Bonus Homework #2

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Parts 1 and 2:

Program Output:

This program will first solve all items listed in #2 and save the DIAMACS formatted file for each as 2\_1.txt for problem 2 part 1, 2\_2.txt for problem 2.2 etc. after that you may do a custom n-queens problem with selected forbidden squares or enter a negative N value to skip that section.

A solution is:

. Q . .

. . . Q

Q . . .

. . Q .

The Logical Board Layout will be:

1 5 9 13

2 6 10 14

3 7 11 15

4 8 12 16

Writing to file 2\_1.txt...

Please Wait...

2\_1.txt has been created with the CNF output in DIMACS format.

A solution is:

. Q . .

. . . Q

Q . . .

. . Q .

The Logical Board Layout will be:

1 5 9 13

2 6 10 14

3 7 11 15

4 8 12 16

Writing to file 2\_2.txt...

Please Wait...

2\_2.txt has been created with the CNF output in DIMACS format.

A solution is:

. Q . . . . . . . .

. . . Q . . . . . .

. . . . . Q . . . .

. . . . . . . Q . .

. . . . . . . . . Q

Q . . . . . . . . .

. . Q . . . . . . .

. . . . Q . . . . .

. . . . . . Q . . .

. . . . . . . . Q .

The Logical Board Layout will be:

1 11 21 31 41 51 61 71 81 91

2 12 22 32 42 52 62 72 82 92

3 13 23 33 43 53 63 73 83 93

4 14 24 34 44 54 64 74 84 94

5 15 25 35 45 55 65 75 85 95

6 16 26 36 46 56 66 76 86 96

7 17 27 37 47 57 67 77 87 97

8 18 28 38 48 58 68 78 88 98

9 19 29 39 49 59 69 79 89 99

10 20 30 40 50 60 70 80 90 100

Writing to file 2\_3.txt...

Please Wait...

2\_3.txt has been created with the CNF output in DIMACS format.

The Logical Board Layout will be:

1 11 21 31 41 51 61 71 81 91

2 12 22 32 42 52 62 72 82 92

3 13 23 33 43 53 63 73 83 93

4 14 24 34 44 54 64 74 84 94

5 15 25 35 45 55 65 75 85 95

6 16 26 36 46 56 66 76 86 96

7 17 27 37 47 57 67 77 87 97

8 18 28 38 48 58 68 78 88 98

9 19 29 39 49 59 69 79 89 99

10 20 30 40 50 60 70 80 90 100

Writing to file 2\_4.txt...

Please Wait...

2\_4.txt has been created with the CNF output in DIMACS format.

Please enter N or

Enter a negative value to skip the Custom n-Queens section.

The last part allows you to enter custom n queens problem sets and get the CNF results as custom.txt

The CNF results for the above will be included in the .zip file.

The print outs only showed one example of an n queens solution given the set FS.

As n grew the CNF results become exponentially larger because of the number of items that had to be excluded as possibilities in the truth table of the puzzle.

This program was coded and tested on VS 2013