

COMP3220 Summer 2021

Search **Assignment 1**

Deadline: June 21 11:59pm

Description

You're given a sample of code that should return a path from start node to goal node using one of three search strategies, greedy, uniform cost search and A star. Your job is to complete this code such that it passes all the tests. The assignment consists of 10 tests and 5 bonus tests for bonus marks. Your grade is dependent on how many tests you pass. To test your code run ***python -m unittest*** in the folder that has the code.

The function ***path_find*** inside the ***path_finder.py*** file takes in a start node(String), goal node(String), the search strategy, the graph and the heuristic distances. Your job is to complete this function such that it returns a path from start node to goal node using the strategy passed into the function. The function should return path as a list of strings where each string is the label for the node in the path. Some helper classes and functions are given to you to help you out but you don't need to use those.

Bonus

To get bonus marks you need to complete the MinHeap data structure. It is a faster data structure($O(\log n)$) than the priority queue ($O(n)$).

Submission

Email zip file to general16@gmail.com with completed code. **Name of the zip file should be your id number and put the id number in each file you edit.** Please run tests before submitting. Marks are given for how many tests are passed, nothing more, nothing less. The code for the implementation of MinHeap will be checked for correctness.