



Competitive Programming



Methods to Solve (2000-present)

Use these filters to narrow down your next problem to solve:

OJ: , Topic: , Quality:

Online Judge shown: Both

Problem topics shown: NUS CS3230 : Design and Analysis of Algorithms level: Sorting++, BF, D&C (+MatPow, Closest Pair), Greedy, DP (+APSP, Combinatorics, DP String), MST (+UFDS), SSSP++, String Matching, CH, NP-hard Problems

Problem Quality: All

Number of problems shown (initially in CP4 order): 897

Information is up to date as of 10 February 2022

You can now sort these problems based on Distinct ACcepted Users (DACU) column.

Generally, problems with high DACU are the easier problems.

Note that we only update DACU column manually (not a live data).

Note: Column Point is only relevant for Kattis online judge.

Show entries

Search:

Both OJ

























Problem Title

























CP4

























00541

























[Error Correction](#)

























2.2c, 2D Array, Easier

























| Both OJ | Problem Title | CP4 |
|----------------------------------|---|-------------------------------|
| 00585 |  Triangles | 2.2c, 2D Array, Easier |
| 10703 |  Free spots | 2.2c, 2D Array, Easier |
| 10920 |  Spiral Tap | 2.2c, 2D Array, Easier |
| 11040 |  Add bricks in the wall | 2.2c, 2D Array, Easier |
| 11349 |  Symmetric Matrix | 2.2c, 2D Array, Easier |
| <i>11581</i> |  Grid Successors | <i>2.2c, 2D Array, Easier</i> |
| 11835 |  Formula 1 | 2.2c, 2D Array, Easier |
| <i>12187</i> |  Brothers | <i>2.2c, 2D Array, Easier</i> |
| <i>12667</i> |  Last Blood | <i>2.2c, 2D Array, Easier</i> |
| 12981 |  Secret Master Plan | 2.2c, 2D Array, Easier |
| compromise |  compromise | 2.2c, 2D Array, Easier |
| <i>epigdanceoff</i> |  epigdanceoff | <i>2.2c, 2D Array, Easier</i> |
| <i>flowshop</i> |  flowshop | <i>2.2c, 2D Array, Easier</i> |
| <i>imageprocessing</i> |  imageprocessing | <i>2.2c, 2D Array, Easier</i> |
| <i>nineknights</i> |  nineknights | <i>2.2c, 2D Array, Easier</i> |
| thisaintyourgrandpascheckerboard |  thisaintyourgrandpaschecke... | 2.2c, 2D Array, Easier |
| 00101 |  The Blocks Problem | 2.2d, 2D Array, Harder |
| 00434 |  Matty's Blocks | 2.2d, 2D Array, Harder |
| <i>00466</i> |  Mirror, Mirror | <i>2.2d, 2D Array, Harder</i> |
| 00512 |  Spreadsheet Tracking | 2.2d, 2D Array, Harder |
| 00707 |  Robbery | 2.2d, 2D Array, Harder |
| 10016 |  Flip-Flop the Squarelotron | 2.2d, 2D Array, Harder |
| 10855 |  Rotated square | 2.2d, 2D Array, Harder |
| <i>11360</i> |  Have Fun with Matrices | <i>2.2d, 2D Array, Harder</i> |

























| Both OJ | Problem Title | CP4 |
|-------------------|--|------------------------|
| 12291 |  Polyomino Composer | 2.2d, 2D Array, Harder |
| 12398 |  NumPuzz I | 2.2d, 2D Array, Harder |
| 2048 |  2048 | 2.2d, 2D Array, Harder |
| apples |  apples | 2.2d, 2D Array, Harder |
| falcondiv |  falcondiv | 2.2d, 2D Array, Harder |
| flagquiz |  flagquiz | 2.2d, 2D Array, Harder |
| funhouse |  funhouse | 2.2d, 2D Array, Harder |
| prva |  prva | 2.2d, 2D Array, Harder |
| rings2 |  rings2 | 2.2d, 2D Array, Harder |
| tetris |  tetris | 2.2d, 2D Array, Harder |
| 00793 |  Network Connections | 2.4b, Union-Find |
| 01197 |  The Suspects | 2.4b, Union-Find |
| 01329 |  Corporate Network | 2.4b, Union-Find |
| 10158 |  War | 2.4b, Union-Find |
| 10227 |  Forests | 2.4b, Union-Find |
| 10507 |  Waking up brain | 2.4b, Union-Find |
| 10583 |  Ubiquitous Religions | 2.4b, Union-Find |
| 10608 |  Friends | 2.4b, Union-Find |
| 10685 |  Nature | 2.4b, Union-Find |
| 11503 |  Virtual Friends | 2.4b, Union-Find |
| 11690 |  Money Matters | 2.4b, Union-Find |
| 11987 |  Almost Union-Find | 2.4b, Union-Find |
| almostunionfind |  almostunionfind | 2.4b, Union-Find |
| bridgesandtunnels |  bridgesandtunnels | 2.4b, Union-Find |

























| Both OJ | Problem Title | CP4 |
|----------------------------------|--|------------------------------------|
| chatter |  chatter | 2.4b, Union-Find |
| <i>control</i> |  <i>control</i> | <i>2.4b, Union-Find</i> |
| forests |  forests | 2.4b, Union-Find |
| <i>ladice</i> |  <i>ladice</i> | <i>2.4b, Union-Find</i> |
| more10 |  more10 | 2.4b, Union-Find |
| skolavslutningen |  skolavslutningen | 2.4b, Union-Find |
| swaptosort |  swaptosort | 2.4b, Union-Find |
| tildes |  tildes | 2.4b, Union-Find |
| <i>unionfind</i> |  <i>unionfind</i> | <i>2.4b, Union-Find</i> |
| virtualfriends |  virtualfriends | 2.4b, Union-Find |
| 00105 |  The Skyline Problem | 3.2b, Iterative (Two Loops) |
| <i>00592</i> |  <i>Island of Logic</i> | <i>3.2b, Iterative (Two Loops)</i> |
| 00617 |  Nonstop Travel | 3.2b, Iterative (Two Loops) |
| 01260 |  Sales | 3.2b, Iterative (Two Loops) |
| <i>01588</i> |  <i>Kickdown</i> | <i>3.2b, Iterative (Two Loops)</i> |
| 10041 |  Vito's Family | 3.2b, Iterative (Two Loops) |
| 10487 |  Closest Sums | 3.2b, Iterative (Two Loops) |
| 10570 |  Meeting with Aliens | 3.2b, Iterative (Two Loops) |
| 10670 |  Work Reduction | 3.2b, Iterative (Two Loops) |
| 10730 |  Antiarithmetic? | 3.2b, Iterative (Two Loops) |
| 11242 |  Tour de France | 3.2b, Iterative (Two Loops) |
| 12205 |  Happy Telephones | 3.2b, Iterative (Two Loops) |
| <i>12488</i> |  <i>Start Grid</i> | <i>3.2b, Iterative (Two Loops)</i> |
| 12583 |  Memory Overflow | 3.2b, Iterative (Two Loops) |

























| Both OJ | Problem Title | CP4 |
|-------------------------------|---|---|
| 13018 |  Dice Cup | 3.2b, Iterative (Two Loops) |
| 8queens |  8queens | 3.2b, Iterative (Two Loops) |
| antiarithmetic |  antiarithmetic | 3.2b, Iterative (Two Loops) |
| bestrelayteam |  bestrelayteam | 3.2b, Iterative (Two Loops) |
| bikegears |  bikegears | 3.2b, Iterative (Two Loops) |
| <i>blackfriday</i> |  blackfriday | <i>3.2b, Iterative (Two Loops)</i> |
| <i>closestsums</i> |  closestsums | <i>3.2b, Iterative (Two Loops)</i> |
| codeguessing |  codeguessing | 3.2b, Iterative (Two Loops) |
| <i>golombrulers</i> |  golombrulers | <i>3.2b, Iterative (Two Loops)</i> |
| kafkaesque |  kafkaesque | 3.2b, Iterative (Two Loops) |
| liga |  liga | 3.2b, Iterative (Two Loops) |
| majstor |  majstor | 3.2b, Iterative (Two Loops) |
| missingnumber |  missingnumber | 3.2b, Iterative (Two Loops) |
| peg |  peg | 3.2b, Iterative (Two Loops) |
| pet |  pet | 3.2b, Iterative (Two Loops) |
| putovanje |  putovanje | 3.2b, Iterative (Two Loops) |
| reduction |  reduction | 3.2b, Iterative (Two Loops) |
| register |  register | 3.2b, Iterative (Two Loops) |
| smoothiestand |  smoothiestand | 3.2b, Iterative (Two Loops) |
| summertrip |  summertrip | 3.2b, Iterative (Two Loops) |
| telephones |  telephones | 3.2b, Iterative (Two Loops) |
| tourdefrance |  tourdefrance | 3.2b, Iterative (Two Loops) |
| 00154 |  Recycling | 3.2c, Three+ Nested Loops, E |
| <i>00441</i> |  Lotto | <i>3.2c, Three+ Nested Loops, E</i> |

























