

DATA STRUCTURES PROJECT

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Synopsis

* This project aims to explore different applications of graphs and incorporate it to study different pathfinding algorithms.
* It is basically a C++ implementation of a Maze data structure using graphs with four pathfinding algorithms.
* The implementation of the data structure aims to be memory efficient.
* The code is designed to be easily adaptable to read and solve mazes of any format.
* Different files will be made for building the maze, then finding path using different algorithms and finally printing it which will all be later imported into the driver program.
* Four pathfinding algorithms are implemented using this project:   
    
  Depth First Search  
  Breadth First Search  
  Dijkstra   
  A\*
* It will include the usage of data structures like graphs, lists, queues, and others if required.
* Templates will be used for performing functions on generic path rather than carrying it individually for each algorithm.
* Extensive use of effective data structures and multiple optimization routines would be done to provide a rich experience.