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| --- | --- | --- | --- | --- | --- |
| Both OJ | Problem Title | Hint | DACU | Point | |
| 00100 | [The 3n + 1 problem](https://onlinejudge.org/external/1/100.pdf) | simply do as asked; the only trap is that j can be < i | 87430 | | 0.0 |
| 00101 | [The Blocks Problem](https://onlinejudge.org/external/1/101.pdf) | stack-like simulation; but we need to access the content of each stack too; so it is better to use 2D array | 14496 | | 0.0 |
| 00102 | [Ecological Bin Packing](https://onlinejudge.org/external/1/102.pdf) | try all 6 combinations of possible answers | 25231 | | 0.0 |
| 00103 | [Stacking Boxes](https://onlinejudge.org/external/1/103.pdf) | longest paths on DAG; backtracking OK | 6684 | | 0.0 |
| 00104 | [Arbitrage](https://onlinejudge.org/external/1/104.pdf) | small arbitrage problem solvable with Floyd-Warshall | 4289 | | 0.0 |
| 00105 | [The Skyline Problem](https://onlinejudge.org/external/1/105.pdf) | height map; sweep left-right | 9176 | | 0.0 |
| 00106 | [Fermat vs. Pythagoras](https://onlinejudge.org/external/1/106.pdf) | brute force; use GCD to get relatively prime triples | 4378 | | 0.0 |
| 00107 | [The Cat in the Hat](https://onlinejudge.org/external/1/107.pdf) | use logarithm; power | 5839 | | 0.0 |
| 00108 | [Maximum Sum](https://onlinejudge.org/external/1/108.pdf) | max 2D range sum | 16800 | | 0.0 |
| 00109 | [SCUD Busters](https://onlinejudge.org/external/1/109.pdf) | find CH; test if point inPolygon; compute area of polygon | 2288 | | 0.0 |
| 00110 | [Meta-Loopless Sorts](https://onlinejudge.org/external/1/110.pdf) | actually an ad hoc sorting problem | 2024 | | 0.0 |
| 00111 | [History Grading](https://onlinejudge.org/external/1/111.pdf) | be careful of the ranking system | 9436 | | 0.0 |
| 00112 | [Tree Summing](https://onlinejudge.org/external/1/112.pdf) | backtracking | 5785 | | 0.0 |
| 00113 | [Power of Cryptography](https://onlinejudge.org/external/1/113.pdf) | use exp(ln(x)\*y) | 18670 | | 0.0 |
| 00114 | [Simulation Wizardry](https://onlinejudge.org/external/1/114.pdf) | simulation of pinball machine | 1795 | | 0.0 |
| 00115 | [Climbing Trees](https://onlinejudge.org/external/1/115.pdf) | tree traversal to determine relationships between vertices | 1709 | | 0.0 |
| 00116 | [Unidirectional TSP](https://onlinejudge.org/external/1/116.pdf) | similar to UVa 10337 | 7134 | | 0.0 |
| 00117 | [The Postal Worker Rings On...](https://onlinejudge.org/external/1/117.pdf) | Euler tour; get cost of tour | 3208 | | 0.0 |
| 00118 | [Mutant Flatworld Explorers](https://onlinejudge.org/external/1/118.pdf) | traversal on implicit graph | 6500 | | 0.0 |
| 00119 | [Greedy Gift Givers](https://onlinejudge.org/external/1/119.pdf) | simulate the give and receive process | 7833 | | 0.0 |
| 00120 | [Stacks of Flapjacks](https://onlinejudge.org/external/1/120.pdf) | greedy pancake sorting | 9197 | | 0.0 |
| 00121 | [Pipe Fitters](https://onlinejudge.org/external/1/121.pdf) | use Pythagorean theorem; grid | 2677 | | 0.0 |
| 00122 | [Trees on the level](https://onlinejudge.org/external/1/122.pdf) | tree traversal | 4148 | | 0.0 |
| 00123 | [Searching Quickly](https://onlinejudge.org/external/1/123.pdf) | modified comparison function; use sort | 3234 | | 0.0 |
| 00124 | [Following Orders](https://onlinejudge.org/external/1/124.pdf) | use backtracking to generate valid toposorts | 3360 | | 0.0 |
| 00125 | [Numbering Paths](https://onlinejudge.org/external/1/125.pdf) | modified Floyd-Warshall | 2035 | | 0.0 |
| 00126 | [The Errant Physicist](https://onlinejudge.org/external/1/126.pdf) | polynomial multiplication and tedious output formatting | 1164 | | 0.0 |
| 00127 | ["Accordian" Patience](https://onlinejudge.org/external/1/127.pdf) | shuffling stack | 3260 | | 0.0 |
| 00128 | [Software CRC](https://onlinejudge.org/external/1/128.pdf) | (a \* b) % s = ((a % s) \* (b % s)) % s | 3640 | | 0.0 |
| 00129 | [Krypton Factor](https://onlinejudge.org/external/1/129.pdf) | backtracking; string processing check; a bit of output formatting | 1958 | | 0.0 |
| 00130 | [Roman Roulette](https://onlinejudge.org/external/1/130.pdf) | the original Josephus problem | 3022 | | 0.0 |
| 00131 | [The Psychic Poker Player](https://onlinejudge.org/external/1/131.pdf) | backtracking with 2^5 bitmask to help deciding which card is retained in hand/exchanged with the top of deck; use 5! permutation to shuffle the 5 cards in hand | 1556 | | 0.0 |
| 00132 | [Bumpy Objects](https://onlinejudge.org/external/1/132.pdf) | brute force as instructed in problem description; use polygon routines | 910 | | 0.0 |
| 00133 | [The Dole Queue](https://onlinejudge.org/external/1/133.pdf) | brute force; similar to UVa 130 | 5718 | | 0.0 |
| 00134 | [Loglan-A Logical Language](https://onlinejudge.org/external/1/134.pdf) | recursive grammar check; tedious | 841 | | 0.0 |
| 00136 | [Ugly Numbers](https://onlinejudge.org/external/1/136.pdf) | use similar technique as UVa 443 | 19981 | | 0.0 |
| 00137 | [Polygons](https://onlinejudge.org/external/1/137.pdf) | convex polygon intersection; line segment intersection; inPolygon; CH; area; inclusion-exclusion principle | 647 | | 0.0 |
| 00138 | [Street Numbers](https://onlinejudge.org/external/1/138.pdf) | arithmetic progression formula; precalculation | 7003 | | 0.0 |
| 00139 | [Telephone Tangles](https://onlinejudge.org/external/1/139.pdf) | calculate phone bill; string manipulation | 744 | | 0.0 |
| 00140 | [Bandwidth](https://onlinejudge.org/external/1/140.pdf) | max n is just 8; use next\_permutation; the algorithm inside next\_permutation is iterative | 2758 | | 0.0 |
| 00141 | [The Spot Game](https://onlinejudge.org/external/1/141.pdf) | solvable with one linear scan | 2122 | | 0.0 |
| 00142 | [Mouse Clicks](https://onlinejudge.org/external/1/142.pdf) | brute force; point-in-rectangle; dist | 1059 | | 0.0 |
| 00143 | [Orchard Trees](https://onlinejudge.org/external/1/143.pdf) | count integer points in triangle; beware of precision issue | 1072 | | 0.0 |
| 00144 | [Student Grants](https://onlinejudge.org/external/1/144.pdf) | simulation | 2421 | | 0.0 |
| 00145 | [Gondwanaland Telecom](https://onlinejudge.org/external/1/145.pdf) | similar to UVa 00139 | 1863 | | 0.0 |
| 00146 | [ID Codes](https://onlinejudge.org/external/1/146.pdf) | use next\_permutation | 12761 | | 0.0 |
| 00147 | [Dollars](https://onlinejudge.org/external/1/147.pdf) | similar to UVa 357 and 674 | 8143 | | 0.0 |
| 00148 | [Anagram checker](https://onlinejudge.org/external/1/148.pdf) | uses backtracking | 1089 | | 0.0 |
| 00150 | [Double Time](https://onlinejudge.org/external/1/150.pdf) | convert between Julian and Gregorian dates | 482 | | 0.0 |
| 00151 | [Power Crisis](https://onlinejudge.org/external/1/151.pdf) | the original Josephus problem | 9818 | | 0.0 |
| 00152 | [Tree's a Crowd](https://onlinejudge.org/external/1/152.pdf) | sort the 3D points first | 2904 | | 0.0 |
| 00153 | [Permalex](https://onlinejudge.org/external/1/153.pdf) | find formula for this; similar with UVa 941 | 1725 | | 0.0 |
| 00154 | [Recycling](https://onlinejudge.org/external/1/154.pdf) | 3 nested loops | 2873 | | 0.0 |
| 00155 | [All Squares](https://onlinejudge.org/external/1/155.pdf) | recursive counting | 2722 | | 0.0 |
| 00156 | [Ananagrams](https://onlinejudge.org/external/1/156.pdf) | easier with algorithm::sort | 8215 | | 0.0 |
