Michael Fehrer

Created a starting template and base framework for the Pygame simulation, including the game loop, visualization of entities, robot movement using a timer, and warehouse layout with shelves represented with a matrix. Designed and created the sorting feature where robots pick up items and drop them off at the correct shelf using a queue of tasks. Added text rendering for items.

Michael Zheng:

Created the basic classes needed to run the simulation, then worked off of what Michael Fehrer did with his A* algorithm to be able to handle blocked areas (from other robots) and to be able to parallelize it. Also created simulation to randomly put items in random locations (the initialization) and algorithm to distribute the tasks to the robots.

Dhanush Kankanala

Created a 3d design for the warehouse using PyBullet, and after that, made a shelf item source and ordered shelves in the 2d design. I used Michael Zheng's code to randomly store a few objects in the shelves before both robots start to move, and tried to implement the main robot, which remembers the path of both robots, so that they can never collide.