University of Pittsburgh
Department of Electrical and Computer Engineering
ECE 0302: Data Structures and Algorithms

Name:

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PROJECT 4: PATHFINDER

DUE SUNDAY APRIL 3, 11:59 PM

Late submission with 30% penalty by Tuesday 11:59 PM following the due date

What to submit:

Follow the project instructions to develop your program, then run "make submission" and submit the zip file via Canvas. Using this file as a template, write your name above and write responses to the short answer questions below. Upload this file with your responses **as a pdf** via Canvas.

1. (90 pts) Submit a zip file of your code via Canvas, ensuring that your solution meets all of the requirements described in the project instructions.
2. (3 pts) Describe how you applied concepts learned in class to this project.

This project practiced topics of composition & queues when implementing the deque by reusing parts of code from the previous linked list implementation. To reuse that code, composition was utilized since a deque "is-a" linked list.

Additionally, the pathfinder involved binary search trees to complete a breadth-first search. To do this, I created structs which had nodes & coordinate structs to search through the maze until the optimal solution is found.

3. (5 pts) Describe at least one point of difficulty or challenge that you encountered during this project and describe your approach to overcoming that difficulty / solving the problem.

I faced difficulty in implementing my copy constructor & copy assignment for my deque. The issue was that I was not correctly copying one deque to another by using a for loop with set & get methods. To solve this, I reused my linked list code using a linked list object to connect the code to the deque object.

4. (2 pts) Cite any useful references that you utilized to complete this project (e.g., articles, textbook pages, people).

Tej the TA & Dr. Bocan were very helpful in completing this project.