Computation Theory
Universidad del Rosario
February 8, 2018

Project Phase I Due on 23:59 February 25, 2018.

Download the NDFA python project from `https://github.com/dbrgn/ndfa`.

Part 1

Model and test the DFAs in Exercise 3.1 of the textbook. Document at least 2 strings in the language of each machine and 2 strings not in the language.

Part 2

Extend the DFA class with a method `generateLanguage(n)` which will return all strings up to length n that are accepted by the machine (as a list of lists). Test your implementation for each of the machines in Exercise 3.1 of the textbook for values $n = 5, 10, 30, 50$.

Part 3

Program a new class NDFA that implements a non-deterministic finite state automaton. Adapt the method `generateLanguage(n)` accordingly as in the previous point. Add a method `convertToDFA` that will return an equivalent DFA. Test your implementation for the automata in Exercise 3.3 of the textbook.

Note: Submit your solutions a .zip file containing the source code of your programs. The programs must contain the test cases specified above and comments documenting the outputs.