|  |
| --- |
| 2802ICT Intelligent systems |
| N-Queens Problem |
|  |
|  |
| **Tomas Sheiles-Hutton s5132012** |
| **Trimester 1 2019** |

|  |
| --- |
|  |

* For N=1 to 6 list solutions, N=7 to 20 returns only the number
* Record the time for N=1 to 20
* Predict the time to complete N=30
* Suggest way to prune the results

BFS:

|  |  |  |
| --- | --- | --- |
| **N** | **Solutions** | **Time to complete in seconds** |
| 1 | N/a | N/a |
| 2 | 0 | 0 |
| 3 | 0 | 0 |
| 4 | 2 | 0.0009 |
| 5 | 10 | 0.007 |
| 6 | 4 | 0.10 |
| 7 | 40 | 2.18 |
| 8 | 92 | 50.12 |
| 9 | N/a | N/a |

DFS:

|  |  |  |
| --- | --- | --- |
| **N** | **Solutions** | **Time to complete in seconds** |
| 1 | N/a | N/a |
| 2 | 0 | 0 |
| 3 | 0 | 0 |
| 4 | 2 | 0.0009 |
| 5 | 10 | 0.007 |
| 6 | 4 | 0.10 |
| 7 | 40 | 1.857 |
| 8 | 92 | 39.07 |
| 9 | 352 | 936.73 |
| 10 | 724 | 25473.99 |

Use exponential trend line