| Both OJ | Problem Title | CP4 |
|---------------|---|------------------------------|
| 00626 |  Ecosystem | 3.2c, Three+ Nested Loops, E |
| 00703 |  Triple Ties: The Organizer... | 3.2c, Three+ Nested Loops, E |
| 00735 |  Dart-a-Mania | 3.2c, Three+ Nested Loops, E |
| 10102 |  The path in the colored fi... | 3.2c, Three+ Nested Loops, E |
| 10662 |  The Wedding | 3.2c, Three+ Nested Loops, E |
| 11059 |  Maximum Product | 3.2c, Three+ Nested Loops, E |
| 12498 |  Ant's Shopping Mall | 3.2c, Three+ Nested Loops, E |
| 12515 |  Movie Police | 3.2c, Three+ Nested Loops, E |
| 12801 |  Grandpa Pepe's Pizza | 3.2c, Three+ Nested Loops, E |
| 12844 |  Outwitting the Weighing Ma... | 3.2c, Three+ Nested Loops, E |
| cinemaseating |  cinemaseating | 3.2c, Three+ Nested Loops, E |
| cudoviste |  cudoviste | 3.2c, Three+ Nested Loops, E |
| mathhomework |  mathhomework | 3.2c, Three+ Nested Loops, E |
| npuzzle |  npuzzle | 3.2c, Three+ Nested Loops, E |
| patuljci |  patuljci | 3.2c, Three+ Nested Loops, E |
| radir |  radir | 3.2c, Three+ Nested Loops, E |
| safehouses |  safehouses | 3.2c, Three+ Nested Loops, E |
| set |  set | 3.2c, Three+ Nested Loops, E |
| triangledrama |  triangledrama | 3.2c, Three+ Nested Loops, E |
| 00253 |  Cube painting | 3.2d, Three+ Nested Loops, H |
| 00296 |  Safebreaker | 3.2d, Three+ Nested Loops, H |
| 00386 |  Perfect Cubes | 3.2d, Three+ Nested Loops, H |
| 10360 |  Rat Attack | 3.2d, Three+ Nested Loops, H |
| 10365 |  Blocks | 3.2d, Three+ Nested Loops, H |

























| Both OJ | Problem Title | CP4 |
|-----------------------|--|------------------------------|
| 10483 |  The Sum Equals the Product | 3.2d, Three+ Nested Loops, H |
| 10502 |  Counting Rectangles | 3.2d, Three+ Nested Loops, H |
| 10660 |  Citizen attention offices | 3.2d, Three+ Nested Loops, H |
| 10973 |  Triangle Counting | 3.2d, Three+ Nested Loops, H |
| 11108 |  Tautology | 3.2d, Three+ Nested Loops, H |
| 11236 |  Grocery store | 3.2d, Three+ Nested Loops, H |
| 11342 |  Three-square | 3.2d, Three+ Nested Loops, H |
| 11548 |  Blackboard Bonanza | 3.2d, Three+ Nested Loops, H |
| 11565 |  Simple Equations | 3.2d, Three+ Nested Loops, H |
| 11804 |  Argentina | 3.2d, Three+ Nested Loops, H |
| 11959 |  Dice | 3.2d, Three+ Nested Loops, H |
| 11975 |  Tele-loto | 3.2d, Three+ Nested Loops, H |
| 12337 |  Bob's Beautiful Balls | 3.2d, Three+ Nested Loops, H |
| calculatingdartscores |  calculatingdartscores | 3.2d, Three+ Nested Loops, H |
| goblingardenguards |  goblingardenguards | 3.2d, Three+ Nested Loops, H |
| lektira |  lektira | 3.2d, Three+ Nested Loops, H |
| medals |  medals | 3.2d, Three+ Nested Loops, H |
| misa |  misa | 3.2d, Three+ Nested Loops, H |
| tautology |  tautology | 3.2d, Three+ Nested Loops, H |
| 00102 |  Ecological Bin Packing | 3.2g, Try All Answers |
| 00188 |  Perfect Hash | 3.2g, Try All Answers |
| 00471 |  Magic Numbers | 3.2g, Try All Answers |
| 00725 |  Division | 3.2g, Try All Answers |
| 10908 |  Largest Square | 3.2g, Try All Answers |

























| Both OJ | Problem Title | CP4 |
|---------------------|---|-------------------------------|
| communication |  communication | 3.2g, Try All Answers |
| cookingwater |  cookingwater | 3.2g, Try All Answers |
| flexible |  flexible | 3.2g, Try All Answers |
| heirsdilemma |  heirsdilemma | 3.2g, Try All Answers |
| islands |  islands | 3.2g, Try All Answers |
| owlandfox |  owlandfox | 3.2g, Try All Answers |
| parking2 |  parking2 | 3.2g, Try All Answers |
| prinova |  prinova | 3.2g, Try All Answers |
| savingforretirement |  savingforretirement | 3.2g, Try All Answers |
| tabsandspaces |  tabsandspaces | 3.2g, Try All Answers |
| walls |  walls | 3.2g, Try All Answers |
| 00100 |  The 3n + 1 problem | 3.2h, Math Simulation, Easier |
| 00371 |  Ackermann Functions | 3.2h, Math Simulation, Easier |
| 00382 |  Perfection | 3.2h, Math Simulation, Easier |
| 00654 |  Ratio | 3.2h, Math Simulation, Easier |
| 00906 |  Rational Neighbor | 3.2h, Math Simulation, Easier |
| 01225 |  Digit Counting. | 3.2h, Math Simulation, Easier |
| 01583 |  Digit Generator | 3.2h, Math Simulation, Easier |
| 10346 |  Peter's Smokes | 3.2h, Math Simulation, Easier |
| 10370 |  Above Average | 3.2h, Math Simulation, Easier |
| 10783 |  Odd Sum | 3.2h, Math Simulation, Easier |
| 10879 |  Code Refactoring | 3.2h, Math Simulation, Easier |
| 11001 |  Necklace | 3.2h, Math Simulation, Easier |
| 11150 |  Cola | 3.2h, Math Simulation, Easier |

























| Both OJ | Problem Title | CP4 |
|---------------------------------|---|---|
| 11247 |  Income Tax | 3.2h, Math Simulation, Easier |
| 11313 |  Gourmet Games | 3.2h, Math Simulation, Easier |
| 11689 |  Soda Surpler | 3.2h, Math Simulation, Easier |
| 11877 |  The Coco-Cola Store | 3.2h, Math Simulation, Easier |
| 11934 |  Magic Formula | 3.2h, Math Simulation, Easier |
| 12527 |  Different Digits | 3.2h, Math Simulation, Easier |
| 12938 |  Just Another Easy Problem | 3.2h, Math Simulation, Easier |
| 13059 |  Tennis Championship | 3.2h, Math Simulation, Easier |
| 13131 |  Divisors | 3.2h, Math Simulation, Easier |
| aboveaverage |  aboveaverage | 3.2h, Math Simulation, Easier |
| damagedequation |  damagedequation | 3.2h, Math Simulation, Easier |
| dicecup |  dicecup | 3.2h, Math Simulation, Easier |
| <i>easiest</i> |  easiest | <i>3.2h, Math Simulation, Easier</i> |
| <i>growlinggears</i> |  growlinggears | <i>3.2h, Math Simulation, Easier</i> |
| hailstone2 |  hailstone2 | 3.2h, Math Simulation, Easier |
| harshadnumbers |  harshadnumbers | 3.2h, Math Simulation, Easier |
| powersof2easy |  powersof2easy | 3.2h, Math Simulation, Easier |
| refrigerator |  refrigerator | 3.2h, Math Simulation, Easier |
| socialrunning |  socialrunning | 3.2h, Math Simulation, Easier |
| sodaslurper |  sodaslurper | 3.2h, Math Simulation, Easier |
| somesum |  somesum | 3.2h, Math Simulation, Easier |
| sumoftheothers |  sumoftheothers | 3.2h, Math Simulation, Easier |
| tri |  tri | 3.2h, Math Simulation, Easier |
| <i>trollhunt</i> |  trollhunt | <i>3.2h, Math Simulation, Easier</i> |

























| Both OJ | Problem Title | CP4 |
|---------------------|---|--------------------------------------|
| <i>videospeedup</i> |  videospeedup | <i>3.2h, Math Simulation, Easier</i> |
| zamka |  zamka | 3.2h, Math Simulation, Easier |
| 00493 |  Rational Spiral | 3.2i, Math Simulation, Harder |
| 00550 |  Multiplying by Rotation | 3.2i, Math Simulation, Harder |
| <i>00616</i> |  Coconuts, Revisited | <i>3.2i, Math Simulation, Harder</i> |
| 00697 |  Jack and Jill | 3.2i, Math Simulation, Harder |
| 00846 |  Steps | 3.2i, Math Simulation, Harder |
| 10025 |  The ? 1 ? 2 ? ... ? n = k ... | 3.2i, Math Simulation, Harder |
| 10035 |  Primary Arithmetic | 3.2i, Math Simulation, Harder |
| <i>11130</i> |  Billiard bounces | <i>3.2i, Math Simulation, Harder</i> |
| <i>11254</i> |  Consecutive Integers | <i>3.2i, Math Simulation, Harder</i> |
| <i>11490</i> |  Just Another Problem | <i>3.2i, Math Simulation, Harder</i> |
| 11968 |  In The Airport | 3.2i, Math Simulation, Harder |
| 12169 |  Disgruntled Judge | 3.2i, Math Simulation, Harder |
| 12290 |  Counting Game | 3.2i, Math Simulation, Harder |
| 12665 |  Joking with Fermat's Last ... | 3.2i, Math Simulation, Harder |
| 12792 |  Shuffled Deck | 3.2i, Math Simulation, Harder |
| 12895 |  Armstrong Number | 3.2i, Math Simulation, Harder |
| <i>crackingsrsa</i> |  crackingsrsa | <i>3.2i, Math Simulation, Harder</i> |
| disgruntledjudge |  disgruntledjudge | 3.2i, Math Simulation, Harder |
| <i>falling</i> |  falling | <i>3.2i, Math Simulation, Harder</i> |
| houSELawn |  houSELawn | 3.2i, Math Simulation, Harder |
| lipschitzconstant |  lipschitzconstant | 3.2i, Math Simulation, Harder |
| milestones |  milestones | 3.2i, Math Simulation, Harder |

























