Part 1: Follow through the steps of E1.8 in Ref. [1] and implement the Bug 1 algorithm to take the robot from a start point to a goal point in the environment shown on the left.

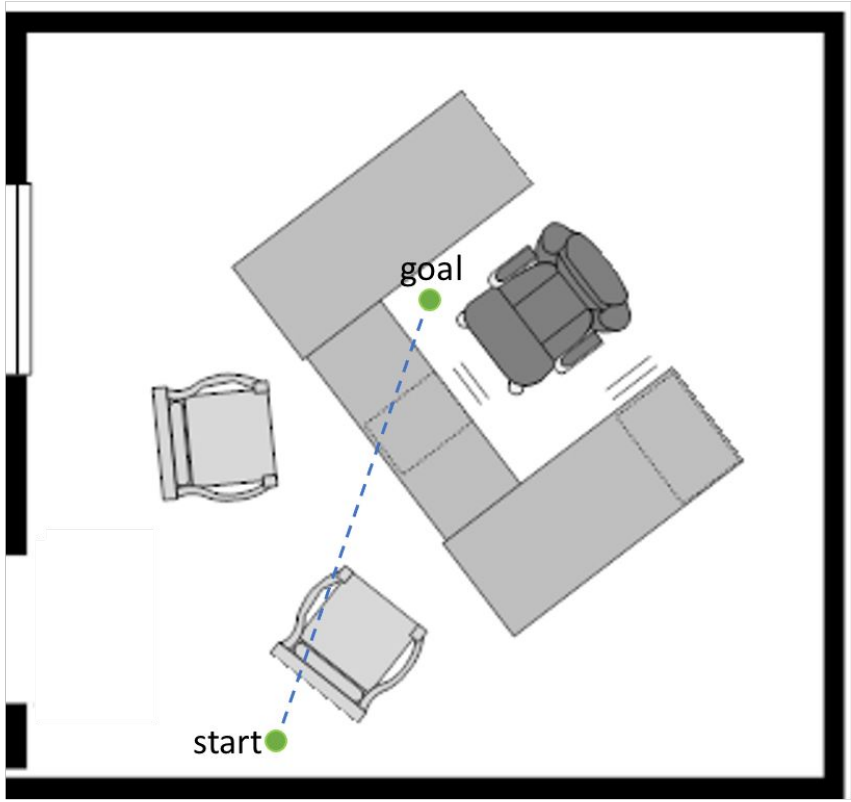
- Approximate the obstacles with appropriate polygons and program the bug 1 algorithm using the polygon representation of the obstacles.
- Create an animation that demonstrate your bug 1 algorithm.

Your code will be tested using a random start and goal points.

Part 2: Write a program to implement the decomposition and search method of chapter 2 of reference [1] over the environment shown in the picture.

- Approximate the obstacles with appropriate (every vertex should have a unique x coordinate)
- Create an animation that demonstrate your algorithm.

Your code will be tested using a random start and goal points.



Part 3- Will be added later

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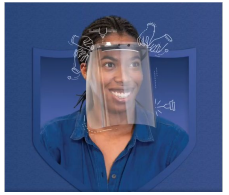

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