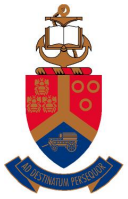

UNIVERSITEIT VAN PRETORIA
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YUNIBESITHI YA PRETORIA

COS 314: Artificial Intelligence
Assignment 2: Genetic Algorithms
Due Date: 30 April 2020

Sudoku is a well known Japanese logical puzzle. The puzzle consists of a 9x9 grid divided into nine grids of 3x3. Each of the 3x3 grids contain numbers 1 to 9 arranged in different configurations. Some of the numbers in the 3x3 grids are missing and solving the puzzle involves inserting the missing numbers so that each column, row and 3x3 grid has the numbers 1 to 9, with each number appearing only once in the row, column and 3x3 grid and no missing numbers.

This assignment involves implementing a genetic algorithm to solve the Sudoku problem. Please use the benchmark sets at `http://lipas.uwasa.fi/~timan/sudoku/` to test your program. This site also lists the best known results which you can compare the performance of your program to. Two academic papers on applying GAs to solve Sudoku have also been uploaded to the Assignment 2 folder.

The program and and a *readme file* indicating how to use the program must be submitted via the course website. The program must be executable and be able to run without linking to libraries via the IDE (in the case of C++). Please note the programs will not be run in IDEs but as a piece of commercial software.

In addition to the program please submit a report (in PDF) specifying:

- Representation used
- Initial population generation
- Fitness evaluaiton
- Selection
- Genetic operators used

Total:20