**CSE 579**

**Programming Assignment 1**

**Template for clingo Work**

Problem 1

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line |  |
| Output  of clingo |  |

Problem 2

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line | You should write multiple command lines below. |
| Output  of clingo | Since the output is large, do not copy them into the submission. |
| Answer  to Questions | Draw a table that lists the number of solutions and the times to compute all solutions. Use CPU time that clingo returns.   |  |  |  | | --- | --- | --- | | Value n | Number of solutions | time | | 3 |  |  | | 4 |  |  | | 5 |  |  | | 6 |  |  | | 7 |  |  | | 8 |  |  | | 9 |  |  | | 10 |  |  | | 11 |  |  | | 12 |  |  | |

Problem 3

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line |  |
| Output  of clingo |  |

Problem 4

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line |  |
| Output  of clingo |  |

Problem 5

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line |  |
| Output  of clingo |  |

Problem 6

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line |  |
| Output  of clingo |  |

Problem 7

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line |  |
| Output  of clingo |  |

Problem 8

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line | You should write multiple command lines below. |
| Output  of clingo |  |
| Answer  to Questions | Draw a table that lists the maximum value of bishops when the chessboard is n by n, where n is 3, 4, 5, 6, 7, 8. Infer the general function f(n) that returns the maximum value of bishops.   |  |  | | --- | --- | | Value n | f(n) | | 3 |  | | 4 |  | | 5 |  | | 6 |  | | 7 |  | | 8 |  |   f(n) = |

Problem 9

|  |  |
| --- | --- |
| Input  Program |  |
| Command  Line | You should write multiple command lines below. |
| Output  of clingo |  |
| Answer  to Questions | Fill in the values accordingly.   |  |  | | --- | --- | | Exact value of A(1) |  | | Exact value of A(2) |  | | Exact value of A(3) |  | | Largest lower bound for A(4)  Note: it would take longer time when you increase the value of n. Thus, you may stop increasing the value of n when your program does not terminate within 10 minutes and submit the last trial of n. |  | |