**Problem Statement:**

Design a simulation to navigate a robot within a 10x10 grid from a given source point to a destination point while avoiding randomly generated obstacles. The simulation should include the following components:

1. **Grid Environment**:
   * Create a 10x10 grid representing the environment in which the robot operates.
   * Randomly generate around 30 obstacles within the grid at the start of the simulation. Obstacles should be represented by blocked cells.
2. **Input**:
   * Prompt the user to input the start and end points within the grid.
   * Ensure that the input points are within the bounds of the grid and not placed on obstacle cells.
3. **Path Planning**:
   * Implement a shortest distance path algorithm to find the optimal path from the start point to the destination point while avoiding obstacles, You can use any approach to solve this problem.
4. **Validation and Testing**:
   * Validate the solution by ensuring that the generated path is valid and does not intersect with obstacle cells.
   * Test the solution with multiple start and end point configurations to verify its robustness.
5. **Output Visualization**:
   * Provide a visual representation of the grid environment with obstacles, start point, destination point, and the calculated shortest path.
   * Display the coordinates of the shortest path.
   * Visualize the path by highlighting the cells traversed by the robot.
6. **Programming Language**:
   * Implement the simulation using any programming language of your choice.

**Expected Output**:  
The simulation visually guides a robot through a grid, avoiding obstacles from a user-set start to end point. It displays the shortest path, validates obstacle avoidance, ensuring accurate navigation. User-friendly and efficient, it reflects the robot's journey effectively.

s.mouriyavenkateceskct@gmail.com