| Both OJ | Problem Title | CP4 |
|------------------|---|-------------------------------|
| repeatingdecimal |  repeatingdecimal | 3.2i, Math Simulation, Harder |
| robotopia |  robotopia | 3.2i, Math Simulation, Harder |
| thanosthehero |  thanosthehero | 3.2i, Math Simulation, Harder |
| 00380 |  Call Forwarding | 3.2k, Backtracking (Easier) |
| 00487 |  Boggle Blitz | 3.2k, Backtracking (Easier) |
| 00524 |  Prime Ring Problem | 3.2k, Backtracking (Easier) |
| 00529 |  Addition Chains | 3.2k, Backtracking (Easier) |
| 00571 |  Jugs | 3.2k, Backtracking (Easier) |
| 00598 |  Bundling Newspapers | 3.2k, Backtracking (Easier) |
| 00628 |  Passwords | 3.2k, Backtracking (Easier) |
| 00677 |  All Walks of length "n" fr... | 3.2k, Backtracking (Easier) |
| 00729 |  The Hamming Distance Probl... | 3.2k, Backtracking (Easier) |
| 00868 |  Numerical Maze | 3.2k, Backtracking (Easier) |
| 10344 |  23 out of 5 | 3.2k, Backtracking (Easier) |
| 10452 |  Marcus | 3.2k, Backtracking (Easier) |
| 10503 |  The dominoes solitaire | 3.2k, Backtracking (Easier) |
| 10576 |  Y2K Accounting Bug. | 3.2k, Backtracking (Easier) |
| 10624 |  Super Number | 3.2k, Backtracking (Easier) |
| 10776 |  Determine The Combination | 3.2k, Backtracking (Easier) |
| 10950 |  Bad Code | 3.2k, Backtracking (Easier) |
| 11201 |  The problem of the crazy l... | 3.2k, Backtracking (Easier) |
| 11961 |  DNA | 3.2k, Backtracking (Easier) |
| 12840 |  The Archery Puzzle | 3.2k, Backtracking (Easier) |
| goodmorning |  goodmorning. | 3.2k, Backtracking (Easier) |

























| Both OJ | Problem Title | CP4 |
|--------------|--|-----------------------------|
| gradecurving |  gradecurving | 3.2k, Backtracking (Easier) |
| natjecanje |  natjecanje | 3.2k, Backtracking (Easier) |
| paintings |  paintings | 3.2k, Backtracking (Easier) |
| 00129 |  Krypton Factor | 3.2l, Backtracking (Harder) |
| 00208 |  Firetruck | 3.2l, Backtracking (Harder) |
| 00222 |  Budget Travel | 3.2l, Backtracking (Harder) |
| 00301 |  Transportation | 3.2l, Backtracking (Harder) |
| 00307 |  Sticks | 3.2l, Backtracking (Harder) |
| 00331 |  Mapping the Swaps | 3.2l, Backtracking (Harder) |
| 00416 |  LED Test | 3.2l, Backtracking (Harder) |
| 00433 |  Bank (Not Quite O.C.R.) | 3.2l, Backtracking (Harder) |
| 00565 |  Pizza Anyone? | 3.2l, Backtracking (Harder) |
| 01262 |  Password | 3.2l, Backtracking (Harder) |
| 10001 |  Garden of Eden | 3.2l, Backtracking (Harder) |
| 10063 |  Knuth's Permutation | 3.2l, Backtracking (Harder) |
| 10094 |  Place the Guards | 3.2l, Backtracking (Harder) |
| 10460 |  Find the Permuted String | 3.2l, Backtracking (Harder) |
| 10475 |  Help the Leaders | 3.2l, Backtracking (Harder) |
| 10582 |  ASCII Labyrinth | 3.2l, Backtracking (Harder) |
| 11052 |  Economic phone calls | 3.2l, Backtracking (Harder) |
| 11753 |  Creating Palindrome | 3.2l, Backtracking (Harder) |
| carvet |  carvet | 3.2l, Backtracking (Harder) |
| dobra |  dobra | 3.2l, Backtracking (Harder) |
| fruitbaskets |  fruitbaskets | 3.2l, Backtracking (Harder) |

























| Both OJ | Problem Title | CP4 |
|---------------------|---|------------------------------------|
| <i>pagelayout</i> |  <i>pagelayout</i> | <i>3.2l, Backtracking (Harder)</i> |
| primes |  primes | 3.2l, Backtracking (Harder) |
| solitaire |  solitaire | 3.2l, Backtracking (Harder) |
| 00679 |  Dropping Balls | 3.3a, Binary Search |
| 00957 |  Popes | 3.3a, Binary Search |
| 10057 |  A mid-summer night's dream... | 3.3a, Binary Search |
| 10077 |  The Stern-Brocot Number Sy... | 3.3a, Binary Search |
| 10474 |  Where is the Marble? | 3.3a, Binary Search |
| 10567 |  Helping Fill Bates | 3.3a, Binary Search |
| 10611 |  The Playboy Chimp | 3.3a, Binary Search |
| 10706 |  Number Sequence | 3.3a, Binary Search |
| 10742 |  The New Rule in Euphonia | 3.3a, Binary Search |
| <i>11057</i> |  <i>Exact Sum</i> | <i>3.3a, Binary Search</i> |
| <i>11621</i> |  <i>Small Factors</i> | <i>3.3a, Binary Search</i> |
| 11876 |  N + NOD (N). | 3.3a, Binary Search |
| <i>12192</i> |  <i>Grapevine</i> | <i>3.3a, Binary Search</i> |
| <i>12965</i> |  <i>Angry Bids</i> | <i>3.3a, Binary Search</i> |
| <i>firefly</i> |  <i>firefly</i> | <i>3.3a, Binary Search</i> |
| <i>outofsorts</i> |  <i>outofsorts</i> | <i>3.3a, Binary Search</i> |
| <i>roompainting</i> |  <i>roompainting</i> | <i>3.3a, Binary Search</i> |
| synchronizinglists |  synchronizinglists | 3.3a, Binary Search |
| 01753 |  Need for Speed | 3.3b, Bisection and BSTA, E |
| 10341 |  Solve It | 3.3b, Bisection and BSTA, E |
| 11413 |  Fill the Containers | 3.3b, Bisection and BSTA, E |

























| Both OJ | Problem Title | CP4 |
|---------------------|---|-------------------------------|
| 11627 |  Slalom | 3.3b, Bisection and BSTA, E |
| 11881 |  Internal Rate of Return | 3.3b, Bisection and BSTA, E |
| 11935 |  Through the Desert | 3.3b, Bisection and BSTA, E |
| 12032 |  The Monkey and the Oiled B... | 3.3b, Bisection and BSTA, E |
| 12190 |  Electric Bill | 3.3b, Bisection and BSTA, E |
| 12791 |  Lap | 3.3b, Bisection and BSTA, E |
| 13142 |  Destroy the Moon to Save t... | 3.3b, Bisection and BSTA, E |
| bootstrappingnumber |  bootstrappingnumber | 3.3b, Bisection and BSTA, E |
| carefulascent |  carefulascent | 3.3b, Bisection and BSTA, E |
| financialplanning |  financialplanning | 3.3b, Bisection and BSTA, E |
| freeweights |  freeweights | 3.3b, Bisection and BSTA, E |
| hindex |  hindex | 3.3b, Bisection and BSTA, E |
| htoo |  htoo | 3.3b, Bisection and BSTA, E |
| monk |  monk | 3.3b, Bisection and BSTA, E |
| slalom2 |  slalom2 | 3.3b, Bisection and BSTA, E |
| smallschedule |  smallschedule | 3.3b, Bisection and BSTA, E |
| speed |  speed | 3.3b, Bisection and BSTA, E |
| suspensionbridges |  suspensionbridges | 3.3b, Bisection and BSTA, E |
| svada |  svada | 3.3b, Bisection and BSTA, E |
| 00183 |  Bit Maps | 3.3c, Ternary Search & Others |
| 00608 |  Counterfeit Dollar | 3.3c, Ternary Search & Others |
| 01738 |  Ceiling Function | 3.3c, Ternary Search & Others |
| 10385 |  Duathlon | 3.3c, Ternary Search & Others |
| 11147 |  KuPellaKeS BST | 3.3c, Ternary Search & Others |

























| Both OJ | Problem Title | CP4 |
|----------------|--|-------------------------------|
| 11701 |  Cantor | 3.3c, Ternary Search & Others |
| 12893 |  Count It | 3.3c, Ternary Search & Others |
| a1paper |  a1paper | 3.3c, Ternary Search & Others |
| cantor |  cantor | 3.3c, Ternary Search & Others |
| ceiling |  ceiling | 3.3c, Ternary Search & Others |
| euclideanosp |  euclideanosp | 3.3c, Ternary Search & Others |
| goingtoseed |  goingtoseed | 3.3c, Ternary Search & Others |
| jewelrybox |  jewelrybox | 3.3c, Ternary Search & Others |
| qanat |  qanat | 3.3c, Ternary Search & Others |
| reconnaissance |  reconnaissance | 3.3c, Ternary Search & Others |
| sretan |  sretan | 3.3c, Ternary Search & Others |
| sylvester |  sylvester | 3.3c, Ternary Search & Others |
| tricktreat |  tricktreat | 3.3c, Ternary Search & Others |
| zipline |  zipline | 3.3c, Ternary Search & Others |
| 00410 |  Station Balance | 3.4a, Greedy (Classical) |
| 01193 |  Radar Installation | 3.4a, Greedy (Classical) |
| 10020 |  Minimal coverage | 3.4a, Greedy (Classical) |
| 10249 |  The Grand Dinner | 3.4a, Greedy (Classical) |
| 10382 |  Watering Grass | 3.4a, Greedy (Classical) |
| 11264 |  Coin Collector | 3.4a, Greedy (Classical) |
| 11292 |  Dragon of Loowater | 3.4a, Greedy (Classical) |
| 11389 |  The Bus Driver Problem | 3.4a, Greedy (Classical) |
| 12210 |  A Match Making Problem | 3.4a, Greedy (Classical) |
| 12321 |  Gas Stations | 3.4a, Greedy (Classical) |

























