UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

COS 314: Artificial Intelligence
Assignment 1: Search Space Representation
Due Date: 19 March 2020

The Travelling Salesman Problem is a well studied problem in artificial intelligence. This assignment focuses on the *Asymmetric Traveling Salesman Problem (ATSP)*. Given a set of cities and distances between pairs of cities the ATSP involves finding a route of minimum length that visits all the cities once and ends and begins at the same city. In this version of the problem the distance from city i to j is not the same as the distance from city j to i. This assignment involves implementing the A* algorithm to solve the ATSP. Please use the asymmetric travelling salesman benchmark set at http://elib.zib.de/pub/mp-testdata/tsp/tsplib/tsplib.html to test your algorithm. The best known results, in terms of the minimum route length, is also provided for each problem instance.

The program and and a *readme file* indicating how to use the program must be submitted via the course website. The readme file should also describe the heuristic that was used with the A* algorithm. 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.

Total:20