Nodes Expanded

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Trivial | Very Easy | Easy | Doable | Oh Boy | Impossible |
| Uniform Cost Search | 0 | 1 | 3 | 15 | 102070 | 181440 |
| A\* with the Misplaced Tile Heuristic | 0 | 1 | 2 | 4 | 9120 | 181440 |
| A\* with the Manhattan distance Heuristic | 0 | 1 | 2 | 4 | 709 | 181440 |

* For the simpler puzzles, trivial, very easy, and easy, all three searches performed the same
* For the Doable puzzle, the A\* searches began to outstrip the Uniform Cost Search
* The Manhattan Distance and Misplaced Tile Heuristics Performed exactly the same from the Doable puzzle, but showed extreme differences for the Oh Boy puzzle, with the Manhattan distance Heuristic beating the Misplaced Tile Heuristic by more than a factor of 10
* All three algorithms expanded the maximum of 181,440, or (9!/2), nodes for the impossible puzzle.

Max Queue Size

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Trivial | Very Easy | Easy | Doable | Oh Boy | Impossible |
| Uniform Cost Search | 1 | 4 | 5 | 17 | 32156 | 32780 |
| A\* with the Misplaced Tile Heuristic | 1 | 4 | 4 | 5 | 5395 | 29571 |
| A\* with the Manhattan distance Heuristic | 1 | 4 | 4 | 5 | 425 | 24295 |