| Both OJ | Problem Title | CP4 |
|--------------------|--|-----------------------------------|
| 12405 |  Scarecrow | 3.4a, Greedy (Classical) |
| avoidland |  avoidland | 3.4a, Greedy (Classical) |
| <i>classrooms</i> |  classrooms | <i>3.4a, Greedy (Classical)</i> |
| color |  color | 3.4a, Greedy (Classical) |
| distributingseats |  distributingseats | 3.4a, Greedy (Classical) |
| fishmongers |  fishmongers | 3.4a, Greedy (Classical) |
| <i>froshweek2</i> |  froshweek2 | <i>3.4a, Greedy (Classical)</i> |
| grass |  grass | 3.4a, Greedy (Classical) |
| inflation |  inflation | 3.4a, Greedy (Classical) |
| intervalcover |  intervalcover | 3.4a, Greedy (Classical) |
| intervalscheduling |  intervalscheduling | 3.4a, Greedy (Classical) |
| loowater |  loowater | 3.4a, Greedy (Classical) |
| messages |  messages | 3.4a, Greedy (Classical) |
| <i>squarepegs</i> |  squarepegs | <i>3.4a, Greedy (Classical)</i> |
| 10763 |  Foreign Exchange | 3.4b, Involving Sorting, E |
| 10785 |  The Mad Numerologist | 3.4b, Involving Sorting, E |
| 11269 |  Setting Problems | 3.4b, Involving Sorting, E |
| <i>11369</i> |  Shopaholic | <i>3.4b, Involving Sorting, E</i> |
| <i>11729</i> |  Commando War | <i>3.4b, Involving Sorting, E</i> |
| <i>11900</i> |  Boiled Eggs | <i>3.4b, Involving Sorting, E</i> |
| 12485 |  Perfect Choir | 3.4b, Involving Sorting, E |
| 13031 |  Geek Power Inc. | 3.4b, Involving Sorting, E |
| <i>13109</i> |  Elephants | <i>3.4b, Involving Sorting, E</i> |
| acm2 |  acm2 | 3.4b, Involving Sorting, E |

























| Both OJ | Problem Title | CP4 |
|-------------------|---|----------------------------|
| akcija |  akcija | 3.4b, Involving Sorting, E |
| aprizenoonecanwin |  aprizenoonecanwin | 3.4b, Involving Sorting, E |
| fallingapart |  fallingapart | 3.4b, Involving Sorting, E |
| fridge |  fridge | 3.4b, Involving Sorting, E |
| gettowork |  gettowork | 3.4b, Involving Sorting, E |
| help |  help | 3.4b, Involving Sorting, E |
| hotsprings |  hotsprings | 3.4b, Involving Sorting, E |
| icpcteamselection |  icpcteamselection | 3.4b, Involving Sorting, E |
| minimumscalar |  minimumscalar | 3.4b, Involving Sorting, E |
| pikemaneasy |  pikemaneasy | 3.4b, Involving Sorting, E |
| planetaris |  planetaris | 3.4b, Involving Sorting, E |
| plantingtrees |  plantingtrees | 3.4b, Involving Sorting, E |
| redistribution |  redistribution | 3.4b, Involving Sorting, E |
| shopaholic |  shopaholic | 3.4b, Involving Sorting, E |
| standings |  standings | 3.4b, Involving Sorting, E |
| textmessaging |  textmessaging | 3.4b, Involving Sorting, E |
| toflur |  toflur | 3.4b, Involving Sorting, E |
| universityzoning |  universityzoning | 3.4b, Involving Sorting, E |
| woodcutting |  woodcutting | 3.4b, Involving Sorting, E |
| 01153 |  Keep the Customer Satisfie... | 3.4d, Involving PQ |
| 10954 |  Add All | 3.4d, Involving PQ |
| 12390 |  Distributing Ballot Boxes | 3.4d, Involving PQ |
| 13177 |  Orchestral scores | 3.4d, Involving PQ |
| ballotboxes |  ballotboxes | 3.4d, Involving PQ |

























| Both OJ | Problem Title | CP4 |
|---------------------|--|------------------------------------|
| <i>canvas</i> |  <u>canvas</u> | <i>3.4d, Involving PQ</i> |
| entertainmentbox |  <u>entertainmentbox</u> | 3.4d, Involving PQ |
| <i>vegetables</i> |  <u>vegetables</u> | <i>3.4d, Involving PQ</i> |
| <i>workstations</i> |  <u>workstations</u> | <i>3.4d, Involving PQ</i> |
| 10152 |  <u>ShellSort</u> | 3.4e, Non Classical, Easier |
| <i>10340</i> |  <u>All in All</u> | <i>3.4e, Non Classical, Easier</i> |
| 10440 |  <u>Ferry Loading II</u> | 3.4e, Non Classical, Easier |
| 10602 |  <u>Editor Nottoobad</u> | 3.4e, Non Classical, Easier |
| <i>10656</i> |  <u>Maximum Sum (II)</u> | <i>3.4e, Non Classical, Easier</i> |
| 10672 |  <u>Marbles on a tree</u> | 3.4e, Non Classical, Easier |
| 10700 |  <u>Camel trading</u> | 3.4e, Non Classical, Easier |
| 10714 |  <u>Ants</u> | 3.4e, Non Classical, Easier |
| 11054 |  <u>Wine trading in Gergovia</u> | 3.4e, Non Classical, Easier |
| <i>11520</i> |  <u>Fill the Square</u> | <i>3.4e, Non Classical, Easier</i> |
| 11532 |  <u>Simple Adjacency Maximizat...</u> | 3.4e, Non Classical, Easier |
| <i>12482</i> |  <u>Short Story Competition</u> | <i>3.4e, Non Classical, Easier</i> |
| <i>ants</i> |  <u>ants</u> | <i>3.4e, Non Classical, Easier</i> |
| applesack |  <u>applesack</u> | 3.4e, Non Classical, Easier |
| <i>bank</i> |  <u>bank</u> | <i>3.4e, Non Classical, Easier</i> |
| driver |  <u>driver</u> | 3.4e, Non Classical, Easier |
| horrorfilmnight |  <u>horrorfilmnight</u> | 3.4e, Non Classical, Easier |
| <i>knitpicking</i> |  <u>knitpicking</u> | <i>3.4e, Non Classical, Easier</i> |
| <i>marblestree</i> |  <u>marblestree</u> | <i>3.4e, Non Classical, Easier</i> |
| pripreme |  <u>pripreme</u> | 3.4e, Non Classical, Easier |

























| Both OJ | Problem Title | CP4 |
|-------------------|---|-----------------------------|
| simplicity |  simplicity | 3.4e, Non Classical, Easier |
| skocimis |  skocimis | 3.4e, Non Classical, Easier |
| teacherevaluation |  teacherevaluation | 3.4e, Non Classical, Easier |
| 00108 |  Maximum Sum | 3.5a, Max 1D/2D Range Sum |
| 00507 |  Jill Rides Again | 3.5a, Max 1D/2D Range Sum |
| 00787 |  Maximum Sub-sequence Produ... | 3.5a, Max 1D/2D Range Sum |
| 00836 |  Largest Submatrix | 3.5a, Max 1D/2D Range Sum |
| 00983 |  Localized Summing for Blur... | 3.5a, Max 1D/2D Range Sum |
| 01105 |  Coffee Central | 3.5a, Max 1D/2D Range Sum |
| 10074 |  Take the Land | 3.5a, Max 1D/2D Range Sum |
| 10667 |  Largest Block | 3.5a, Max 1D/2D Range Sum |
| 10684 |  The jackpot | 3.5a, Max 1D/2D Range Sum |
| 10755 |  Garbage Heap | 3.5a, Max 1D/2D Range Sum |
| 10827 |  Maximum sum on a torus | 3.5a, Max 1D/2D Range Sum |
| 11951 |  Area | 3.5a, Max 1D/2D Range Sum |
| 12640 |  Largest Sum Game | 3.5a, Max 1D/2D Range Sum |
| 13095 |  Tobby and Query | 3.5a, Max 1D/2D Range Sum |
| alicedigital |  alicedigital | 3.5a, Max 1D/2D Range Sum |
| commercials |  commercials | 3.5a, Max 1D/2D Range Sum |
| fieldtrip |  fieldtrip | 3.5a, Max 1D/2D Range Sum |
| foldedmap |  foldedmap | 3.5a, Max 1D/2D Range Sum |
| nered |  nered | 3.5a, Max 1D/2D Range Sum |
| prozor |  prozor | 3.5a, Max 1D/2D Range Sum |
| purplerain |  purplerain | 3.5a, Max 1D/2D Range Sum |

























