

Stats 230, Homework 1

Due date: **January 14**

1. If you don't have one already, create a <https://github.com> account. Create a new repository and connect it to RStudio following instructions here: <https://happygitwithr.com/new-github-first.html>. If you make this repository private, add me as a collaborator. My github username is `vnminin`.
2. Use `create_package("~/path/to/yourpackage")` to generate a package skeleton. Make sure to commit your changes and push them to github.
3. Add to your package a function that multiplies two square matrices and a vector and document it using roxygen: <https://r-pkgs.org/man.html>. Your function should have an argument to switch between two ways to compute the product: 1) $(\mathbf{A} \times \mathbf{B}) \times \mathbf{x}$ and 2) $\mathbf{A} \times (\mathbf{B} \times \mathbf{x})$.
4. Use microbenchmarking, explained here <https://adv-r.hadley.nz/perf-measure.html>, to measure the performance of the two ways to compute the product above.
5. Submit a Rmarkdown file that loads your package and displays results of your benchmarking experiments and an html file compiled from this markdown file. Add an url of your github repository in the markdown file.