**2D and 3D Maze Solving Algorithms**



Representing a Maze as a Graph

 Vertex: Intersections of 3 or more paths, Dead Ends, Start, and Finish

 Edge: Paths between vertices

  

**Maze Solving Algorithms**

Wall Following

 -Follow the left or right wall from the start.

 -Works if the start and end of the maze are in at the edge of the maze.

 -Will only work if the start or end has a wall connecting them.

Trémaux's Algorithm

 -Mark a path once you follow it. Never go down a path with 2 marks.

 -At each intersection, choose an arbitrary path with the fewest marks.

 -Turn around at dead ends.

Dead End Filling

 -Fill in all the dead ends and gradually connect the filled in dead ends until a path to the

 end is revealed.

Breadth First

 -Explore starting point’s neighbors.

 -Move onto next level until the end is reached.

 -Each vertex appears only as the first connection.

Wall Following

  

 Trémaux's Algorithm 3D Maze as a 2D Maze

  

 Weighted Paths