| Both OJ | Problem Title | CP4 |
|------------------------------|--|----------------------------------|
| <i>sellingspatulas</i> |  <i>sellingspatulas</i> | <i>3.5a, Max 1D/2D Range Sum</i> |
| <i>shortsell</i> |  <i>shortsell</i> | <i>3.5a, Max 1D/2D Range Sum</i> |
| 00111 |  History Grading | 3.5b, LIS |
| 00231 |  Testing the CATCHER | 3.5b, LIS |
| 00437 |  The Tower of Babylon | 3.5b, LIS |
| <i>00481</i> |  What Goes Up | <i>3.5b, LIS</i> |
| 00497 |  Strategic Defense Initiati... | 3.5b, LIS |
| <i>01196</i> |  Tiling Up Blocks | <i>3.5b, LIS</i> |
| 10131 |  Is Bigger Smarter? | 3.5b, LIS |
| 10154 |  Weights and Measures | 3.5b, LIS |
| <i>10534</i> |  Wavio Sequence | <i>3.5b, LIS</i> |
| 11368 |  Nested Dolls | 3.5b, LIS |
| 11456 |  Trainsorting | 3.5b, LIS |
| <i>11790</i> |  Murcia's Skyline | <i>3.5b, LIS</i> |
| <i>alphabet</i> |  <i>alphabet</i> | <i>3.5b, LIS</i> |
| <i>increasingsubsequence</i> |  <i>increasingsubsequence</i> | <i>3.5b, LIS</i> |
| <i>longincsubseq</i> |  <i>longincsubseq</i> | <i>3.5b, LIS</i> |
| <i>manhattanmornings</i> |  <i>manhattanmornings</i> | <i>3.5b, LIS</i> |
| <i>nsteddolls</i> |  <i>nsteddolls</i> | <i>3.5b, LIS</i> |
| <i>trainsorting</i> |  <i>trainsorting</i> | <i>3.5b, LIS</i> |
| 00431 |  Trial of the Millennium | 3.5c, 0-1 KNAPSACK |
| 00562 |  Dividing coins | 3.5c, 0-1 KNAPSACK |
| 00990 |  Diving for Gold | 3.5c, 0-1 KNAPSACK |
| <i>01213</i> |  Sum of Different Primes | <i>3.5c, 0-1 KNAPSACK</i> |

























| Both OJ | Problem Title | CP4 |
|-----------------------|--|--------------------|
| 10130 |  SuperSale | 3.5c, 0-1 KNAPSACK |
| 10261 |  Ferry Loading | 3.5c, 0-1 KNAPSACK |
| 10616 |  Divisible Group Sums | 3.5c, 0-1 KNAPSACK |
| 10664 |  Luggage | 3.5c, 0-1 KNAPSACK |
| 10690 |  Expression Again | 3.5c, 0-1 KNAPSACK |
| 10819 |  Trouble of 13-Dots | 3.5c, 0-1 KNAPSACK |
| 11003 |  Boxes | 3.5c, 0-1 KNAPSACK |
| 11341 |  Term Strategy | 3.5c, 0-1 KNAPSACK |
| 11566 |  Let's Yum Cha! | 3.5c, 0-1 KNAPSACK |
| 11658 |  Best Coalitions | 3.5c, 0-1 KNAPSACK |
| 11832 |  Account Book | 3.5c, 0-1 KNAPSACK |
| 12621 |  On a Diet | 3.5c, 0-1 KNAPSACK |
| knapsack |  knapsack | 3.5c, 0-1 KNAPSACK |
| muzicari |  muzicari | 3.5c, 0-1 KNAPSACK |
| ninepacks |  ninepacks | 3.5c, 0-1 KNAPSACK |
| orders |  orders | 3.5c, 0-1 KNAPSACK |
| presidentialelections |  presidentialelections | 3.5c, 0-1 KNAPSACK |
| 00147 |  Dollars | 3.5d, COIN-CHANGE |
| 00166 |  Making Change | 3.5d, COIN-CHANGE |
| 00242 |  Stamps and Envelope Size | 3.5d, COIN-CHANGE |
| 00357 |  Let Me Count The Ways | 3.5d, COIN-CHANGE |
| 00674 |  Coin Change | 3.5d, COIN-CHANGE |
| 10313 |  Pay the Price | 3.5d, COIN-CHANGE |
| 10448 |  Unique World | 3.5d, COIN-CHANGE |

























| Both OJ | Problem Title | CP4 |
|--------------------------|--|-------------------|
| 11137 |  Ingenuous Cubrency | 3.5d, COIN-CHANGE |
| 11259 |  Coin Changing Again | 3.5d, COIN-CHANGE |
| 11517 |  Exact Change | 3.5d, COIN-CHANGE |
| <i>bagoftiles</i> |  bagoftiles | 3.5d, COIN-CHANGE |
| <i>canonical</i> |  canonical | 3.5d, COIN-CHANGE |
| <i>exactchange2</i> |  exactchange2 | 3.5d, COIN-CHANGE |
| 00216 |  Getting in Line | 3.5e, TSP |
| 01281 |  Bus Tour | 3.5e, TSP |
| 10496 |  Collecting Beepers | 3.5e, TSP |
| 11795 |  Mega Man's Mission | 3.5e, TSP |
| 12841 |  In Puzzleland (III) | 3.5e, TSP |
| <i>beepers</i> |  beepers | 3.5e, TSP |
| <i>bustour</i> |  bustour | 3.5e, TSP |
| <i>cycleseasy</i> |  cycleseasy | 3.5e, TSP |
| <i>errands</i> |  errands | 3.5e, TSP |
| <i>maximizingyourpay</i> |  maximizingyourpay | 3.5e, TSP |
| <i>pokemongogo</i> |  pokemongogo | 3.5e, TSP |
| <i>race</i> |  race | 3.5e, TSP |
| 00116 |  Unidirectional TSP | 3.5f, DP level 1 |
| 00196 |  Spreadsheet | 3.5f, DP level 1 |
| 00215 |  Spreadsheet Calculator | 3.5f, DP level 1 |
| 01261 |  String Popping | 3.5f, DP level 1 |
| 10003 |  Cutting Sticks | 3.5f, DP level 1 |
| 10036 |  Divisibility | 3.5f, DP level 1 |

























| Both OJ | Problem Title | CP4 |
|----------------------|--|-------------------------|
| 10086 |  Test the Rods | 3.5f, DP level 1 |
| 10337 |  Flight Planner | 3.5f, DP level 1 |
| 10446 |  The Marriage Interview :-) | 3.5f, DP level 1 |
| 10520 |  Determine it | 3.5f, DP level 1 |
| 10721 |  Bar Codes | 3.5f, DP level 1 |
| 10910 |  Marks Distribution | 3.5f, DP level 1 |
| <i>10912</i> |  Simple Minded Hashing. | <i>3.5f, DP level 1</i> |
| 10943 |  How do you add? | 3.5f, DP level 1 |
| 10980 |  Lowest Price in Town | 3.5f, DP level 1 |
| 11026 |  A Grouping Problem | 3.5f, DP level 1 |
| 11407 |  Squares | 3.5f, DP level 1 |
| <i>11420</i> |  Chest of Drawers | <i>3.5f, DP level 1</i> |
| 11450 |  Wedding shopping | 3.5f, DP level 1 |
| 11703 |  sqrt log sin | 3.5f, DP level 1 |
| 12654 |  Patches | 3.5f, DP level 1 |
| 12951 |  Stock Market | 3.5f, DP level 1 |
| <i>13141</i> |  Growing Trees | <i>3.5f, DP level 1</i> |
| keyboardconcert |  keyboardconcert | 3.5f, DP level 1 |
| <i>nikola</i> |  nikola | <i>3.5f, DP level 1</i> |
| permutationdescent |  permutationdescent | 3.5f, DP level 1 |
| <i>spiderman</i> |  spiderman | <i>3.5f, DP level 1</i> |
| <i>ticketpricing</i> |  ticketpricing. | <i>3.5f, DP level 1</i> |
| weightofwords |  weightofwords | 3.5f, DP level 1 |
| wordclouds |  wordclouds | 3.5f, DP level 1 |

























| Both OJ | Problem Title | CP4 |
|-------------------------|---|---------------------|
| 00908 |  Re-connecting Computer Sit... | 4.3a, MST, Standard |
| 01174 |  IP-TV | 4.3a, MST, Standard |
| 01208 |  Oreon | 4.3a, MST, Standard |
| 01235 |  Anti Brute Force Lock | 4.3a, MST, Standard |
| 10034 |  Freckles | 4.3a, MST, Standard |
| 11228 |  Transportation system. | 4.3a, MST, Standard |
| 11631 |  Dark roads | 4.3a, MST, Standard |
| 11710 |  Expensive subway | 4.3a, MST, Standard |
| 11733 |  Airports | 4.3a, MST, Standard |
| 11747 |  Heavy Cycle Edges | 4.3a, MST, Standard |
| 11857 |  Driving Range | 4.3a, MST, Standard |
| cats |  cats | 4.3a, MST, Standard |
| communicationssatellite |  communicationssatellite | 4.3a, MST, Standard |
| drivingrange |  drivingrange | 4.3a, MST, Standard |
| freckles |  freckles | 4.3a, MST, Standard |
| islandhopping |  islandhopping. | 4.3a, MST, Standard |
| jurassicjigsaw |  jurassicjigsaw | 4.3a, MST, Standard |
| lostmap |  lostmap | 4.3a, MST, Standard |
| minspantree |  minspantree | 4.3a, MST, Standard |
| 00534 |  Frogger | 4.3b, MST, Variants |
| 00544 |  Heavy Cargo | 4.3b, MST, Variants |
| 01013 |  Island Hopping. | 4.3b, MST, Variants |
| 01160 |  X-Plosives | 4.3b, MST, Variants |
| 01216 |  The Bug Sensor Problem | 4.3b, MST, Variants |

























