Compiladores - First part of the Course Work

DCC-FCUP

October 2025

1 Work Groups

Individual or groups of **two (2) students** enrolled in the **same practical class**. The groups are chosen in the activity available for this purpose on Moodle. Groups are already created and students from each practical class should organize themselves into these groups. **Registration is mandatory for all students taking the assignment.**

2 Deadlines

The work must be submitted by the end of **9th of November**, 2025, in the activity to be made available for this purpose on Moodle, with demonstrations carried out in the practical class of the week of November 10th, 2025.

3 Submission guidelines

Each group must deliver a **.zip file** with the whole source code, and a .pdf file with a brief README of the project, called **README.pdf**. The submitted file must be zipped as a .zip file (not another archive format). The file name must be:

COMP_TP1_GRUPO_n.zip

where GRUPO_n is the name of the group (example: COMP_TP1_GRUPO_20.zip).

4 Assignment description

Implement a scanner (for the lexical analysis phase) and a parser (for the syntactic analysis phase) for a simple subset of the Ada programming language:

`https://ada-lang.io`

The parser should return the abstract syntax tree (AST) representing the Ada program given as input.

The subset of Ada considered in this first coursework consists of one main procedure called `Main` and the following expressions and commands:

- Expressions:

    1. arithmetic expressions;
    2. boolean expressions;
    3. the `Put_Line` function (output);
    4. the `Get_Line` function (input);

- Commands:

    1. Assignments;
    2. conditional expressions (`if then else`);
    3. `while` loops;