Project Candidates: #1

A Sudoku Solver using Graph Coloring

◦ The objective is to fill a 9×9 grid with digits so that each column, each row, and each of the nine 3×3 subgrids that compose the grid (also called "boxes", "blocks", "regions", or "subsquares") contains all of the digits from 1 to 9.

◦ Tools are allowed while existing source codes are forbidden.

With solver implementation! Correctness and speed are important.

Format Input: 1-1 1

1-2 2

1-3 3

2-1 4

2-2 5

2-3 6

3-1 7

3-2 8

3-3 9

Output 1-1 1

1-2 2

1-3 3

1-4 4

1-5 5

1-6 6

1-7 7

….

Project Candidates: #2

Graph problem

◦ Maximum clique problem

◦ Dataset @:https://snap.stanford.edu/data/

◦ email-Enron and ego-Facebook will be tested.

◦ Tools are allowed while existing source codes are forbidden.

◦ Output: ◦ Size of maximum clique, node: v1 v2 v3 v4…

◦ E.g., ◦ 7, node: 102 150 194 195 235 274 303

With solver implementation! Correctness and speed are important.

Project Candidates: #3

Graph problem (for the individuals)

◦ Answering the number of triangles and connected diameter

◦ Dataset @:https://snap.stanford.edu/data/

◦ email-Enron and ego-Facebook will be tested.

◦ Tools are allowed while existing source codes are forbidden.

◦ Output: ◦ number of triangles, connected diameter

◦ E.g., ◦ 1235689, 15

With solver implementation! Correctness and speed are important

Grading policy Performance (60%):

◦ Problem solved: 35%

◦ Top-1 to Top-N: 25-(25)(n-1)/(N-1)%

Report (40%)

◦ English/Chinese

◦ Novelty

◦ Comprehensiveness of experiments

◦ Theoretical results