| Both OJ | Problem Title | CP4 |
|--------------------|---|-------------------------|
| 01234 |  RACING | 4.3b, MST, Variants |
| 01265 |  Tour Belt | 4.3b, MST, Variants |
| 10048 |  Audiophobia | 4.3b, MST, Variants |
| 10099 |  The Tourist Guide | 4.3b, MST, Variants |
| 10147 |  Highways | 4.3b, MST, Variants |
| 10369 |  Arctic Network | 4.3b, MST, Variants |
| 10397 |  Connect the Campus | 4.3b, MST, Variants |
| 10457 |  Magic Car | 4.3b, MST, Variants |
| 10462 |  Is There A Second Way Left... | 4.3b, MST, Variants |
| 10600 |  ACM Contest and Blackout | 4.3b, MST, Variants |
| 10842 |  Traffic Flow | 4.3b, MST, Variants |
| arcticonetwork |  arcticonetwork | 4.3b, MST, Variants |
| firetrucksarered |  firetrucksarered | 4.3b, MST, Variants |
| inventing |  inventing | 4.3b, MST, Variants |
| landline |  landline | 4.3b, MST, Variants |
| millionairemadness |  millionairemadness | 4.3b, MST, Variants |
| muddyhike |  muddyhike | 4.3b, MST, Variants |
| naturereserve |  naturereserve | 4.3b, MST, Variants |
| treehouses |  treehouses | 4.3b, MST, Variants |
| 00336 |  A Node Too Far | 4.4a, SSSP, BFS, Easier |
| 00388 |  Galactic Import | 4.4a, SSSP, BFS, Easier |
| 00429 |  Word Transformation | 4.4a, SSSP, BFS, Easier |
| 00627 |  The Net | 4.4a, SSSP, BFS, Easier |
| 00762 |  We Ship Cheap | 4.4a, SSSP, BFS, Easier |

























| Both OJ | Problem Title | CP4 |
|-----------------|--|-------------------------|
| 00924 |  Spreading The News | 4.4a, SSSP, BFS, Easier |
| 01148 |  The mysterious X network | 4.4a, SSSP, BFS, Easier |
| 10009 |  All Roads Lead Where? | 4.4a, SSSP, BFS, Easier |
| 10610 |  Gopher and Hawks | 4.4a, SSSP, BFS, Easier |
| 10653 |  Bombs! NO they are Mines!! | 4.4a, SSSP, BFS, Easier |
| 10959 |  The Party, Part I | 4.4a, SSSP, BFS, Easier |
| 12160 |  Unlock the Lock | 4.4a, SSSP, BFS, Easier |
| buttonbashing |  buttonbashing | 4.4a, SSSP, BFS, Easier |
| elevatortrouble |  elevatortrouble | 4.4a, SSSP, BFS, Easier |
| grid |  grid | 4.4a, SSSP, BFS, Easier |
| horror |  horror | 4.4a, SSSP, BFS, Easier |
| spiral |  spiral | 4.4a, SSSP, BFS, Easier |
| wettiles |  wettiles | 4.4a, SSSP, BFS, Easier |
| 00314 |  Robot | 4.4b, SSSP, BFS, Harder |
| 00383 |  Shipping Routes | 4.4b, SSSP, BFS, Harder |
| 00532 |  Dungeon Master | 4.4b, SSSP, BFS, Harder |
| 00859 |  Chinese Checkers | 4.4b, SSSP, BFS, Harder |
| 00949 |  Getaway | 4.4b, SSSP, BFS, Harder |
| 10044 |  Erdos Numbers | 4.4b, SSSP, BFS, Harder |
| 10067 |  Playing with Wheels | 4.4b, SSSP, BFS, Harder |
| 10977 |  Enchanted Forest | 4.4b, SSSP, BFS, Harder |
| 10993 |  Ignoring Digits | 4.4b, SSSP, BFS, Harder |
| 11049 |  Basic wall maze | 4.4b, SSSP, BFS, Harder |
| 11101 |  Mall Mania | 4.4b, SSSP, BFS, Harder |

























| Both OJ | Problem Title | CP4 |
|------------------|---|-------------------------|
| 11352 |  Crazy King | 4.4b, SSSP, BFS, Harder |
| 11377 |  Airport Setup | 4.4b, SSSP, BFS, Harder |
| 11573 |  Ocean Currents | 4.4b, SSSP, BFS, Harder |
| 11624 |  Fire! | 4.4b, SSSP, BFS, Harder |
| 11792 |  Krochanska is Here! | 4.4b, SSSP, BFS, Harder |
| 12826 |  Incomplete Chessboard | 4.4b, SSSP, BFS, Harder |
| beehives2 |  beehives2 | 4.4b, SSSP, BFS, Harder |
| bryr |  bryr | 4.4b, SSSP, BFS, Harder |
| conquestcampaign |  conquestcampaign | 4.4b, SSSP, BFS, Harder |
| dungeon |  dungeon | 4.4b, SSSP, BFS, Harder |
| erdosnumbers |  erdosnumbers | 4.4b, SSSP, BFS, Harder |
| erraticants |  erraticants | 4.4b, SSSP, BFS, Harder |
| escapewallmaria |  escapewallmaria | 4.4b, SSSP, BFS, Harder |
| fire2 |  fire2 | 4.4b, SSSP, BFS, Harder |
| fire3 |  fire3 | 4.4b, SSSP, BFS, Harder |
| landlocked |  landlocked | 4.4b, SSSP, BFS, Harder |
| lava |  lava | 4.4b, SSSP, BFS, Harder |
| lost |  lost | 4.4b, SSSP, BFS, Harder |
| mallmania |  mallmania | 4.4b, SSSP, BFS, Harder |
| oceancurrents |  oceancurrents | 4.4b, SSSP, BFS, Harder |
| showroom |  showroom | 4.4b, SSSP, BFS, Harder |
| sixdegrees |  sixdegrees | 4.4b, SSSP, BFS, Harder |
| slikar |  slikar | 4.4b, SSSP, BFS, Harder |
| zoning |  zoning | 4.4b, SSSP, BFS, Harder |

























| Both OJ | Problem Title | CP4 |
|---------------|--|------------------------------|
| 00439 |  Knight Moves | 4.4c, Knight Moves |
| 00633 |  A Chess Knight | 4.4c, Knight Moves |
| 10426 |  Knights' Nightmare | 4.4c, Knight Moves |
| 10477 |  The Hybrid Knight | 4.4c, Knight Moves |
| grasshopper |  grasshopper | 4.4c, Knight Moves |
| hidingplaces |  hidingplaces | 4.4c, Knight Moves |
| knightjump |  knightjump | 4.4c, Knight Moves |
| 00929 |  Number Maze | 4.4d, SSSP, Dijkstra, Easier |
| 01112 |  Mice and Maze | 4.4d, SSSP, Dijkstra, Easier |
| 10389 |  Subway | 4.4d, SSSP, Dijkstra, Easier |
| 10986 |  Sending_email | 4.4d, SSSP, Dijkstra, Easier |
| 12878 |  Flowery Trails | 4.4d, SSSP, Dijkstra, Easier |
| 13127 |  Bank Robbery | 4.4d, SSSP, Dijkstra, Easier |
| flowerytrails |  flowerytrails | 4.4d, SSSP, Dijkstra, Easier |
| george |  george | 4.4d, SSSP, Dijkstra, Easier |
| getshorty |  getshorty | 4.4d, SSSP, Dijkstra, Easier |
| hopscotch50 |  hopscotch50 | 4.4d, SSSP, Dijkstra, Easier |
| shortestpath1 |  shortestpath1 | 4.4d, SSSP, Dijkstra, Easier |
| shortestpath2 |  shortestpath2 | 4.4d, SSSP, Dijkstra, Easier |
| subway2 |  subway2 | 4.4d, SSSP, Dijkstra, Easier |
| texassummers |  texassummers | 4.4d, SSSP, Dijkstra, Easier |
| 00157 |  Route Finding | 4.4e, SSSP, Dijkstra, Harder |
| 00523 |  Minimum Transport Cost | 4.4e, SSSP, Dijkstra, Harder |
| 00589 |  Pushing Boxes | 4.4e, SSSP, Dijkstra, Harder |

























| Both OJ | Problem Title | CP4 |
|-----------------------|---|-------------------------------------|
| 00721 |  Invitation Cards | 4.4e, SSSP, Dijkstra, Harder |
| 01202 |  Finding Nemo | 4.4e, SSSP, Dijkstra, Harder |
| 10166 |  Travel | 4.4e, SSSP, Dijkstra, Harder |
| 10187 |  From Dusk Till Dawn | 4.4e, SSSP, Dijkstra, Harder |
| 10278 |  Fire Station | 4.4e, SSSP, Dijkstra, Harder |
| 10280 |  Old Wine Into New Bottles | 4.4e, SSSP, Dijkstra, Harder |
| 10356 |  Rough Roads | 4.4e, SSSP, Dijkstra, Harder |
| 10603 |  Fill | 4.4e, SSSP, Dijkstra, Harder |
| 10801 |  Lift Hopping | 4.4e, SSSP, Dijkstra, Harder |
| 10967 |  The Great Escape | 4.4e, SSSP, Dijkstra, Harder |
| 11338 |  Minefield | 4.4e, SSSP, Dijkstra, Harder |
| 11367 |  Full Tank? | 4.4e, SSSP, Dijkstra, Harder |
| 11492 |  Babel | 4.4e, SSSP, Dijkstra, Harder |
| 11833 |  Route Change | 4.4e, SSSP, Dijkstra, Harder |
| <i>12047</i> |  Highest Paid Toll | <i>4.4e, SSSP, Dijkstra, Harder</i> |
| 12144 |  Almost Shortest Path | 4.4e, SSSP, Dijkstra, Harder |
| <i>12950</i> |  Even Obsession | <i>4.4e, SSSP, Dijkstra, Harder</i> |
| backpackbuddies |  backpackbuddies | 4.4e, SSSP, Dijkstra, Harder |
| <i>blockcrusher</i> |  blockcrusher | <i>4.4e, SSSP, Dijkstra, Harder</i> |
| detour |  detour | 4.4e, SSSP, Dijkstra, Harder |
| <i>emptyingbaltic</i> |  emptyingbaltic | <i>4.4e, SSSP, Dijkstra, Harder</i> |
| firestation |  firestation | 4.4e, SSSP, Dijkstra, Harder |
| forestfruits |  forestfruits | 4.4e, SSSP, Dijkstra, Harder |
| fulltank |  fulltank | 4.4e, SSSP, Dijkstra, Harder |

























