Search USA

Implement a A*, Greedy Best-First, and Dynamic Programming search algorthms that take in a cities and roads file to find the quickest path between the two cities. The input files are given in the program are found in the input folder.

Getting Started

These instructions will get you a copy of the project up and running on your local machine for testing.

Prerequisites

Make sure your system has Python 3.6.4 installed on the computer. Make sure all files are present in the input and scripts folder.

Running the program

When running the program, there are multiple different commands. In order to run the program make sure you are running the SearchUSA.py file inside the scripts folder.
Example:
`jmtimper_Assignment_2\jmtimper_CodingPart\scripts\SearchUSA.py`

When running the program the input must follow the following format.
`python`

`jmtimper_Assignment_2\jmtimper_CodingPart\scripts\SearchUSA.py searchtype srccityname destcityname`

Input values

- searchtype: astar (A*), greedy (Greedy Best-First), dp (Dynamic Programming)
- srccityname: valid city in the city file
- destcityname: valid city in the city file

Example A* Search Algorithm:
`python jmtimper_Assignment_2\jmtimper_CodingPart\scripts\SearchUSA.py astar startCity endCity`

Example Greedy Best-First Search Algorithm:
`python jmtimper_Assignment_2\jmtimper_CodingPart\scripts\SearchUSA.py greedy startCity endCity`

Example Dynamic Programming Search Algorithm:
`python jmtimper_Assignment_2\jmtimper_CodingPart\scripts\SearchUSA.py dp startCity endCity`

Authors

• Jeremy Timperio - jmtimper