| 00157 | [Route Finding](https://onlinejudge.org/external/1/157.pdf) | tedious input parsing; SSSP on graph with 2-valued weighted graph (1 or 3 units of time); print the shortest path | 512 | | 0.0 |
| 00158 | [Calendar](https://onlinejudge.org/external/1/158.pdf) | a simulation of calendar manager; it requires sorting and a bit of string processing | 391 | | 0.0 |
| 00159 | [Word Crosses](https://onlinejudge.org/external/1/159.pdf) | tedious output formatting problem | 1038 | | 0.0 |
| 00160 | [Factors and Factorials](https://onlinejudge.org/external/1/160.pdf) | precalculate small primes as prime factors of 100! is < 100$ | 9742 | | 0.0 |
| 00161 | [Traffic Lights](https://onlinejudge.org/external/1/161.pdf) | this is a typical situation on the road | 2537 | | 0.0 |
| 00162 | [Beggar My Neighbour](https://onlinejudge.org/external/1/162.pdf) | card game simulation; straightforward | 1185 | | 0.0 |
| 00164 | [String Computer](https://onlinejudge.org/external/1/164.pdf) | String Alignment/Edit Distance | 2054 | | 0.0 |
| 00165 | [Stamps](https://onlinejudge.org/external/1/165.pdf) | requires some DP too; can be pre-calculated | 1020 | | 0.0 |
| 00166 | [Making Change](https://onlinejudge.org/external/1/166.pdf) | two coin change variants in one problem | 2377 | | 0.0 |
| 00167 | [The Sultan's Successors](https://onlinejudge.org/external/1/167.pdf) | 8-queens chess problem | 6760 | | 0.0 |
| 00168 | [Theseus and the Minotaur](https://onlinejudge.org/external/1/168.pdf) | Adjacency Matrix; parsing; traversal | 1265 | | 0.0 |
| 00170 | [Clock Patience](https://onlinejudge.org/external/1/170.pdf) | simulation; time | 2197 | | 0.0 |
| 00171 | [Car Trialling](https://onlinejudge.org/external/1/171.pdf) | recursive grammar check; tedious | 384 | | 0.0 |
| 00172 | [Calculator Language](https://onlinejudge.org/external/1/172.pdf) | another recursive parser; tedious | 524 | | 0.0 |
| 00173 | [Network Wars](https://onlinejudge.org/external/1/173.pdf) | non classic graph traversal variant; use bitmask to record vertices visited by Paskill and Lisper as they move through the graph | 271 | | 0.0 |
| 00179 | [Code Breaking](https://onlinejudge.org/external/1/179.pdf) | use brute force | 458 | | 0.0 |
| 00183 | [Bit Maps](https://onlinejudge.org/external/1/183.pdf) | simple exercise of DnC | 1226 | | 0.0 |
| 00184 | [Laser Lines](https://onlinejudge.org/external/1/184.pdf) | brute force; collinear test | 1089 | | 0.0 |
| 00185 | [Roman Numerals](https://onlinejudge.org/external/1/185.pdf) | also involving backtracking | 710 | | 0.0 |
| 00186 | [Trip Routing](https://onlinejudge.org/external/1/186.pdf) | graph is small; print path | 1043 | | 0.0 |
| 00187 | [Transaction Processing](https://onlinejudge.org/external/1/187.pdf) | an accounting problem | 1003 | | 0.0 |
| 00188 | [Perfect Hash](https://onlinejudge.org/external/1/188.pdf) | 3 nested loops; keep trying until an answer is found | 1455 | | 0.0 |
| 00190 | [Circle Through Three Point...](https://onlinejudge.org/external/1/190.pdf) | triangle's circumcircle | 4218 | | 0.0 |
| 00191 | [Intersection](https://onlinejudge.org/external/1/191.pdf) | line segment intersection | 3908 | | 0.0 |
| 00193 | [Graph Coloring](https://onlinejudge.org/external/1/193.pdf) | optimization version of Max Independent Set problem on general graph which is NP-Hard with small input | 3186 | | 0.0 |
| 00195 | [Anagram](https://onlinejudge.org/external/1/195.pdf) | use algorithm::next\_permutation | 6495 | | 0.0 |
| 00196 | [Spreadsheet](https://onlinejudge.org/external/1/196.pdf) | 3.5g | 1387 | | 0.0 |
| 00200 | [Rare Order](https://onlinejudge.org/external/2/200.pdf) | toposort | 5569 | | 0.0 |
| 00201 | [Squares](https://onlinejudge.org/external/2/201.pdf) | counting square of various sizes; try all | 2569 | | 0.0 |
| 00202 | [Repeating Decimals](https://onlinejudge.org/external/2/202.pdf) | do expansion digit by digit until it cycles | 3347 | | 0.0 |
| 00208 | [Firetruck](https://onlinejudge.org/external/2/208.pdf) | LA 5147 - WorldFinals SanAntonio91; backtracking with some pruning | 1730 | | 0.0 |
| 00209 | [Triangular Vertices](https://onlinejudge.org/external/2/209.pdf) | LA 5148 - WorldFinals SanAntonio91; brute force check; answer is either triangle, parallelogram, or hexagon | 661 | | 0.0 |
| 00211 | [The Domino Effect](https://onlinejudge.org/external/2/211.pdf) | map the complex bone IDs to pips using 2D array; use backtracking to try the placement of various domino bones | 535 | | 0.0 |
| 00213 | [Message Decoding](https://onlinejudge.org/external/2/213.pdf) | LA 5152 - WorldFinals SanAntonio91 | 1802 | | 0.0 |
| 00214 | [Code Generation](https://onlinejudge.org/external/2/214.pdf) | just simulate the process; be careful with subtract (-); divide (/); and negate (@); tedious | 148 | | 0.0 |
| 00215 | [Spreadsheet Calculator](https://onlinejudge.org/external/2/215.pdf) | 3.5g | 401 | | 0.0 |
| 00216 | [Getting in Line](https://onlinejudge.org/external/2/216.pdf) | LA 5155 - WorldFinals KansasCity92; DP TSP problem; but still solvable with backtracking | 3632 | | 0.0 |
| 00218 | [Moth Eradication](https://onlinejudge.org/external/2/218.pdf) | LA 5157 - WorldFinals KansasCity92; find CH; perimeter of polygon | 1595 | | 0.0 |
| 00220 | [Othello](https://onlinejudge.org/external/2/220.pdf) | follow the game rules; a bit tedious | 939 | | 0.0 |
| 00222 | [Budget Travel](https://onlinejudge.org/external/2/222.pdf) | LA 5161 - WorldFinals Indianapolis93; cannot use DP 'tank' is floating-point; use backtracking | 897 | | 0.0 |
| 00227 | [Puzzle](https://onlinejudge.org/external/2/227.pdf) | parse the input; array manipulation | 3181 | | 0.0 |
| 00230 | [Borrowers](https://onlinejudge.org/external/2/230.pdf) | string parsing; maintain sorted books by author names then by title; the input size is small; we do not need balanced BST | 1285 | | 0.0 |
| 00231 | [Testing the CATCHER](https://onlinejudge.org/external/2/231.pdf) | straightforward | 5300 | | 0.0 |
| 00232 | [Crossword Answers](https://onlinejudge.org/external/2/232.pdf) | complex array manipulation problem | 2541 | | 0.0 |
| 00234 | [Switching Channels](https://onlinejudge.org/external/2/234.pdf) | LA 5173 - WorldFinals Phoenix94; use next\_permutation; simulation | 193 | | 0.0 |
| 00242 | [Stamps and Envelope Size](https://onlinejudge.org/external/2/242.pdf) | LA 5181 - WorldFinals Nashville95; Complete Search + DP Coin-Change | 592 | | 0.0 |
| 00245 | [Uncompress](https://onlinejudge.org/external/2/245.pdf) | LA 5184 - WorldFinals Nashville95 | 1110 | | 0.0 |
| 00246 | [10-20-30](https://onlinejudge.org/external/2/246.pdf) | card simulation with queue and deque | 641 | | 0.0 |
| 00247 | [Calling Circles](https://onlinejudge.org/external/2/247.pdf) | SCC + printing solution | 2914 | | 0.0 |
| 00253 | [Cube painting](https://onlinejudge.org/external/2/253.pdf) | try all; similar problem in UVa 11959 | 3694 | | 0.0 |
| 00254 | [Towers of Hanoi](https://onlinejudge.org/external/2/254.pdf) | define a recursive formula | 837 | | 0.0 |
| 00255 | [Correct Move](https://onlinejudge.org/external/2/255.pdf) | check the validity of chess moves | 1216 | | 0.0 |
| 00256 | [Quirksome Squares](https://onlinejudge.org/external/2/256.pdf) | brute force; math; pre-calculate-able | 8326 | | 0.0 |
