**Logic and Planning**

**Part 1:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Problem 1** | **Expansions** | **Goal Tests** | **New Nodes** | **Plan Lenght** | **Time Elapsed** |
| Breath First Search | 43 | 56 | 180 | 6 | 0.0743535709916614 |
| Depth First Graph Search | 12 | 13 | 48 | 12 | 0.01335207000374794 |
| A\* Search H1 | 55 | 57 | 224 | 6 | 0.07291120200534351 |
| A\* Search Ignore Preconditions | 41 | 43 | 170 | 6 | 0.10163033100252505 |

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| **Problem 2** | **Expansions** | **Goal Tests** | **New Nodes** | **Plan Lenght** | **Time Elapsed** |
| Breath First Search | 3343 | 4609 | 30509 | 9 | 20.04158652901242 |
| Depth First Graph Search | 476 | 477 | 4253 | 466 | 3.575219680002192 |
| A\* Search H1 | 4853 | 4855 | 44041 | 9 | 77.61358179600211 |
| A\* Search Ignore Preconditions | 1506 | 1508 | 13820 | 9 | 25.195444782002596 |

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| **Problem 3** | **Expansions** | **Goal Tests** | **New Nodes** | **Plan Lenght** | **Time Elapsed** |
| Breath First Search | 14663 | 18098 | 129631 | 12 | 198.60475270700408 |
| Depth First Graph Search | 1511 | 1512 | 12611 | 1442 | 22.499199126003077 |
| A\* Search H1 | 18223 | 18225 | 159618 | 12 | 713.9446880209871 |
| A\* Search Ignore Preconditions | 5118 | 5120 | 45650 | 12 | 208.39944427499722 |

**Part 2:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Problem 1** | **Expansions** | **Goal Tests** | **New Nodes** | **Plan Lenght** | **Time Elapsed** |
| A\* Search H1 | 55 | 57 | 224 | 6 | 0.08008713100571185 |
| A\* Search Ignore Preconditions | 41 | 43 | 170 | 6 | 0.1278501100023277 |
| A\* Planning Graph Level Sum | 8 | 10 | 35 | 6 | 1.875899639009731 |

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| **Problem 2** | **Expansions** | **Goal Tests** | **New Nodes** | **Plan Lenght** | **Time Elapsed** |
| A\* Search H1 | 4853 | 4855 | 44041 | 9 | 87.88655748098972 |
| A\* Search Ignore Preconditions | 1506 | 1508 | 13280 | 9 | 29.742081367992796 |
| A\* Planning Graph Level Sum | 17 | 19 | 162 | 9 | 45.7323810380185 |

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| **Problem 3** | **Expansions** | **Goal Tests** | **New Nodes** | **Plan Lenght** | **Time Elapsed** |
| A\* Search H1 | 18223 | 18225 | 159618 | 12 | 675.9131166319712 |
| A\* Search Ignore Preconditions | 5118 | 5120 | 45650 | 12 | 183.82016788300825 |
| A\* Planning Graph Level Sum | 18 | 20 | 169 | 14 | 78.21723176701926 |