

NUS Learning Festival 2019

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- This course is taught to second-year Data Science (DSA) majors.
- It is typically their first in-depth exposure to R.
- Half of the class is on R. The second half focuses on visualisation techniques.

Course Expectations

It is a lofty ambition, but at the end of the course, we hope that the students will be:

- Able to use R efficiently.
- Able to manipulate data efficiently using `tidyverse`.
- Able to visualise data well.
- Able to explore data independently and confidently.

Assessment

- Weekly R markdown submissions to LumiNUS.
- Digital assessment through Exemplify.
- DataCamp assignments.
- Tutorial participation.

autoharp R package

nus specific functions

- LumiNUS filename matcher.
- Exemplify code extractor.

autoharp R package

non-nus specific functions

- A shiny interface to provide immediate feedback to students before submission.
- Perform batch rendering of Rmd submissions.
- Check if solutions are correct using unit tests. (see alternatives)
 - gradescope
 - markmyassignment
 - datacamp api / r package
 - coursemology
- Check run-time efficiency.
- Static code analysis
- A grading interface for code ported from Exemplify.

Examples of static code analysis

- ① Did they duplicate (cut-and-paste) code instead of writing a function?
- ② Did they use for loops instead of apply, dplyr tools?
- ③ Do they have unused items in their workspace?
- ④ Did they use the pipe operator well?
- ⑤ Did they load too many unnecessary packages?
- ⑥ Did they copy code from one another?