| 00257 | [Palinwords](https://onlinejudge.org/external/2/257.pdf) | palindrome check (DP-able) plus brute force checks for non embedding criteria | 543 | | 0.0 |
| 00259 | [Software Allocation](https://onlinejudge.org/external/2/259.pdf) | assignment problem; matching with capacity; similar to UVa 10092; 11045; and 12873; but actually the input constraint is actually small enough for recursive backtracking | 1926 | | 0.0 |
| 00260 | [Il Gioco dell'X](https://onlinejudge.org/external/2/260.pdf) | 6 neighbors per cell | 3611 | | 0.0 |
| 00261 | [The Window Property](https://onlinejudge.org/external/2/261.pdf) | sliding window variant | 187 | | 0.0 |
| 00263 | [Number Chains](https://onlinejudge.org/external/2/263.pdf) | sort digits; convert to integers; check cycle | 2799 | | 0.0 |
| 00264 | [Count on Cantor](https://onlinejudge.org/external/2/264.pdf) | grid; pattern | 9068 | | 0.0 |
| 00270 | [Lining Up](https://onlinejudge.org/external/2/270.pdf) | gradient sorting; complete search | 1462 | | 0.0 |
| 00271 | [Simply Syntax](https://onlinejudge.org/external/2/271.pdf) | grammar check; linear scan | 2598 | | 0.0 |
| 00272 | [TEX Quotes](https://onlinejudge.org/external/2/272.pdf) | replace all double quotes to TeX style quotes | 35283 | | 0.0 |
| 00273 | [Jack Straws](https://onlinejudge.org/external/2/273.pdf) | line segment intersection and Warshall's transitive closure algorithm | 790 | | 0.0 |
| 00274 | [Cat and Mouse](https://onlinejudge.org/external/2/274.pdf) | variant of transitive closure problem | 490 | | 0.0 |
| 00275 | [Expanding Fractions](https://onlinejudge.org/external/2/275.pdf) | similar to UVa 202 except the output format | 1642 | | 0.0 |
| 00276 | [Egyptian Multiplication](https://onlinejudge.org/external/2/276.pdf) | multiplication of Egyptian hieroglyphs | 406 | | 0.0 |
| 00278 | [Chess](https://onlinejudge.org/external/2/278.pdf) | basic chess knowledge is needed; derive the closed form formulas | 4361 | | 0.0 |
| 00280 | [Vertex](https://onlinejudge.org/external/2/280.pdf) | reachability check; traverse the graph | 4390 | | 0.0 |
| 00290 | [Palindroms <---> smordnila...](https://onlinejudge.org/external/2/290.pdf) | also involving palindrome | 759 | | 0.0 |
| 00291 | [The House Of Santa Claus](https://onlinejudge.org/external/2/291.pdf) | Euler tour on a small graph; backtracking is sufficient | 5414 | | 0.0 |
| 00294 | [Divisors](https://onlinejudge.org/external/2/294.pdf) | numDiv(N) | 8713 | | 0.0 |
| 00295 | [Fatman](https://onlinejudge.org/external/2/295.pdf) | BSTA x: if the person has diameter x, can he go from left to right? graph connectivity; similar with UVa 10876 | 152 | | 0.0 |
| 00296 | [Safebreaker](https://onlinejudge.org/external/2/296.pdf) | try all 10000 possible codes; 4 nested loops; use similar solution as Master-Mind game | 942 | | 0.0 |
| 00297 | [Quadtrees](https://onlinejudge.org/external/2/297.pdf) | simple quadtree problem | 3492 | | 0.0 |
| 00298 | [Race Tracks](https://onlinejudge.org/external/2/298.pdf) | s: (row; col; 49 possible speeds) | 383 | | 0.0 |
| 00299 | [Train Swapping](https://onlinejudge.org/external/2/299.pdf) | can use O(n^2) bubble sort | 21265 | | 0.0 |
| 00300 | [Maya Calendar](https://onlinejudge.org/external/3/300.pdf) | ad hoc; time | 2620 | | 0.0 |
| 00301 | [Transportation](https://onlinejudge.org/external/3/301.pdf) | 2^22 with pruning is possible | 1602 | | 0.0 |
| 00302 | [John's trip](https://onlinejudge.org/external/3/302.pdf) | Euler tour; print the tour | 982 | | 0.0 |
| 00305 | [Joseph](https://onlinejudge.org/external/3/305.pdf) | the answer can be precalculated | 5675 | | 0.0 |
| 00306 | [Cipher](https://onlinejudge.org/external/3/306.pdf) | can be made faster by avoiding cycle | 1286 | | 0.0 |
| 00307 | [Sticks](https://onlinejudge.org/external/3/307.pdf) | sort the sticks in descending length; group similar lengths; brute force the number of sticks; backtracking to check feasibility | 863 | | 0.0 |
| 00311 | [Packets](https://onlinejudge.org/external/3/311.pdf) | greedy | 2418 | | 0.0 |
| 00313 | [Intervals](https://onlinejudge.org/external/3/313.pdf) | use trigonometry to project the light to the ground through the pipes; sort the intervals; merge overlapping intervals; if any | 483 | | 0.0 |
| 00314 | [Robot](https://onlinejudge.org/external/3/314.pdf) | pre-process the input graph first; s: (r, c, dir); 5 edges: turn left/right or move 1/2/3 steps; BFS | 1331 | | 0.0 |
| 00315 | [Network](https://onlinejudge.org/external/3/315.pdf) | finding articulation points | 5628 | | 0.0 |
| 00318 | [Domino Effect](https://onlinejudge.org/external/3/318.pdf) | graph traversal; be careful of corner cases | 1208 | | 0.0 |
| 00320 | [Border](https://onlinejudge.org/external/3/320.pdf) | requires flood fill technique | 1580 | | 0.0 |
| 00321 | [The New Villa](https://onlinejudge.org/external/3/321.pdf) | s: (position; bitmask 2^10); print the path | 1035 | | 0.0 |
| 00324 | [Factorial Frequencies](https://onlinejudge.org/external/3/324.pdf) | count digits of n! up to 366! | 6482 | | 0.0 |
| 00325 | [Identifying Legal Pascal R...](https://onlinejudge.org/external/3/325.pdf) | trivial with regex | 1585 | | 0.0 |
| 00326 | [Extrapolation Using a Diff...](https://onlinejudge.org/external/3/326.pdf) | difference table | 1537 | | 0.0 |
| 00327 | [Evaluating Simple C Expres...](https://onlinejudge.org/external/3/327.pdf) | implementation can be tricky | 1255 | | 0.0 |
| 00330 | [Inventory Maintenance](https://onlinejudge.org/external/3/330.pdf) | use map to help | 158 | | 0.0 |
| 00331 | [Mapping the Swaps](https://onlinejudge.org/external/3/331.pdf) | n <= 5... | 1572 | | 0.0 |
| 00332 | [Rational Numbers from Repe...](https://onlinejudge.org/external/3/332.pdf) | use GCD | 1667 | | 0.0 |
| 00333 | [Recognizing Good ISBNs](https://onlinejudge.org/external/3/333.pdf) | this problem has buggy test data with blank lines that potentially cause lots of Presentation Errors | 1663 | | 0.0 |
| 00334 | [Identifying Concurrent Eve...](https://onlinejudge.org/external/3/334.pdf) | transitive closure | 623 | | 0.0 |
| 00335 | [Processing MX Records](https://onlinejudge.org/external/3/335.pdf) | simulation | 291 | | 0.0 |
| 00336 | [A Node Too Far](https://onlinejudge.org/external/3/336.pdf) | simple SSSP; BFS | 6617 | | 0.0 |
| 00337 | [Interpreting Control Seque...](https://onlinejudge.org/external/3/337.pdf) | simulation; output related | 1380 | | 0.0 |
| 00338 | [Long Multiplication](https://onlinejudge.org/external/3/338.pdf) | tedious | 469 | | 0.0 |
| 00339 | [SameGame Simulation](https://onlinejudge.org/external/3/339.pdf) | follow problem description | 431 | | 0.0 |
| 00340 | [Master-Mind Hints](https://onlinejudge.org/external/3/340.pdf) | determine strong and weak matches | 5382 | | 0.0 |
| 00341 | [Non-Stop Travel](https://onlinejudge.org/external/3/341.pdf) | the graph is small | 2338 | | 0.0 |
| 00343 | [What Base Is This?](https://onlinejudge.org/external/3/343.pdf) | try all possible pair of bases | 3195 | | 0.0 |
| 00344 | [Roman Digititis](https://onlinejudge.org/external/3/344.pdf) | count Roman chars used in [1..N] | 6586 | | 0.0 |
| 00346 | [Getting Chorded](https://onlinejudge.org/external/3/346.pdf) | musical chord; major/minor | 492 | | 0.0 |
| 00347 | [Run](https://onlinejudge.org/external/3/347.pdf) | simulate the process; pre-calculate-able | 1239 | | 0.0 |
