Target Driven Navigation

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Aim - To move the agent to a desired target location present in the environment by navigating in the shortest path using the grid world.
Environment

- AI2THor Kitchen scene
Flow of the code

1. Load Ai2Thor scene
2. Convert to grid world
3. Construct the shortest path
4. Load Target list
5. Agent navigates to the desired position
Methodology

- Convert the Ai2Thor scenes into a grid world using the x and z axis (top view)
- All calculations are done based on the grid settings
  - Grid size – 0.25m
- BFS Shortest path
- Collision Avoidance
- Navigation - using the controller commands
Navigation with target - Fridge
Navigation with target – Apple and chair
Sidetrack – navigation using Computer Vision
Future tasks

- Reducing the time taken to calculate and map the grid
- Getting the exact view once the agent reaches the desired location