

# Assignment 1

- 1- All TRY IT OUT's and Exercises on pages 6-23 from the book *Program Analysis: An Appetizer* by Flemming Nielson and Hanne Riis Nielson.
- 2- Report the capabilities of the compiler infrastructure LLVM and check how one may encode a new language, like the one you are acquainted with in the course, in LLVM.
- 3- Report how the program graph of a given program can be derived (see Appendices of the book *Program Analysis: An Appetizer*). Is LLVM useful for this purpose?
- 4- (Project) Implement Reaching Definitions analysis for the programs of the programming language introduced in the course. To do so, you may implement from scratch or make use of existing tools.