| 00348 | [Optimal Array Multiplicati...](https://onlinejudge.org/external/3/348.pdf) | DP; s(i, j); output the optimal solution; the optimal sequence is not unique | 3935 | | 0.0 |
| 00349 | [Transferable Voting (II)](https://onlinejudge.org/external/3/349.pdf) | simulation | 443 | | 0.0 |
| 00350 | [Pseudo-Random Numbers](https://onlinejudge.org/external/3/350.pdf) | very basic cycle-finding problem; simply run Floyd's cycle-finding algorithm | 7093 | | 0.0 |
| 00352 | [The Seasonal War](https://onlinejudge.org/external/3/352.pdf) | count number of CCs; see UVa 00572 | 7370 | | 0.0 |
| 00353 | [Pesky Palindromes](https://onlinejudge.org/external/3/353.pdf) | brute force all substrings; count how many substrings are palindrome | 3101 | | 0.0 |
| 00355 | [The Bases Are Loaded](https://onlinejudge.org/external/3/355.pdf) | basic base number conversion | 3082 | | 0.0 |
| 00356 | [Square Pegs And Round Hole...](https://onlinejudge.org/external/3/356.pdf) | Euclidean distance; brute force | 1961 | | 0.0 |
| 00357 | [Let Me Count The Ways](https://onlinejudge.org/external/3/357.pdf) | similar to UVa 147 and 674 | 9841 | | 0.0 |
| 00361 | [Cops and Robbers](https://onlinejudge.org/external/3/361.pdf) | check if a point is inside CH of Cop/Robber; if $pt$ is inside CH, pt satisfies the requirement | 346 | | 0.0 |
| 00362 | [18,000 Seconds Remaining](https://onlinejudge.org/external/3/362.pdf) | typical file download situation | 1240 | | 0.0 |
| 00369 | [Combinations](https://onlinejudge.org/external/3/369.pdf) | be careful with overflow issue | 11892 | | 0.0 |
| 00371 | [Ackermann Functions](https://onlinejudge.org/external/3/371.pdf) | similar to UVa 100 | 7081 | | 0.0 |
| 00373 | [Romulan Spelling](https://onlinejudge.org/external/3/373.pdf) | check 'g' versus 'p'; ad hoc | 154 | | 0.0 |
| 00374 | [Big Mod](https://onlinejudge.org/external/3/374.pdf) | solvable with Java BigInteger modPow; or write your own code | 13884 | | 0.0 |
| 00375 | [Inscribed Circles and Isos...](https://onlinejudge.org/external/3/375.pdf) | triangle'sincircles | 1057 | | 0.0 |
| 00377 | [Cowculations](https://onlinejudge.org/external/3/377.pdf) | base 4 operations | 1518 | | 0.0 |
| 00378 | [Intersecting Lines](https://onlinejudge.org/external/3/378.pdf) | library routines: areParallel; areSame; areIntersect | 3714 | | 0.0 |
| 00379 | [Hi-Q](https://onlinejudge.org/external/3/379.pdf) | follow problem description | 723 | | 0.0 |
| 00380 | [Call Forwarding](https://onlinejudge.org/external/3/380.pdf) | simple backtracking; but we have to work with strings | 836 | | 0.0 |
| 00381 | [Making the Grade](https://onlinejudge.org/external/3/381.pdf) | simulation | 630 | | 0.0 |
| 00382 | [Perfection](https://onlinejudge.org/external/3/382.pdf) | do trial division | 14404 | | 0.0 |
| 00383 | [Shipping Routes](https://onlinejudge.org/external/3/383.pdf) | simple SSSP solvable with BFS; use mapper | 2570 | | 0.0 |
| 00384 | [Slurpys](https://onlinejudge.org/external/3/384.pdf) | recursive grammar check | 1552 | | 0.0 |
| 00385 | [DNA Translation](https://onlinejudge.org/external/3/385.pdf) | a kind of decryption problem; tedious | 341 | | 0.0 |
| 00386 | [Perfect Cubes](https://onlinejudge.org/external/3/386.pdf) | 4 nested loops with pruning | 5407 | | 0.0 |
| 00387 | [A Puzzling Problem](https://onlinejudge.org/external/3/387.pdf) | use backtracking to try placement of various puzzle pieces | 422 | | 0.0 |
| 00388 | [Galactic Import](https://onlinejudge.org/external/3/388.pdf) | key idea: we want to minimize planet movements because every edge used decreases value by 5% | 637 | | 0.0 |
| 00389 | [Basically Speaking](https://onlinejudge.org/external/3/389.pdf) | use Java Integer class | 4211 | | 0.0 |
| 00391 | [Mark-up](https://onlinejudge.org/external/3/391.pdf) | use flags; tedious parsing | 808 | | 0.0 |
| 00392 | [Polynomial Showdown](https://onlinejudge.org/external/3/392.pdf) | follow the orders; output formatting | 4181 | | 0.0 |
| 00393 | [The Doors](https://onlinejudge.org/external/3/393.pdf) | build the small visibility graph with line segment intersection checks; run Floyd-Warshall routine to get the answer | 541 | | 0.0 |
| 00394 | [Mapmaker](https://onlinejudge.org/external/3/394.pdf) | any n-dimensional array is stored in computer memory as a single dimensional array; follow the problem description | 2559 | | 0.0 |
| 00397 | [Equation Elation](https://onlinejudge.org/external/3/397.pdf) | iteratively perform the next operation | 880 | | 0.0 |
| 00400 | [Unix ls](https://onlinejudge.org/external/4/400.pdf) | this command is very frequently used in UNIX | 4712 | | 0.0 |
| 00401 | [Palindromes](https://onlinejudge.org/external/4/401.pdf) | simple palindrome check | 14619 | | 0.0 |
| 00402 | [M\*A\*S\*H](https://onlinejudge.org/external/4/402.pdf) | modified Josephus; simulation | 1374 | | 0.0 |
| 00403 | [Postscript](https://onlinejudge.org/external/4/403.pdf) | emulation of printer driver; tedious | 511 | | 0.0 |
| 00405 | [Message Routing](https://onlinejudge.org/external/4/405.pdf) | simulation | 341 | | 0.0 |
| 00406 | [Prime Cuts](https://onlinejudge.org/external/4/406.pdf) | sieve; take the middle ones | 8219 | | 0.0 |
| 00408 | [Uniform Generator](https://onlinejudge.org/external/4/408.pdf) | cycle-finding problem with easier solution: it is a good choice if step < mod and GCD(step, mod) == 1 | 5235 | | 0.0 |
| 00409 | [Excuses, Excuses!](https://onlinejudge.org/external/4/409.pdf) | tokenize and compare with list of excuses | 4030 | | 0.0 |
| 00410 | [Station Balance](https://onlinejudge.org/external/4/410.pdf) | load balancing | 1679 | | 0.0 |
| 00412 | [Pi](https://onlinejudge.org/external/4/412.pdf) | brute force; GCD to find elements with no common factor | 6114 | | 0.0 |
| 00413 | [Up and Down Sequences](https://onlinejudge.org/external/4/413.pdf) | simulate; array manipulation | 1574 | | 0.0 |
| 00414 | [Machined Surfaces](https://onlinejudge.org/external/4/414.pdf) | get the longest stretch of Bs | 8618 | | 0.0 |
| 00416 | [LED Test](https://onlinejudge.org/external/4/416.pdf) | backtrack; try all | 1269 | | 0.0 |
| 00417 | [Word Index](https://onlinejudge.org/external/4/417.pdf) | generate all words; add to map for auto sorting | 5905 | | 0.0 |
| 00418 | [Molecules](https://onlinejudge.org/external/4/418.pdf) | use next\_permutation to permute the 4 molecule locations and then use 12^6 six-nested-loops to check the area of the super molecule; if any | 514 | | 0.0 |
| 00422 | [Word-Search Wonder](https://onlinejudge.org/external/4/422.pdf) | 2D grid; backtracking | 2154 | | 0.0 |
| 00423 | [MPI Maelstrom](https://onlinejudge.org/external/4/423.pdf) | the graph is small; Bellman-Ford or Floyd-Warshall | 2908 | | 0.0 |
| 00424 | [Integer Inquiry](https://onlinejudge.org/external/4/424.pdf) | BigInteger addition | 12585 | | 0.0 |
| 00426 | [Fifth Bank of Swamp County](https://onlinejudge.org/external/4/426.pdf) | tokenize; sort; reformat output | 258 | | 0.0 |
| 00427 | [FlatLand Piano Movers](https://onlinejudge.org/external/4/427.pdf) | for each 2 consecutive corridors, try rotating the piano by a angle α ∈ [0.1..89.9] degrees; trigonometry | 436 | | 0.0 |
| 00429 | [Word Transformation](https://onlinejudge.org/external/4/429.pdf) | each word is a vertex; connect 2 words with an edge if differ by 1 letter | 3394 | | 0.0 |
