

Jordan Newton

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Assignment 09

### Analysis

1. Chenxi Sun is my partner
2. I thought he did very well on the assignment. He had great insight for how to complete the assignment and watch out for edge cases.
3. The straight-line test simply shows the shortest path to the goal. I don't think it affected running time at all as the shortest path will always be the shortest path. Unless you are comparing that to the actual path.
4. The difference is the straight-line test will always show the shortest path where the actual solution may be the shortest path, the longest path, or somewhere in between. The time where they differ greatly is where the actual solution is the longest possible path. The actual path is an accurate indicator of run-time.
5. The worst case solution would be  $n(\text{height} * \text{width}) - 1$ . That is because in the event where walls made it so every square had to be touched (most dense), then all but the first square.
6. We spent about 7-10 hours on the assignment