| Both OJ | Problem Title | CP4 |
|------------------|---|------------------------------|
| gruesomecave |  gruesomecave | 4.4e, SSSP, Dijkstra, Harder |
| invasion |  invasion | 4.4e, SSSP, Dijkstra, Harder |
| passingsecrets |  passingsecrets | 4.4e, SSSP, Dijkstra, Harder |
| shoppingmalls |  shoppingmalls | 4.4e, SSSP, Dijkstra, Harder |
| tide |  tide | 4.4e, SSSP, Dijkstra, Harder |
| visualgo |  visualgo | 4.4e, SSSP, Dijkstra, Harder |
| 00423 |  MPI Maelstrom | 4.4f, SSSP, -ve weight |
| 00558 |  Wormholes | 4.4f, SSSP, -ve weight |
| 10449 |  Traffic | 4.4f, SSSP, -ve weight |
| 10557 |  XYZZY | 4.4f, SSSP, -ve weight |
| 11280 |  Flying to Fredericton | 4.4f, SSSP, -ve weight |
| 12768 |  Inspired Procrastination | 4.4f, SSSP, -ve weight |
| crosscountry |  crosscountry | 4.4f, SSSP, -ve weight |
| hauntedgraveyard |  hauntedgraveyard | 4.4f, SSSP, -ve weight |
| shortestpath3 |  shortestpath3 | 4.4f, SSSP, -ve weight |
| xyzyy |  xyzyy | 4.4f, SSSP, -ve weight |
| 00341 |  Non-Stop Travel | 4.5a, APSP, Standard |
| 00567 |  Risk | 4.5a, APSP, Standard |
| 00821 |  Page Hopping | 4.5a, APSP, Standard |
| 01233 |  USHER | 4.5a, APSP, Standard |
| 01247 |  Interstar Transport | 4.5a, APSP, Standard |
| 10171 |  Meeting Prof. Miguel... | 4.5a, APSP, Standard |
| 10354 |  Avoiding Your Boss | 4.5a, APSP, Standard |
| 10525 |  New to Bangladesh? | 4.5a, APSP, Standard |

























| Both OJ | Problem Title | CP4 |
|-------------------------------|---|-----------------------------|
| 10724 |  Road Construction | 4.5a, APSP, Standard |
| 10793 |  The Orc Attack | 4.5a, APSP, Standard |
| 10803 |  Thunder Mountain | 4.5a, APSP, Standard |
| 10947 |  Bear with me, again.. | 4.5a, APSP, Standard |
| 11015 |  05-2 Rendezvous | 4.5a, APSP, Standard |
| <i>11463</i> |  Commandos | <i>4.5a, APSP, Standard</i> |
| 12319 |  Edgetown's Traffic Jams | 4.5a, APSP, Standard |
| 13249 |  A Contest to Meet | 4.5a, APSP, Standard |
| <i>allpairspath</i> |  allpairspath | <i>4.5a, APSP, Standard</i> |
| <i>importspaghetti</i> |  importspaghetti | <i>4.5a, APSP, Standard</i> |
| slowleak |  slowleak | 4.5a, APSP, Standard |
| <i>transportationplanning</i> |  transportationplanning | <i>4.5a, APSP, Standard</i> |
| 00104 |  Arbitrage | 4.5b, APSP, Variants |
| 00125 |  Numbering Paths | 4.5b, APSP, Variants |
| 00186 |  Trip Routing | 4.5b, APSP, Variants |
| 00274 |  Cat and Mouse | 4.5b, APSP, Variants |
| 00334 |  Identifying Concurrent Eve... | 4.5b, APSP, Variants |
| 00436 |  Arbitrage (II) | 4.5b, APSP, Variants |
| <i>00869</i> |  Airline Comparison | <i>4.5b, APSP, Variants</i> |
| 00925 |  No more prerequisites, ple... | 4.5b, APSP, Variants |
| <i>01056</i> |  Degrees of Separation | <i>4.5b, APSP, Variants</i> |
| 01198 |  The Geodetic Set Problem | 4.5b, APSP, Variants |
| 01757 |  Secret Chamber at Mount Ru... | 4.5b, APSP, Variants |
| 10246 |  Asterix and Obelix | 4.5b, APSP, Variants |

























| Both OJ | Problem Title | CP4 |
|--------------|---|-------------------------|
| 10331 |  The Flyover Construction | 4.5b, APSP, Variants |
| 10342 |  Always Late | 4.5b, APSP, Variants |
| 10436 |  Cheapest way | 4.5b, APSP, Variants |
| 10987 |  Antifloyd | 4.5b, APSP, Variants |
| 11047 |  The Scrooge Co Problem | 4.5b, APSP, Variants |
| arbitrage |  arbitrage | 4.5b, APSP, Variants |
| assembly |  assembly | 4.5b, APSP, Variants |
| isahasa |  isahasa | 4.5b, APSP, Variants |
| kastenlauf |  kastenlauf | 4.5b, APSP, Variants |
| secrechamber |  secrechamber | 4.5b, APSP, Variants |
| 00495 |  Fibonacci Freeze | 5.4a, Fibonacci Numbers |
| 00580 |  Critical Mass | 5.4a, Fibonacci Numbers |
| 00763 |  Fibinary Numbers | 5.4a, Fibonacci Numbers |
| 00900 |  Brick Wall Patterns | 5.4a, Fibonacci Numbers |
| 00948 |  Fibonaccimal Base | 5.4a, Fibonacci Numbers |
| 01258 |  Nowhere Money | 5.4a, Fibonacci Numbers |
| 10183 |  How Many Fibs? | 5.4a, Fibonacci Numbers |
| 10334 |  Ray Through Glasses | 5.4a, Fibonacci Numbers |
| 10450 |  World Cup Noise | 5.4a, Fibonacci Numbers |
| 10497 |  Sweet Child Makes Trouble | 5.4a, Fibonacci Numbers |
| 10579 |  Fibonacci Numbers | 5.4a, Fibonacci Numbers |
| 10689 |  Yet another Number Sequenc... | 5.4a, Fibonacci Numbers |
| 10862 |  Connect the Cable Wires | 5.4a, Fibonacci Numbers |
| 11000 |  Bee | 5.4a, Fibonacci Numbers |

























| Both OJ | Problem Title | CP4 |
|-----------------------|---|------------------------------------|
| 11089 |  Fi-binary Number | 5.4a, Fibonacci Numbers |
| 11161 |  Help My Brother (II) | 5.4a, Fibonacci Numbers |
| 11780 |  Miles 2 Km | 5.4a, Fibonacci Numbers |
| 12281 |  Hyper Box | 5.4a, Fibonacci Numbers |
| 12620 |  Fibonacci Sum | 5.4a, Fibonacci Numbers |
| <i>anti11</i> |  anti11 | <i>5.4a, Fibonacci Numbers</i> |
| <i>batmanacci</i> |  batmanacci | <i>5.4a, Fibonacci Numbers</i> |
| <i>rijeci</i> |  rijeci | <i>5.4a, Fibonacci Numbers</i> |
| 00326 |  Extrapolation Using a Diff... | 5.4b, Binomial Coefficients |
| 00369 |  Combinations | <i>5.4b, Binomial Coefficients</i> |
| 00485 |  Pascal's Triangle of Death | 5.4b, Binomial Coefficients |
| 00530 |  Binomial Showdown | 5.4b, Binomial Coefficients |
| 00911 |  Multinomial Coefficients | 5.4b, Binomial Coefficients |
| 10105 |  Polynomial Coefficients | 5.4b, Binomial Coefficients |
| 10375 |  Choose and divide | 5.4b, Binomial Coefficients |
| 10532 |  Combination! Once Again | 5.4b, Binomial Coefficients |
| 10541 |  Stripe | <i>5.4b, Binomial Coefficients</i> |
| 11955 |  Binomial Theorem | <i>5.4b, Binomial Coefficients</i> |
| 12712 |  Pattern Locker | <i>5.4b, Binomial Coefficients</i> |
| <i>election</i> |  election | <i>5.4b, Binomial Coefficients</i> |
| insert |  insert | 5.4b, Binomial Coefficients |
| <i>lockedtreasure</i> |  lockedtreasure | <i>5.4b, Binomial Coefficients</i> |
| <i>oddbinom</i> |  oddbinom | <i>5.4b, Binomial Coefficients</i> |
| perica |  perica | 5.4b, Binomial Coefficients |









| Both OJ | Problem Title | CP4 |
|---------------|---|------------------------------|
| 00455 |  Periodic Strings | 6.4a, String Matching |
| 00886 |  Named Extension Dialing | 6.4a, String Matching |
| 01449 |  Dominating Patterns | 6.4a, String Matching |
| 10298 |  Power Strings | 6.4a, String Matching |
| 11362 |  Phone List | 6.4a, String Matching |
| 11576 |  Scrolling Sign | 6.4a, String Matching |
| 11837 |  Musical Plagiarism | 6.4a, String Matching |
| avion |  avion | 6.4a, String Matching |
| deathknight |  deathknight | 6.4a, String Matching |
| fiftyshades |  fiftyshades | 6.4a, String Matching |
| geneticsearch |  geneticsearch | 6.4a, String Matching |
| hangman |  hangman | 6.4a, String Matching |
| ostgotska |  ostgotska | 6.4a, String Matching |
| powerstrings |  powerstrings | 6.4a, String Matching |
| quiteaproblem |  quiteaproblem | 6.4a, String Matching |
| redrover |  redrover | 6.4a, String Matching |
| scrollingsign |  scrollingsign | 6.4a, String Matching |
| simon |  simon | 6.4a, String Matching |
| simonsays |  simonsays | 6.4a, String Matching |
| 00719 |  Glass Beads | 6.5a, Suffix Trie/Tree/Array |
| 00760 |  DNA Sequencing | 6.5a, Suffix Trie/Tree/Array |
| 01223 |  Editor | 6.5a, Suffix Trie/Tree/Array |
| 01254 |  Top 10 | 6.5a, Suffix Trie/Tree/Array |
| 01584 |  Circular Sequence | 6.5a, Suffix Trie/Tree/Array |