| 00431 | [Trial of the Millennium](https://onlinejudge.org/external/4/431.pdf) | classic 0-1 Knapsack Problem; output any optimal solution as there is a special checker for this problem | 181 | | 0.0 |
| 00433 | [Bank (Not Quite O.C.R.)](https://onlinejudge.org/external/4/433.pdf) | similar to UVa 416 | 464 | | 0.0 |
| 00434 | [Matty's Blocks](https://onlinejudge.org/external/4/434.pdf) | a kind of visibility problem in geometry; solvable with using 2D array manipulation | 886 | | 0.0 |
| 00435 | [Block Voting](https://onlinejudge.org/external/4/435.pdf) | only 2^20 possible coalition combinations | 1444 | | 0.0 |
| 00436 | [Arbitrage (II)](https://onlinejudge.org/external/4/436.pdf) | another arbitrage problem | 1499 | | 0.0 |
| 00437 | [The Tower of Babylon](https://onlinejudge.org/external/4/437.pdf) | can be modeled as LIS | 3623 | | 0.0 |
| 00438 | [The Circumference of the C...](https://onlinejudge.org/external/4/438.pdf) | compute triangle's circumcircle | 6846 | | 0.0 |
| 00439 | [Knight Moves](https://onlinejudge.org/external/4/439.pdf) | one BFS per query is enough | 8927 | | 0.0 |
| 00440 | [Eeny Meeny Moo](https://onlinejudge.org/external/4/440.pdf) | brute force; similar to UVa 151 | 4834 | | 0.0 |
| 00441 | [Lotto](https://onlinejudge.org/external/4/441.pdf) | 6 nested loops; easy | 8238 | | 0.0 |
| 00442 | [Matrix Chain Multiplicatio...](https://onlinejudge.org/external/4/442.pdf) | properties of matrix chain multiplication | 4369 | | 0.0 |
| 00443 | [Humble Numbers](https://onlinejudge.org/external/4/443.pdf) | try all 2^i \* 3^j \* 5^k \* 7^l; sort | 5327 | | 0.0 |
| 00444 | [Encoder and Decoder](https://onlinejudge.org/external/4/444.pdf) | each char is mapped to 2 or 3 digits | 5237 | | 0.0 |
| 00445 | [Marvelous Mazes](https://onlinejudge.org/external/4/445.pdf) | simulation; output formatting | 10357 | | 0.0 |
| 00446 | [Kibbles "n" Bits "n" Bits ...](https://onlinejudge.org/external/4/446.pdf) | base number conversion | 5363 | | 0.0 |
| 00447 | [Population Explosion](https://onlinejudge.org/external/4/447.pdf) | life simulation model | 583 | | 0.0 |
| 00448 | [OOPS!](https://onlinejudge.org/external/4/448.pdf) | tedious hexadecimal to assembly language conversion | 1076 | | 0.0 |
| 00449 | [Majoring in Scales](https://onlinejudge.org/external/4/449.pdf) | easier if you have a musical background | 228 | | 0.0 |
| 00450 | [Little Black Book](https://onlinejudge.org/external/4/450.pdf) | tedious sorting problem | 1706 | | 0.0 |
| 00452 | [Project Scheduling](https://onlinejudge.org/external/4/452.pdf) | longest paths on DAG | 1140 | | 0.0 |
| 00454 | [Anagrams](https://onlinejudge.org/external/4/454.pdf) | anagram | 1756 | | 0.0 |
| 00455 | [Periodic Strings](https://onlinejudge.org/external/4/455.pdf) | find s in s+s; similar with UVa 10298 | 6785 | | 0.0 |
| 00457 | [Linear Cellular Automata](https://onlinejudge.org/external/4/457.pdf) | simplified game of life simulation; similar idea with UVa 00447; explore the Internet for that term | 2974 | | 0.0 |
| 00458 | [The Decoder](https://onlinejudge.org/external/4/458.pdf) | shift ASCII values by -7 | 27438 | | 0.0 |
| 00459 | [Graph Connectivity](https://onlinejudge.org/external/4/459.pdf) | also solvable with UFDS | 6397 | | 0.0 |
| 00460 | [Overlapping Rectangles](https://onlinejudge.org/external/4/460.pdf) | rectangle-rectangle intersection | 1863 | | 0.0 |
| 00462 | [Bridge Hand Evaluator](https://onlinejudge.org/external/4/462.pdf) | simulation; card | 1855 | | 0.0 |
| 00464 | [Sentence/Phrase Generator](https://onlinejudge.org/external/4/464.pdf) | generate output based on the given BNF grammar | 354 | | 0.0 |
| 00465 | [Overflow](https://onlinejudge.org/external/4/465.pdf) | BigInteger add/multiply; compare with 2^31-1$ | 3940 | | 0.0 |
| 00466 | [Mirror, Mirror](https://onlinejudge.org/external/4/466.pdf) | core functions: rotate and reflect | 1516 | | 0.0 |
| 00467 | [Synching Signals](https://onlinejudge.org/external/4/467.pdf) | linear scan; 1D boolean flag | 761 | | 0.0 |
| 00468 | [Key to Success](https://onlinejudge.org/external/4/468.pdf) | letter frequency mapping | 835 | | 0.0 |
| 00469 | [Wetlands of Florida](https://onlinejudge.org/external/4/469.pdf) | count size of a CC | 3768 | | 0.0 |
| 00471 | [Magic Numbers](https://onlinejudge.org/external/4/471.pdf) | somewhat similar to UVa 00725 | 1590 | | 0.0 |
| 00473 | [Raucous Rockers](https://onlinejudge.org/external/4/473.pdf) | the input constraint is not clear; therefore use resizeable vector and compact states | 551 | | 0.0 |
| 00474 | [Heads / Tails Probability](https://onlinejudge.org/external/4/474.pdf) | this is just a log and pow exercise | 2215 | | 0.0 |
| 00476 | [Points in Figures: Rectang...](https://onlinejudge.org/external/4/476.pdf) | basic problem; also see related problems: UVa 00477 and 00478 | 7503 | | 0.0 |
| 00477 | [Points in Figures: Rectang...](https://onlinejudge.org/external/4/477.pdf) | similar with UVa 00476 and 00478 | 6054 | | 0.0 |
| 00478 | [Points in Figures: Rectang...](https://onlinejudge.org/external/4/478.pdf) | inPolygon/Triangle/Circle/Rectangle | 3889 | | 0.0 |
| 00481 | [What Goes Up](https://onlinejudge.org/external/4/481.pdf) | O(n log k) LIS+solution | 4713 | | 0.0 |
| 00482 | [Permutation Arrays](https://onlinejudge.org/external/4/482.pdf) | you may need to use a string tokenizer as the size of the array is not specified | 5369 | | 0.0 |
| 00483 | [Word Scramble](https://onlinejudge.org/external/4/483.pdf) | read char by char from left to right | 15131 | | 0.0 |
| 00484 | [The Department of Redundan...](https://onlinejudge.org/external/4/484.pdf) | maintain frequency with map | 8614 | | 0.0 |
| 00485 | [Pascal's Triangle of Death](https://onlinejudge.org/external/4/485.pdf) | binomial coefficients BigInteger | 2509 | | 0.0 |
| 00486 | [English-Number Translator](https://onlinejudge.org/external/4/486.pdf) | parsing | 1960 | | 0.0 |
| 00487 | [Boggle Blitz](https://onlinejudge.org/external/4/487.pdf) | use map to store the generated words | 601 | | 0.0 |
| 00488 | [Triangle Wave](https://onlinejudge.org/external/4/488.pdf) | use several loops | 15938 | | 0.0 |
| 00489 | [Hangman Judge](https://onlinejudge.org/external/4/489.pdf) | just do as asked | 7812 | | 0.0 |
| 00490 | [Rotating Sentences](https://onlinejudge.org/external/4/490.pdf) | 2d array manipulation; output formatting | 10143 | | 0.0 |
| 00492 | [Pig-Latin](https://onlinejudge.org/external/4/492.pdf) | ad hoc; similar to UVa 483 | 6829 | | 0.0 |
| 00493 | [Rational Spiral](https://onlinejudge.org/external/4/493.pdf) | simulate the spiral process | 521 | | 0.0 |
| 00494 | [Kindergarten Counting Game](https://onlinejudge.org/external/4/494.pdf) | trivial with regex | 23915 | | 0.0 |
| 00495 | [Fibonacci Freeze](https://onlinejudge.org/external/4/495.pdf) | O(n) DP; Big Integer | 10047 | | 0.0 |
| 00496 | [Simply Subsets](https://onlinejudge.org/external/4/496.pdf) | set manipulation | 3730 | | 0.0 |
| 00497 | [Strategic Defense Initiati...](https://onlinejudge.org/external/4/497.pdf) | solution must be printed | 3700 | | 0.0 |
| 00498 | [Polly the Polynomial](https://onlinejudge.org/external/4/498.pdf) | polynomial evaluation | 2978 | | 0.0 |
| 00499 | [What's The Frequency, Kenn...](https://onlinejudge.org/external/4/499.pdf) | ASCII keys | 9804 | | 0.0 |
