

Problem set 5, Code, Assembly code generation

TDT4205, Spring 2014

Deadline: 19.03.2014 at 22.00 Contact course staff if you cannot meet the deadline.

Evaluation: Graded, counts 5% of final grade.

Delivery: Use It's Learning. Deliver exactly one file:

- `yourusername_code_ps5.{zip|tar.gz|tar}` containing your modified versions of the files:
 - `typecheck.c`
 - `generator.c`

Cooperation: This problem set should be done **INDIVIDUALLY**. Any kind of collaboration will be regarded as cheating.

General notes: Code must compile and run on `.ntnu.no`. You should only make changes to the files indicated. Do not add additional files or third party code/libraries.

Problem 1, Typechecking

Implement/complete the following functions in `typecheck.c`, implementing type checking as described in the recitation slides.

- `typecheck_expression()`
- `typecheck_assignment()`
- `equal_types()`

Problem 2, Assembly code generation

Implement the following functions in `generator.c`, implementing an assembly code generator as described in the recitation slides.

- `gen_PROGRAM()`
- `gen_FUNCTION()`
- `gen_DECLARATION_STATEMENT()`
- `gen_EXPRESSION()`
- `gen_VARIABLE()`
- `gen_CONSTANT()`
- `gen_ASSIGNMENT_STATEMENT()`
- `gen_RETURN()`