tomorrow()` returns tomorrow's date
- `yesterday()` returns yesterday's date
- `daysto(date)` returns the number of days until `date`, for example:

```
> daysto("2022-02-01")
Time difference of 20 days
```

Note: do not use any other packages (yet)!

Document and install

1. Open the `DESCRIPTION` file and do the following:

a) Change the `Title:` line to:

```
Title: Helps reduce pandemic induced temporal disintegration
```

b) Change the `Authors@R:` line so it includes your name and email address. *Don't remove what looks like an extra comma.* Delete the `comment` part.

c) Change the `Description:` line to:

```
Description: Tools for regaining temporal orientation.
```

When you're done it should look like this (with your name and email):

```
Package: covidtime
Title: Helps reduce pandemic induced temporal disintegration
Version: 0.0.0.9000
Authors@R:
    person("first", "last", , "first.last@example.com", role = c("aut", "cre"))
Description: Tools for regaining temporal orientation.
License: `use_mit_license()`, `use_gpl3_license()` or friends to pick a
    license
Encoding: UTF-8
Roxygen: list(markdown = TRUE)
RoxygenNote: 7.1.2
```

2. Open `day.R`. Put the cursor inside the function and click "Code... Insert Roxygen Skeleton". This will create the function documentation structure but you need to fill in the contents.

a) Change the first line to `Returns the current day and date nicely formatted`

b) Change the `@return` line to `@return character string with day and date`

c) After the `@examples` line add `whatdayisit()`

When you're done, the documentation part of the file should look like this:

```
#' Returns the current day and date nicely formatted
#'
#' @return character string with day and date
#'
#' @export
#'
#' @examples
#' whatdayisit()
#'
```

3. Run the following in the Console:

```
document()
```

4. Run the following in the Console:

```
install()
```

Check that it appears in your list of packages.

5. Close the project and try using your package!

```
library(covidtime)
whatdayisit()
```

(Optional) Store your package on GitHub

This will only work if you have set up git to work with RStudio.

Open the `covidtime` project and run the following in the Console:

```
usethis::use_git()
usethis::use_github()
```

Now anyone can install your package with `devtools::install_github()`.

To set default branch from master to main, execute the following in the terminal:

`git config --global init.defaultBranch main` `git config --global init.defaultBranch main`