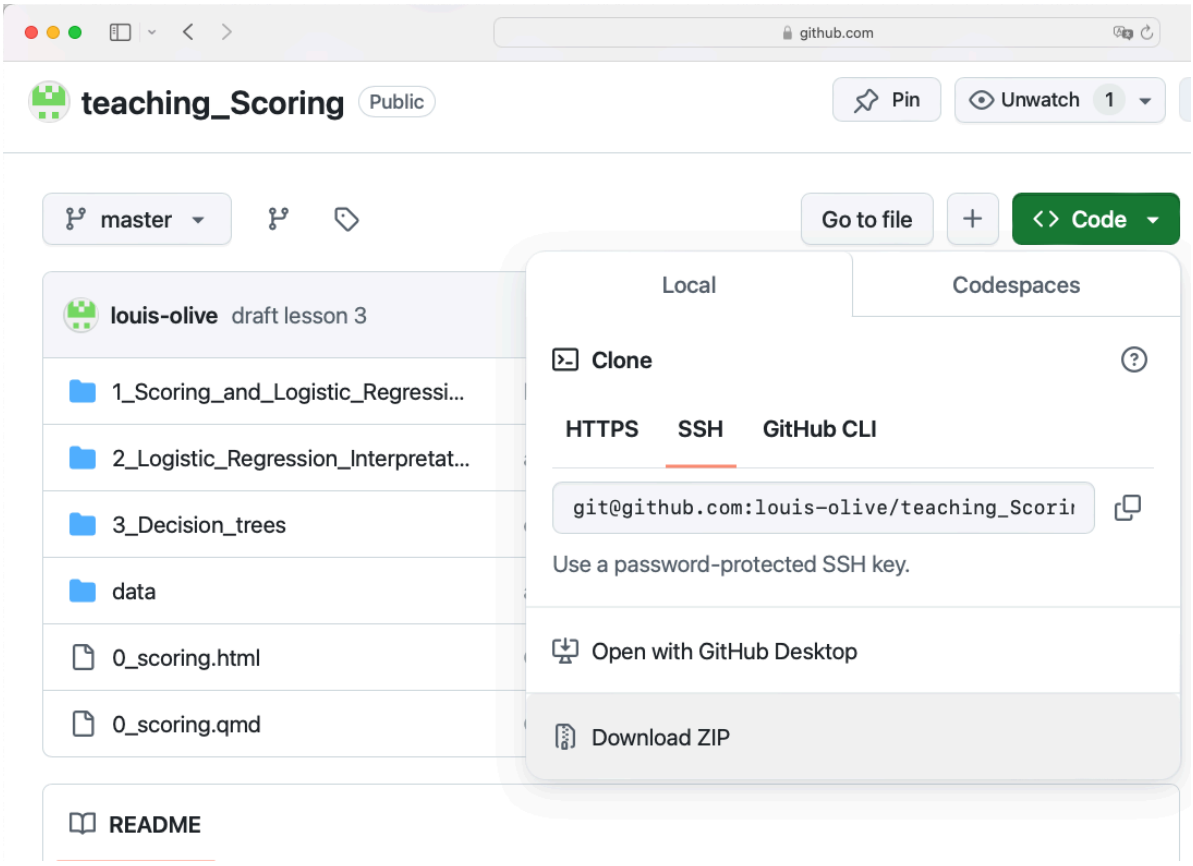
Exam

1 Instructions

- The exam is open documents, open browser. If copying large chunks of codes from the browser, give a reference (link to website, stackoverflow, stats.stackexchange, copy GenAI Prompt/Answer in appendix etc). You can reuse code from the lessons hosted here: https://github.com/louis-olive/teaching_Scoring/, click on Code/Download ZIP for the last version:



- The first part of the exam is to be performed in-class (**TO DO in-class** in the exam document) on Monday, October 13. The in-class exam will last 90 minutes (08:00-09:30).
- You must use the R programming language, preferably with RStudio. Your code for analysis should use one of the following formats: preferably quarto Markdown (.qmd, as done in the course), but you might prefer R Markdown (.Rmd) or an R file (.R).
- Packages that you may need besides `base R` and `stats` (`glm()`, `step()`) that have been used in the course include:

`tidyverse`, `broom`, `class`, `ROCR`, `car`, `aod`, `rsample`, `bestglm`, `glmnet`, `glmnetUtils`, `DescTools`, `splines`, `rpart`, `rpart.plot`, `ada`, `gbm`, `xgboost`

You can install them using the following code (uncomment):

```
# # UNCOMMENT IF NEEDED
# # https://statsandr.com/blog/an-efficient-way-to-install-and-load-r-packages/
# # Package names
# packages <- c("tidyverse", "ROCR", "car", "aod", "broom", "rsample", "bestglm",
# "glmnet", "glmnetUtils", "DescTools", "splines", "rpart", "rpart.plot", "ada", "gbm",
# "xgboost")
#
# # Install packages not yet installed
# installed_packages <- packages %in% rownames(installed.packages())
# if (any(installed_packages == FALSE)) {
#   install.packages(packages[!installed_packages])
# }
#
# # Packages loading
# invisible(lapply(packages, library, character.only = TRUE))
#
#
# # Additional packages used throughout the course but not needed for the analysis
# additional_packages <- c( "purrr", "pROC", "foreign", "patchwork", "class",
# "scales")
```

Check that it works on your computer before the exam.

- Beside your code file (.qmd/.Rmd/.R) it is better if you can render a report of your analysis (.html when using .qmd/.Rmd). If using .R file, comment carefully the code and try to use quarto/Rmarkdown for your take home exam.
- The code file and report's general readability especially for the take home will impact the grading as well as the richness of their content (do not hesitate to comment on your intents, assumptions, findings, conclusions, especially in the take home part, no GenAI

for the comments please, I prefer your own simple/concise sentences, what is important is the content and insights, not a pompous style).

- The .html file for report should be readable in a standard web browser (Chrome, Safari, Firefox, Edge …). The .qmd/.Rmd/.R code file should run without errors (if something is not working as you wish, comment in the code with your intents). They should be posted before 09:30 on 13 October 2025 for the in-class part to my two email addresses `louis.olive@ut-capitole.fr`, `louis.olive@gmail.com` (in case the first one encounters issues) with subject `SCORING EXAM - YOUR NAME`. You can prepare your email in advance to save time at the end of exam.
- Allow yourself at least 5-10 minutes before the end to check your .qmd/.Rmd/.R file is running and you have a readable report or code. If you finish before the end, and are happy with the result post me your code/report and take a well deserved rest!
- If you are not happy with some or all parts of the in-class analysis, you might complete/correct/improve it at home, if it improves your grading a maximum of half of points will be given (for each relevant improvement).
- For the take-home part the deadline is Monday 27 October 2025 08:00. A document will be provided after the in-class exam.
- Regarding the grading:
  - 40% of the total points for the in-class part, 60% for the at-home part
  - the rest will be detailed in the exam document.