

WP4516 1/27/26

- 1) Team Site cop4516.vcf.programmingteam.org
- 2) Email team name (3 ordered choices)
- 3) Brute Force
- 4) USACO Reminder
- 5) Find your teammates!

Brute Force

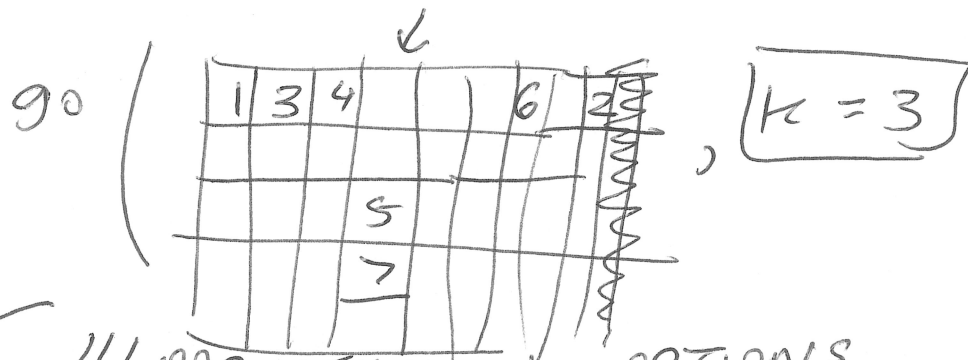
comp fast, we're not, so sometimes the comp can try all possible options + find best.

≤ 10 millions opts quick eval of each
Should run it time.

perm } 2 key examples
sudoku } same sol framework

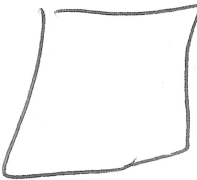
go (Partial SOLUTION, k) $\leftarrow$ current slot to fill in
 $\rightarrow$ # of slots fixed

SOLVE THE PROB FOR ALL POTENTIAL SOLS WITH THESE 1st k items fixed



int res = 1000000000 // LOOP THROUGH OPTIONS
 for (int i = 1; i <= 9; i++) {
 if (!valid(k, i)) {
 continue; } } skip doomed to fail
 } Backtracking SAVES TIME

board[k] = i; // put in board
 used[i] = 1; // true } // sometimes

res = min (go (, k+1), res)

used[i] = 0; // false

}

DANCE

cost [1] = 1001100 (2,3,6)

cost [2] = 1000101 (0,2,6)