Evolutionary Computation, 2019/2020
Programming assignment 1

Important information

- Deadline: 13/Oct/2019, 23:59.
- You should submit through the 'tutoria' a zip file containing all the code that you developed. The zip file should also include a 'readme.txt' file explaining how to compile and run the program.
- The name of the zip file must be the letter 'a' followed by your student number, followed by '-P1.zip'. Example: if your student number if 12345, the file name must be `a12345-P1.zip`
- You must discuss your work with the instructor at the lab class on 9/Oct/2019.

Description

The purpose of this programming assignment is to have you implement a simple genetic algorithm and test it on a simple problem: the *onemax* problem.

Your program has to be general enough so that you can easily modify it in the future to incorporate other fitness functions encoded as binary strings, as well as other crossover and mutation operators.

To make it flexible, your program should read configuration/parameters from an input file. This allows you to run your program with different settings without needing to recompile it. As a bare minimum, the input file should specify the string length, the population size, the crossover probability, the mutation probability, and the stopping criterion (either a certain number of generations or a target fitness value).

For this assignment you need to implement one-point crossover, bit-flip mutation, binary tournament selection with replacement, and full replacement.

You can programe in any language that you like.

You will be graded based on the correctness of the implementation and on the quality of the code. It is expected that you code according to good programming practices.