Some details regarding graphs and game play elements in race car games.

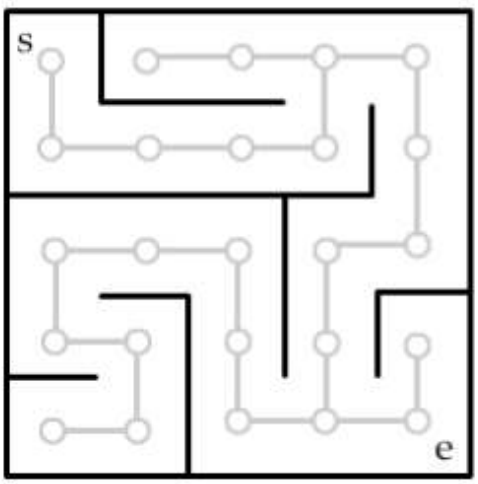
Game play:

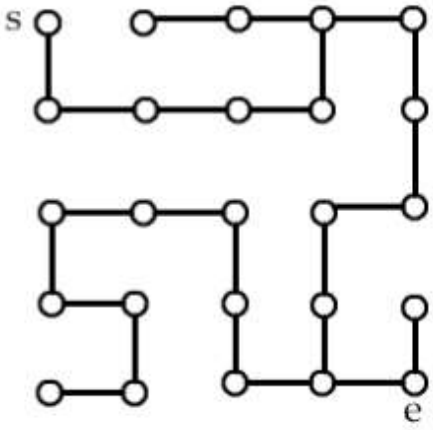
The game will have 2 modes. The first user operated, and the second automated. When the user selects manual mode, you need to generate a 2-D maze/map (with a graph representation behind the scenes). For each arrow key pressed, the car (represented by any symbol) moves in corresponding direction if there exists an edge (connection). If connection does not exist it remains at its position.

When the user selects automated, you generate a 2D maze/map and prompt the user for start and end points (nodes). Then you find the shortest path between these two points and move your car through the path.
Illusion of movement can be represented with redrawing the map repeatedly.

Graph-Based Map Representation:

Detailed Map Design: The game map is designed as a graph where each node represents a location, a power up or an obstacle. A regular location has no effect, a power up multiplies score by 2 and an obstacle reduces score by 5 points.





Graphs in Navigation and Pathfinding:

Implement simple shortest path algorithms like Dijkstra's, for pathfinding.

Graphs in Game Dynamics:

Represent obstacles on the track as special nodes in the graph, causing cars to take alternate routes.

Game Mechanics

The game will feature intuitive keyboard controls, where players use arrow keys for directional movement.

Scoring System

Points in the game are earned when manual play is used. It will be based on time taken, distance covered (number of nodes), and obstacles avoided.
Design your own exact formula for this one.

Scores can be stored on a file and saved.

Race Car Game Console:
Representing a graph, such as a race track, on a console in a text-based game using C++ can be creatively achieved using ASCII art. ASCII art uses characters from the ASCII standard to form images or visual representations. Here's an example of how a simple race track graph could be represented: **You can add your creativity in it, this is just a sample for reference**