| 00501 | [Black Box](https://onlinejudge.org/external/5/501.pdf) | use multiset with efficient iterator manipulation | 1364 | | 0.0 |
| 00507 | [Jill Rides Again](https://onlinejudge.org/external/5/507.pdf) | standard problem | 4731 | | 0.0 |
| 00512 | [Spreadsheet Tracking](https://onlinejudge.org/external/5/512.pdf) | apply all rows/columns modifications in descending order; for each query; report the new position of the cell or report GONE | 840 | | 0.0 |
| 00514 | [Rails](https://onlinejudge.org/external/5/514.pdf) | use stack to simulate the process | 8756 | | 0.0 |
| 00516 | [Prime Land](https://onlinejudge.org/external/5/516.pdf) | problem involving prime-power factorization | 2816 | | 0.0 |
| 00517 | [Word](https://onlinejudge.org/external/5/517.pdf) | convert (a; b) to (0; 1) first so that we only work with integers; there can only be 2^16 possibilities although s can be gigantic; stop upon encountering a cycle | 564 | | 0.0 |
| 00521 | [Gossiping](https://onlinejudge.org/external/5/521.pdf) | vertices = drivers; add an edge between two drivers if they can meet (determined with mathematical rule (gcd)); if the graph is connected, then the answer is 'yes' | 361 | | 0.0 |
| 00523 | [Minimum Transport Cost](https://onlinejudge.org/external/5/523.pdf) | this is actually an SSSP problem on weighted graph solvable with Dijkstra's; use the vertex splitting technique to handle vertex weight | 668 | | 0.0 |
| 00524 | [Prime Ring Problem](https://onlinejudge.org/external/5/524.pdf) | involving prime number | 6781 | | 0.0 |
| 00526 | [String Distance and Transf...](https://onlinejudge.org/external/5/526.pdf) | String Alignment/Edit Distance | 1715 | | 0.0 |
| 00529 | [Addition Chains](https://onlinejudge.org/external/5/529.pdf) | use backtracking to get the solution | 607 | | 0.0 |
| 00530 | [Binomial Showdown](https://onlinejudge.org/external/5/530.pdf) | work with doubles; optimize computation | 7665 | | 0.0 |
| 00531 | [Compromise](https://onlinejudge.org/external/5/531.pdf) | Longest Common Subsequence; print the solution | 3635 | | 0.0 |
| 00532 | [Dungeon Master](https://onlinejudge.org/external/5/532.pdf) | 3D BFS; also available at Kattis - dungeon | 5394 | | 0.0 |
| 00533 | [Equation Solver](https://onlinejudge.org/external/5/533.pdf) | recursive grammar check | 396 | | 0.0 |
| 00534 | [Frogger](https://onlinejudge.org/external/5/534.pdf) | minimax; also solvable with Floyd Warshall's | 4191 | | 0.0 |
| 00535 | [Globetrotter](https://onlinejudge.org/external/5/535.pdf) | gcDistance | 915 | | 0.0 |
| 00536 | [Tree Recovery](https://onlinejudge.org/external/5/536.pdf) | reconstructing binary tree from preorder and inorder binary tree traversal | 4695 | | 0.0 |
| 00537 | [Artificial Intelligence?](https://onlinejudge.org/external/5/537.pdf) | simple formula; parsing is difficult | 4422 | | 0.0 |
| 00538 | [Balancing Bank Accounts](https://onlinejudge.org/external/5/538.pdf) | the problem's premise is quite true | 806 | | 0.0 |
| 00539 | [The Settlers of Catan](https://onlinejudge.org/external/5/539.pdf) | LONGEST-PATH problem; small input/general graph | 3004 | | 0.0 |
| 00540 | [Team Queue](https://onlinejudge.org/external/5/540.pdf) | modified queue | 3965 | | 0.0 |
| 00541 | [Error Correction](https://onlinejudge.org/external/5/541.pdf) | count the number of 1s for each row/col; which must be even; if there is an error; see if the odd number of 1s appear on the same row and col | 10332 | | 0.0 |
| 00542 | [France '98](https://onlinejudge.org/external/5/542.pdf) | divide and conquer | 1487 | | 0.0 |
| 00543 | [Goldbach's Conjecture](https://onlinejudge.org/external/5/543.pdf) | sieve; complete search; Goldbach's conjecture; similar to UVa 00686, 10311, and 10948 | 12733 | | 0.0 |
| 00544 | [Heavy Cargo](https://onlinejudge.org/external/5/544.pdf) | maximin; also solvable with Floyd Warshall's | 3815 | | 0.0 |
| 00545 | [Heads](https://onlinejudge.org/external/5/545.pdf) | use logarithm; power; similar to UVa 474 | 745 | | 0.0 |
| 00547 | [DDF](https://onlinejudge.org/external/5/547.pdf) | a problem about 'eventually constant' sequence; similar flavor as cycle-finding | 745 | | 0.0 |
| 00548 | [Tree](https://onlinejudge.org/external/5/548.pdf) | reconstructing tree from in postorder | 2288 | | 0.0 |
| 00550 | [Multiplying by Rotation](https://onlinejudge.org/external/5/550.pdf) | rotamult property; try one by one starting from 1 digit | 1299 | | 0.0 |
| 00551 | [Nesting a Bunch of Bracket...](https://onlinejudge.org/external/5/551.pdf) | bracket matching; use stack | 992 | | 0.0 |
| 00554 | [Caesar Cypher](https://onlinejudge.org/external/5/554.pdf) | try all shifts; output formatting | 603 | | 0.0 |
| 00555 | [Bridge Hands](https://onlinejudge.org/external/5/555.pdf) | card game | 2206 | | 0.0 |
| 00556 | [Amazing](https://onlinejudge.org/external/5/556.pdf) | simulation | 1382 | | 0.0 |
| 00557 | [Burger](https://onlinejudge.org/external/5/557.pdf) | one possible solution involves combinatorics which can be computed with DP | 717 | | 0.0 |
| 00558 | [Wormholes](https://onlinejudge.org/external/5/558.pdf) | check if negative cycle exists | 6360 | | 0.0 |
| 00562 | [Dividing coins](https://onlinejudge.org/external/5/562.pdf) | use a one dimensional table | 7967 | | 0.0 |
| 00563 | [Crimewave](https://onlinejudge.org/external/5/563.pdf) | check whether the maximum number of independent paths on the flow graph equals to b banks | 1016 | | 0.0 |
| 00565 | [Pizza Anyone?](https://onlinejudge.org/external/5/565.pdf) | backtracking with lots of pruning | 711 | | 0.0 |
| 00567 | [Risk](https://onlinejudge.org/external/5/567.pdf) | simple SSSP solvable with BFS; but the graph is small, so can be solved easier with Floyd-Warshall | 4944 | | 0.0 |
| 00568 | [Just the Facts](https://onlinejudge.org/external/5/568.pdf) | can use Java BigInteger; slow but AC | 7087 | | 0.0 |
| 00570 | [Stats](https://onlinejudge.org/external/5/570.pdf) | use map to help | 243 | | 0.0 |
| 00571 | [Jugs](https://onlinejudge.org/external/5/571.pdf) | solution can be suboptimal; add flag to avoid cycling | 2115 | | 0.0 |
| 00572 | [Oil Deposits](https://onlinejudge.org/external/5/572.pdf) | count number of CCs | 11726 | | 0.0 |
| 00573 | [The Snail](https://onlinejudge.org/external/5/573.pdf) | simulation; several corner cases | 12102 | | 0.0 |
| 00574 | [Sum It Up](https://onlinejudge.org/external/5/574.pdf) | print all solutions with backtracking | 4841 | | 0.0 |
| 00575 | [Skew Binary](https://onlinejudge.org/external/5/575.pdf) | base modification | 13284 | | 0.0 |
| 00576 | [Haiku Review](https://onlinejudge.org/external/5/576.pdf) | solvable with regex | 3500 | | 0.0 |
| 00579 | [Clock Hands](https://onlinejudge.org/external/5/579.pdf) | be careful with corner cases | 15409 | | 0.0 |
| 00580 | [Critical Mass](https://onlinejudge.org/external/5/580.pdf) | related to Tribonacci series | 2150 | | 0.0 |
| 00583 | [Prime Factors](https://onlinejudge.org/external/5/583.pdf) | basic factorization problem | 7887 | | 0.0 |
| 00584 | [Bowling](https://onlinejudge.org/external/5/584.pdf) | simulation; games; reading comprehension | 1510 | | 0.0 |
| 00585 | [Triangles](https://onlinejudge.org/external/5/585.pdf) | recursive grammar check and output formatting | 983 | | 0.0 |
| 00586 | [Instant Complexity](https://onlinejudge.org/external/5/586.pdf) | recursive grammar check and output formatting | 578 | | 0.0 |
