Rubric: Finding the Shortest Path Through a Corn Maze

Individual Assignment

Submission Format: Link to Github Repository and Hard Copy

General Description:

Submit a link to your repository on the class Collab assignment page and a hard copy of your README.md file to the head TA in class.

Preparatory Assignments:

Class sessions about case studies, logic, and problem solving.

Why am I doing this?

Case studies are extremely important projects that allow us to practice critical and analytical thinking skills. You are encouraged to work on the case study on your own, then research the topic and improve your solution. Attempting the problem before seeing the real-world solution is the best way to push yourself and think critically before absorbing more information.

What am I going to do?

You will begin by reading the one-page prompt for this case study, titled "Finding the Shortest Path Through a Corn Maze." This prompt will present you with a challenge that you must solve. As you read the prompt, brainstorm and take note of plausible solutions. You will then choose one solution to move forward with and produce the final deliverable in the form of an algorithm written in plain English (you can think of this algorithm as a recipe to solving the problem). Don't forget to reference the supplemental materials provided to you for extra information if you need it – after you have created your algorithm, I encourage you to engage with these and improve your algorithm. Finally, construct an assessment metric for your algorithm that answers the question of "how can you show that your algorithm is better than a random guess?"

Tips for success:

1. Don't limit your thinking to "one right answer." There are several ways to achieve a solution to this problem. The fun is in creatively exploring them.
2. Take time to think about the prompt before researching solutions. Explore your own ideas first and strengthen your critical thinking abilities. Then do your research and compare your thinking to that of others.
3. Have fun! This prompt gives you a lot of creative freedom – let it shine!

How will I know I have succeeded?

You will meet expectations on this assignment when you have completed the following criteria in the rubric below.

Spec Category	**Spec Details**
Formatting	1. Repository - Create a new Github repository for this assignment containing: - README.md - LICENSE - A Figures Folder - Use PDF format for documents, and appropriate formats for code deliverables
README.md	Goal: This file is what will be assessed for this assignment. Structure this file such that it is easily readable and understandable. - Include your algorithm(s) - Include your assessment metric - Include any figures or references
LICENSE	Goal: This file explains the terms under which someone may use and cite your repository. - Select an appropriate license from the GitHub options list on repository creation. The MIT license is usually appropriate.
Algorithm	Goal: This file explains your written steps (in English) that describe how you would implement finding the shortest path through each maze, and how you would calculate the average time it would take a child, teenager, and adult to get through each of the mazes. - Use an enumerated list - Write in plain English - Refer to mathematical techniques as appropriate but do not go into detail and show equations unless absolutely necessary.
Figures	Goal: This folder contains all of the figures you use in your README.md file. - These files should be in image format (JPG or PNG)
Assessment Metric	Goal: Describe how you would evaluate your algorithm and compare it to other algorithms. - This is not about the mathematics or runtime, merely about the approach you would take
References	- All references should be listed at the end of the document - Use IEEE Documentation style