In addition to CDCL solvers and pseudo-Boolean solvers, we explored other promising tools like Gurobi, SageMath, and Unidom for solving the queen domination problem. Solving the problem using SageMath and Unidom is straightforward, each requiring only a single line of code. Therefore, the code for SageMath and Unidom is not included here. However, the code for solving the problem using Gurobi is available in the code/ folder.

Beyond these tools, I also experimented with Z3 and OR-Tools. Since these were not part of the main experiments, their results are not reported here. However, I have included the code for solving the queen domination problem with OR-Tools for reference. Unfortunately, I misplaced my Z3 code, but it should be easy to adapt one of the available scripts, such as those for SAT solvers, Gurobi, or OR-Tools, to work with Z3.

Below is a summary of the results.

|  |  |  |  |
| --- | --- | --- | --- |
| n | Unidom | SageMath | Gurobi |
|
| 10 | **0.2109** | 0.3620 | 0.8300 |
| 11 | **0.1774** | 3.9500 | 2.3700 |
| 12 | **0.2723** | 38.9000 | 5.3000 |
| 13 | **1.4959** | 135 | 7.3900 |
| 14 | **31.1642** | Time Out | 34.59 |
| 15 | 1080.22 | Time Out | **485.40** |