| 00587 | [There's treasure everywher...](https://onlinejudge.org/external/5/587.pdf) | Euclidean dist | 2442 | | 0.0 |
| 00588 | [Video Surveillance](https://onlinejudge.org/external/5/588.pdf) | cutPolygon | 579 | | 0.0 |
| 00589 | [Pushing Boxes](https://onlinejudge.org/external/5/589.pdf) | weighted SSSP: move box from s to t + unweighted SSSP: move player to correct position to push the box | 485 | | 0.0 |
| 00590 | [Always on the run](https://onlinejudge.org/external/5/590.pdf) | s: (pos; day\_left) | 1336 | | 0.0 |
| 00591 | [Box of Bricks](https://onlinejudge.org/external/5/591.pdf) | sum all items; get the average; sum the total absolute differences of each item from the average divided by two | 19606 | | 0.0 |
| 00592 | [Island of Logic](https://onlinejudge.org/external/5/592.pdf) | key idea: there are only 3^5\*2 possible states: the status of each person and whether it is day or night | 491 | | 0.0 |
| 00594 | [One Little, Two Little, Th...](https://onlinejudge.org/external/5/594.pdf) | manipulate bit string with bitset | 4404 | | 0.0 |
| 00596 | [The Incredible Hull](https://onlinejudge.org/external/5/596.pdf) | basic CH problem; but output formatting is a bit tedious | 164 | | 0.0 |
| 00598 | [Bundling Newspapers](https://onlinejudge.org/external/5/598.pdf) | print all solutions with backtracking | 953 | | 0.0 |
| 00599 | [The Forrest for the Trees](https://onlinejudge.org/external/5/599.pdf) | V-E = number of CCs; use a bitset of size 26 to count the number of vertices that have some edge | 2282 | | 0.0 |
| 00601 | [The PATH](https://onlinejudge.org/external/6/601.pdf) | floodfill is one of the component | 919 | | 0.0 |
| 00602 | [What Day Is It?](https://onlinejudge.org/external/6/602.pdf) | Gregorian versus Julian calendar | 1155 | | 0.0 |
| 00603 | [Parking Lot](https://onlinejudge.org/external/6/603.pdf) | simulation | 442 | | 0.0 |
| 00604 | [The Boggle Game](https://onlinejudge.org/external/6/604.pdf) | 2D grid; backtracking; sort and compare | 550 | | 0.0 |
| 00607 | [Scheduling Lectures](https://onlinejudge.org/external/6/607.pdf) | returns pair of information | 960 | | 0.0 |
| 00608 | [Counterfeit Dollar](https://onlinejudge.org/external/6/608.pdf) | classical problem; after each weighing; we can halve the search space | 1990 | | 0.0 |
| 00610 | [Street Directions](https://onlinejudge.org/external/6/610.pdf) | finding bridges | 1385 | | 0.0 |
| 00612 | [DNA Sorting](https://onlinejudge.org/external/6/612.pdf) | needs O(n^2) stable\_sort | 5367 | | 0.0 |
| 00613 | [Numbers That Count](https://onlinejudge.org/external/6/613.pdf) | analyze the number; determine the type; similar spirit with the cycle finding problem | 425 | | 0.0 |
| 00614 | [Mapping the Route](https://onlinejudge.org/external/6/614.pdf) | traversal on implicit graph | 655 | | 0.0 |
| 00615 | [Is It A Tree?](https://onlinejudge.org/external/6/615.pdf) | graph property check | 2388 | | 0.0 |
| 00616 | [Coconuts, Revisited](https://onlinejudge.org/external/6/616.pdf) | brute force up to sqrt(n); get pattern | 1721 | | 0.0 |
| 00617 | [Nonstop Travel](https://onlinejudge.org/external/6/617.pdf) | try all integer speeds from 30 to 60 mph | 913 | | 0.0 |
| 00618 | [Doing Windows](https://onlinejudge.org/external/6/618.pdf) | tedious | 271 | | 0.0 |
| 00619 | [Numerically Speaking](https://onlinejudge.org/external/6/619.pdf) | BigInteger | 1375 | | 0.0 |
| 00620 | [Cellular Structure](https://onlinejudge.org/external/6/620.pdf) | recursive grammar check | 1510 | | 0.0 |
| 00621 | [Secret Research](https://onlinejudge.org/external/6/621.pdf) | case analysis for only 4 possible outputs | 9123 | | 0.0 |
| 00622 | [Grammar Evaluation](https://onlinejudge.org/external/6/622.pdf) | recursive grammar check/evaluation | 520 | | 0.0 |
| 00623 | [500!](https://onlinejudge.org/external/6/623.pdf) | easy with Java BigInteger | 8325 | | 0.0 |
| 00624 | [CD](https://onlinejudge.org/external/6/624.pdf) | input size is small; backtracking is enough | 7964 | | 0.0 |
| 00626 | [Ecosystem](https://onlinejudge.org/external/6/626.pdf) | 3 nested loops | 1089 | | 0.0 |
| 00627 | [The Net](https://onlinejudge.org/external/6/627.pdf) | also print the path | 1690 | | 0.0 |
| 00628 | [Passwords](https://onlinejudge.org/external/6/628.pdf) | backtracking; follow the rules in description | 2628 | | 0.0 |
| 00630 | [Anagrams (II)](https://onlinejudge.org/external/6/630.pdf) | ad hoc; string | 1358 | | 0.0 |
| 00632 | [Compression (II)](https://onlinejudge.org/external/6/632.pdf) | simulate the process; use sorting | 530 | | 0.0 |
| 00633 | [A Chess Knight](https://onlinejudge.org/external/6/633.pdf) | alternating Knight Moves and Bishop Moves (limited to distance 2)); solvable with just one BFS per query | 438 | | 0.0 |
| 00634 | [Polygon](https://onlinejudge.org/external/6/634.pdf) | basic inPolygon routine; notice that the input polygon can be convex or concave | 1508 | | 0.0 |
| 00636 | [Squares (III)](https://onlinejudge.org/external/6/636.pdf) | base number conversion up to base 99; Java BigInteger cannot be used as it is MAX\_RADIX is limited to 36 | 1981 | | 0.0 |
| 00637 | [Booklet Printing](https://onlinejudge.org/external/6/637.pdf) | application in printer driver software | 2877 | | 0.0 |
| 00638 | [Finding Rectangles](https://onlinejudge.org/external/6/638.pdf) | brute force 4 corner points | 616 | | 0.0 |
| 00639 | [Don't Get Rooked](https://onlinejudge.org/external/6/639.pdf) | generate 2^(4x4) = 2^16 combinations and prune | 3253 | | 0.0 |
| 00640 | [Self Numbers](https://onlinejudge.org/external/6/640.pdf) | DP bottom up; generate the numbers; flag once | 5123 | | 0.0 |
| 00641 | [Do the Untwist](https://onlinejudge.org/external/6/641.pdf) | reverse the given formula and simulate | 1139 | | 0.0 |
| 00642 | [Word Amalgamation](https://onlinejudge.org/external/6/642.pdf) | go through the given small dictionary for the list of possible anagrams | 2981 | | 0.0 |
| 00644 | [Immediate Decodability](https://onlinejudge.org/external/6/644.pdf) | use brute force | 3837 | | 0.0 |
| 00645 | [File Mapping](https://onlinejudge.org/external/6/645.pdf) | use recursion to simulate directory structure as it helps the output formatting | 229 | | 0.0 |
| 00647 | [Chutes and Ladders](https://onlinejudge.org/external/6/647.pdf) | childhood board game; also see UVa 11459 | 696 | | 0.0 |
| 00651 | [Deck](https://onlinejudge.org/external/6/651.pdf) | use the given sample I/O to derive the simple formula | 744 | | 0.0 |
| 00652 | [Eight](https://onlinejudge.org/external/6/652.pdf) | classic sliding block 8-puzzle; IDA\* | 485 | | 0.0 |
| 00654 | [Ratio](https://onlinejudge.org/external/6/654.pdf) | just use brute force | 530 | | 0.0 |
| 00656 | [Optimal Programs](https://onlinejudge.org/external/6/656.pdf) | we can use IDDFS with pruning | 341 | | 0.0 |
| 00657 | [The die is cast](https://onlinejudge.org/external/6/657.pdf) | there are three colors here; non-standard but still relatively easy floodfill problem | 2521 | | 0.0 |
| 00658 | [It's not a Bug, it's a Fea...](https://onlinejudge.org/external/6/658.pdf) | s: (bitmask---whether a bug is present or not); the state-space graph is weighted | 715 | | 0.0 |
| 00661 | [Blowing Fuses](https://onlinejudge.org/external/6/661.pdf) | simulation | 5509 | | 0.0 |
