

# **Assignment in Compiler Construction (CMC1), Autumn 2020.**

The assignment must be solved in groups – preferred group size is three. There is a group presentation at the end of the course. The exam will be individual.

The deadline for the hand-in of your assignment is Tuesday 24-Nov-2020 @ 23:59. If you after the presentations on Thursday 26-Nov-2020 need to fix something or complete parts of the compiler, a new deadline might be granted by me. The new deadline will then be Thursday 24-Dec-2020 @ 18:00. The handed in assignment will be an integrated part of the exam.

Your job is to design a programming language and implement a compiler for it. The requirements for your language are listed below. The target of the compiler is the TAM virtual machine or equivalent.

You have to (at least) hand in:

- The source text of your compiler
- The grammar of your language
- All other documentation produced in the project
- A set of test programs written in your language

Additional rules might be added later as needed.

## Requirements

Your language must (at least)

- have a name
- have two simple types
- have an assignment statement
- have the natural operations for your types
- have a structured data type
- have statements for selection and repetitions
- have subroutines
- have simple console input and output

The compiler might be written in a language of your choice. The compiler must be object oriented and generally have a good design.