Start at: Oct, 26, 2017 Finish until: Nov, 02, 2017

Exercise 01

Part 1

Find yourself a little tutorial about git. Read and make sure you understand its basic concepts and how to use it. If you are working on your own machine, and did not do so already: install the necessary tools.

Part 2

Create a first repository on ci.inf-i2.uni-jena.de. You can log into this service using your URZ credentials, but only after I have unblocked you. So please try to login at least once so I can see your unblocking request.
Clone your newly created repository on your local machine. Make a change to your locally cloned repository. Add your changes and commit
them. Next change something else and look at the difference and status of your changes. Add and commit them again.

Part 3

It is recommended to use CMake for this course for building all C++ projects. However, you can write your own Makefiles if you really want to. More information about CMake can be found here.

Extend your repository from Part 2 such that it becomes a project that computes a matrix vector product between two random operands. You can choose to represent the matrices as dense or sparse matrices, but my advice is to start with dense matrices first.

Read a parameter N from the command line at startup time. This integer value is to denote the dimension of both the rows and columns of the matrix, as well as the size of the vector.

Also read in a second parameter k, that is to denote the number of iterations your program is executing. So for k = 2, your program is going to compute a matrix-vector product between randomly initialized operands twice!

Wrap your main loop around some time measuring code and print the time taken to stdout after finish in seconds.

Use your git repository for all intermediate steps of your implementation process appropriately.