| Both OJ | Problem Title | CP4 |
|---------------------------|---|------------------------------|
| 11107 |  Life Forms | 6.5a, Suffix Trie/Tree/Array |
| 11512 |  GATTACA | 6.5a, Suffix Trie/Tree/Array |
| 11855 |  Buzzwords | 6.5a, Suffix Trie/Tree/Array |
| 12506 |  Shortest Names | 6.5a, Suffix Trie/Tree/Array |
| aliens |  aliens | 6.5a, Suffix Trie/Tree/Array |
| automatictrading |  automatictrading | 6.5a, Suffix Trie/Tree/Array |
| baza |  baza | 6.5a, Suffix Trie/Tree/Array |
| burrowswheeler |  burrowswheeler | 6.5a, Suffix Trie/Tree/Array |
| buzzwords |  buzzwords | 6.5a, Suffix Trie/Tree/Array |
| dvaput |  dvaput | 6.5a, Suffix Trie/Tree/Array |
| repeatedsubstrings |  repeatedsubstrings | 6.5a, Suffix Trie/Tree/Array |
| stringmultimatching |  stringmultimatching | 6.5a, Suffix Trie/Tree/Array |
| substrings |  substrings | 6.5a, Suffix Trie/Tree/Array |
| suffixarrayreconstruction |  suffixarrayreconstruction | 6.5a, Suffix Trie/Tree/Array |
| suffixsorting |  suffixsorting | 6.5a, Suffix Trie/Tree/Array |
| 00478 |  Points in Figures: Rectang... | 7.3a, Polygon, Easier |
| 00634 |  Polygon | 7.3a, Polygon, Easier |
| 00681 |  Convex Hull Finding | 7.3a, Polygon, Easier |
| 01206 |  Boundary Points | 7.3a, Polygon, Easier |
| 10060 |  A hole to catch a man | 7.3a, Polygon, Easier |
| 10112 |  Myacm Triangles | 7.3a, Polygon, Easier |
| 11072 |  Points | 7.3a, Polygon, Easier |
| 11096 |  Nails | 7.3a, Polygon, Easier |
| 11447 |  Reservoir logs | 7.3a, Polygon, Easier |

| Both OJ | Problem Title | CP4 |
|-------------------|---|---------------------------|
| 11473 |  Campus Roads | 7.3a, Polygon, Easier |
| 11626 |  Convex Hull | 7.3a, Polygon, Easier |
| convexhull |  convexhull | 7.3a, Polygon, Easier |
| convexhull2 |  convexhull2 | 7.3a, Polygon, Easier |
| convexpolygonarea |  convexpolygonarea | 7.3a, Polygon, Easier |
| cookiecutter |  cookiecutter | 7.3a, Polygon, Easier |
| cuttingcorners |  cuttingcorners | 7.3a, Polygon, Easier |
| dartscoring |  dartscoring | 7.3a, Polygon, Easier |
| jabuke |  jabuke | 7.3a, Polygon, Easier |
| polygonarea |  polygonarea | 7.3a, Polygon, Easier |
| robotprotection |  robotprotection | 7.3a, Polygon, Easier |
| simplepolygon |  simplepolygon | 7.3a, Polygon, Easier |
| 00298 |  Race Tracks | 8.2b, State-Space, BFS, E |
| 00928 |  Eternal Truths | 8.2b, State-Space, BFS, E |
| 01600 |  Patrol Robot | 8.2b, State-Space, BFS, E |
| 10047 |  The Monocycle | 8.2b, State-Space, BFS, E |
| 10097 |  The Color Game | 8.2b, State-Space, BFS, E |
| 10306 |  e-Coins | 8.2b, State-Space, BFS, E |
| 10682 |  Forr | 8.2b, State-Space, BFS, E |
| 11513 |  9 Puzzle | 8.2b, State-Space, BFS, E |
| 11974 |  Switch The Lights | 8.2b, State-Space, BFS, E |
| 12135 |  Switch Bulbs | 8.2b, State-Space, BFS, E |
| ecoins |  ecoins | 8.2b, State-Space, BFS, E |
| flipfive |  flipfive | 8.2b, State-Space, BFS, E |

| Both OJ | Problem Title | CP4 |
|--------------------|---|-----------------------------|
| hydrasheads |  hydrasheads | 8.2b, State-Space, BFS, E |
| illiteracy |  illiteracy | 8.2b, State-Space, BFS, E |
| safe |  safe | 8.2b, State-Space, BFS, E |
| 00658 |  It's not a Bug, it's a Fea... | 8.2d, State-Space, Dijkstra |
| 01048 |  Low Cost Air Travel | 8.2d, State-Space, Dijkstra |
| 01057 |  Routing | 8.2d, State-Space, Dijkstra |
| 10269 |  Adventure of Super Mario | 8.2d, State-Space, Dijkstra |
| 10923 |  Seven Seas | 8.2d, State-Space, Dijkstra |
| 11374 |  Airport Express | 8.2d, State-Space, Dijkstra |
| bigtruck |  bigtruck | 8.2d, State-Space, Dijkstra |
| bumped |  bumped | 8.2d, State-Space, Dijkstra |
| destinationunknown |  destinationunknown | 8.2d, State-Space, Dijkstra |
| kitchen |  kitchen | 8.2d, State-Space, Dijkstra |
| quantum |  quantum | 8.2d, State-Space, Dijkstra |
| rainbowroadrace |  rainbowroadrace | 8.2d, State-Space, Dijkstra |
| treasure |  treasure | 8.2d, State-Space, Dijkstra |
| 00193 |  Graph Coloring | 8.6a, NP-hard/C, small, E |
| 00539 |  The Settlers of Catan | 8.6a, NP-hard/C, small, E |
| 00574 |  Sum It Up | 8.6a, NP-hard/C, small, E |
| 00624 |  CD | 8.6a, NP-hard/C, small, E |
| 00775 |  Hamiltonian Cycle | 8.6a, NP-hard/C, small, E |
| 00989 |  Su Doku | 8.6a, NP-hard/C, small, E |
| 10957 |  So Doku Checker | 8.6a, NP-hard/C, small, E |
| 11088 |  End up with More Teams | 8.6a, NP-hard/C, small, E |

| Both OJ | Problem Title | CP4 |
|-------------------|---|-----------------------------|
| 12455 |  Bars | 8.6a, NP-hard/C, small, E |
| balanceddiet |  balanceddiet | 8.6a, NP-hard/C, small, E |
| equalsumseasy |  equalsumseasy | 8.6a, NP-hard/C, small, E |
| flowfree |  flowfree | 8.6a, NP-hard/C, small, E |
| font |  font | 8.6a, NP-hard/C, small, E |
| satisfiability |  satisfiability | 8.6a, NP-hard/C, small, E |
| socialadvertising |  socialadvertising | 8.6a, NP-hard/C, small, E |
| tightfitsudoku |  tightfitsudoku | 8.6a, NP-hard/C, small, E |
| vivoparc |  vivoparc | 8.6a, NP-hard/C, small, E |
| 01194 |  Machine Schedule | 8.6c, NP-hard/C, special, E |
| 01347 |  Tour | 8.6c, NP-hard/C, special, E |
| 10243 |  Fire! Fire!! Fire!!! | 8.6c, NP-hard/C, special, E |
| 10349 |  Antenna Placement | 8.6c, NP-hard/C, special, E |
| 10859 |  Placing Lampposts | 8.6c, NP-hard/C, special, E |
| 11159 |  Factors and Multiples | 8.6c, NP-hard/C, special, E |
| 11357 |  Ensuring Truth | 8.6c, NP-hard/C, special, E |
| 11419 |  SAM I AM | 8.6c, NP-hard/C, special, E |
| 12083 |  Guardian of Decency | 8.6c, NP-hard/C, special, E |
| 12168 |  Cat vs. Dog | 8.6c, NP-hard/C, special, E |
| 13115 |  Sudoku | 8.6c, NP-hard/C, special, E |
| antennaplacement |  antennaplacement | 8.6c, NP-hard/C, special, E |
| bilateral |  bilateral | 8.6c, NP-hard/C, special, E |
| bookcircle |  bookcircle | 8.6c, NP-hard/C, special, E |
| catvsdog |  catvsdog | 8.6c, NP-hard/C, special, E |

| Both OJ | Problem Title | CP4 |
|-----------------------------------|--|-----------------------------|
| citrusintern |  citrusintern | 8.6c, NP-hard/C, special, E |
| countingclauses |  countingclauses | 8.6c, NP-hard/C, special, E |
| europeantrip |  europeantrip | 8.6c, NP-hard/C, special, E |
| guardianofdecency |  guardianofdecency | 8.6c, NP-hard/C, special, E |
| reactivity |  reactivity | 8.6c, NP-hard/C, special, E |
| 10245 |  The Closest Pair Problem | 9.clos, Closest Pair |
| 11378 |  Bey Battle | 9.clos, Closest Pair |
| closestpair1 |  closestpair1 | 9.clos, Closest Pair |

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1

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[Last](#)

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