| 00662 | [Fast Food](https://onlinejudge.org/external/6/662.pdf) | s: (L; R; k); that denotes the minimum distance sum to cover restaurants at index [L..R] with k depots left | 734 | | 0.0 |
| 00663 | [Sorting Slides](https://onlinejudge.org/external/6/663.pdf) | try disallowing an edge to see if MCBM changes; which implies that the edge has to be used | 553 | | 0.0 |
| 00665 | [False coin](https://onlinejudge.org/external/6/665.pdf) | use 1D boolean flags; each =; <; or > tells us an information; check if there is only one candidate false coin left at the end | 1157 | | 0.0 |
| 00668 | [Parliament](https://onlinejudge.org/external/6/668.pdf) | greedy | 652 | | 0.0 |
| 00670 | [The dog task](https://onlinejudge.org/external/6/670.pdf) | MCBM | 967 | | 0.0 |
| 00671 | [Spell checker](https://onlinejudge.org/external/6/671.pdf) | string comparison | 584 | | 0.0 |
| 00672 | [Gangsters](https://onlinejudge.org/external/6/672.pdf) | s: (gangster\_id, openness\_level); do not use cur\_time as part of the state | 378 | | 0.0 |
| 00673 | [Parentheses Balance](https://onlinejudge.org/external/6/673.pdf) | similar to UVa 551; classic | 15449 | | 0.0 |
| 00674 | [Coin Change](https://onlinejudge.org/external/6/674.pdf) | basic coin change problem | 12013 | | 0.0 |
| 00677 | [All Walks of length "n" fr...](https://onlinejudge.org/external/6/677.pdf) | print all solutions with backtracking | 1156 | | 0.0 |
| 00679 | [Dropping Balls](https://onlinejudge.org/external/6/679.pdf) | binary search; bit manipulation solutions exist | 4227 | | 0.0 |
| 00681 | [Convex Hull Finding](https://onlinejudge.org/external/6/681.pdf) | CH; with output formatting | 2087 | | 0.0 |
| 00684 | [Integral Determinant](https://onlinejudge.org/external/6/684.pdf) | modified Gaussian elimination to find (integral) determinant of a square matrix | 350 | | 0.0 |
| 00686 | [Goldbach's Conjecture (II)](https://onlinejudge.org/external/6/686.pdf) | similar to UVa 543; 10311; and 10948 | 9407 | | 0.0 |
| 00688 | [Mobile Phone Coverage](https://onlinejudge.org/external/6/688.pdf) | brute force; chop the region into small rectangles and decide if a small rectangle is covered by an antenna or not; if it is; add the area of that small rectangle to the answer | 745 | | 0.0 |
| 00694 | [The Collatz Sequence](https://onlinejudge.org/external/6/694.pdf) | similar to UVa 100 | 10901 | | 0.0 |
| 00696 | [How Many Knights](https://onlinejudge.org/external/6/696.pdf) | ad hoc; chess | 3374 | | 0.0 |
| 00697 | [Jack and Jill](https://onlinejudge.org/external/6/697.pdf) | output formatting and basic Physics | 228 | | 0.0 |
| 00699 | [The Falling Leaves](https://onlinejudge.org/external/6/699.pdf) | preorder traversal | 2730 | | 0.0 |
| 00700 | [Date Bugs](https://onlinejudge.org/external/7/700.pdf) | can be solved with bitset | 1452 | | 0.0 |
| 00701 | [The Archeologists' Dilemma](https://onlinejudge.org/external/7/701.pdf) | use log to count number of digits | 2297 | | 0.0 |
| 00702 | [The Vindictive Coach](https://onlinejudge.org/external/7/702.pdf) | s: (n\_above, n\_below, go\_up) | 558 | | 0.0 |
| 00703 | [Triple Ties: The Organizer...](https://onlinejudge.org/external/7/703.pdf) | 3 nested loops | 829 | | 0.0 |
| 00704 | [Colour Hash](https://onlinejudge.org/external/7/704.pdf) | state-space search; use meet-in-the-middle to bring down 4^16 to 2\*4^8 | 900 | | 0.0 |
| 00705 | [Slash Maze](https://onlinejudge.org/external/7/705.pdf) | build the implicit graph first | 1689 | | 0.0 |
| 00706 | [LC-Display](https://onlinejudge.org/external/7/706.pdf) | like in old digital display | 8220 | | 0.0 |
| 00707 | [Robbery](https://onlinejudge.org/external/7/707.pdf) | this requires 3D array; but as there is no such category; it is classified here | 420 | | 0.0 |
| 00710 | [The Game](https://onlinejudge.org/external/7/710.pdf) | backtracking with memoization/pruning | 492 | | 0.0 |
| 00711 | [Dividing up](https://onlinejudge.org/external/7/711.pdf) | backtracking with pruning | 952 | | 0.0 |
| 00712 | [S-Trees](https://onlinejudge.org/external/7/712.pdf) | simple binary tree traversal variant | 2207 | | 0.0 |
| 00713 | [Adding Reversed Numbers](https://onlinejudge.org/external/7/713.pdf) | BigInteger StringBuffer reverse() | 7208 | | 0.0 |
| 00714 | [Copying Books](https://onlinejudge.org/external/7/714.pdf) | binary search the answer and greedy | 2662 | | 0.0 |
| 00719 | [Glass Beads](https://onlinejudge.org/external/7/719.pdf) | min lexicographic rotation; O(n log n) build SA | 1197 | | 0.0 |
| 00721 | [Invitation Cards](https://onlinejudge.org/external/7/721.pdf) | essentially this problem is just about SSSP from vertex 1 to all vertices and SDestinationSP from all vertices to vertex 1 by reversing the edges | 430 | | 0.0 |
| 00722 | [Lakes](https://onlinejudge.org/external/7/722.pdf) | count the size of CCs | 736 | | 0.0 |
| 00725 | [Division](https://onlinejudge.org/external/7/725.pdf) | try all possible answers | 5563 | | 0.0 |
| 00726 | [Decode](https://onlinejudge.org/external/7/726.pdf) | frequency cypher | 310 | | 0.0 |
| 00727 | [Equation](https://onlinejudge.org/external/7/727.pdf) | Infix to Postfix conversion problem | 2916 | | 0.0 |
| 00729 | [The Hamming Distance Probl...](https://onlinejudge.org/external/7/729.pdf) | generate all possible bit strings | 4758 | | 0.0 |
| 00732 | [Anagrams by Stack](https://onlinejudge.org/external/7/732.pdf) | use stack to simulate the process | 1440 | | 0.0 |
| 00735 | [Dart-a-Mania](https://onlinejudge.org/external/7/735.pdf) | 3 nested loops; then count | 1224 | | 0.0 |
| 00736 | [Lost in Space](https://onlinejudge.org/external/7/736.pdf) | 2D grid; a bit modified | 223 | | 0.0 |
| 00737 | [Gleaming the Cubes](https://onlinejudge.org/external/7/737.pdf) | cube and cube intersection | 1215 | | 0.0 |
| 00739 | [Soundex Indexing](https://onlinejudge.org/external/7/739.pdf) | straightforward conversion problem | 2758 | | 0.0 |
| 00740 | [Baudot Data Communication ...](https://onlinejudge.org/external/7/740.pdf) | just simulate the process | 2113 | | 0.0 |
| 00741 | [Burrows Wheeler Decoder](https://onlinejudge.org/external/7/741.pdf) | simulate the process | 652 | | 0.0 |
| 00743 | [The MTM Machine](https://onlinejudge.org/external/7/743.pdf) | recursive grammar check | 593 | | 0.0 |
| 00748 | [Exponentiation](https://onlinejudge.org/external/7/748.pdf) | BigInteger exponentiation | 3595 | | 0.0 |
| 00750 | [8 Queens Chess Problem](https://onlinejudge.org/external/7/750.pdf) | classic backtracking problem; only 92 possible 8-queens positions | 4561 | | 0.0 |
| 00753 | [A Plug for UNIX](https://onlinejudge.org/external/7/753.pdf) | initially a non standard matching problem but this problem can be reduced to a simple MCBM problem | 1082 | | 0.0 |
| 00755 | [487--3279](https://onlinejudge.org/external/7/755.pdf) | Direct Addressing Table; convert the letters except Q and Z to 2-9; keep 0-9 as 0-9; sort the integers; find duplicates if any | 3215 | | 0.0 |
| 00756 | [Biorhythms](https://onlinejudge.org/external/7/756.pdf) | CRT or brute force | 1103 | | 0.0 |
| 00757 | [Gone Fishing](https://onlinejudge.org/external/7/757.pdf) | s: (lake\_id, time\_left); this time\_left is best left as multiple of 5 minutes; output the optimal solution too | 553 | | 0.0 |
| 00758 | [The Same Game](https://onlinejudge.org/external/7/758.pdf) | floodfill | 320 | | 0.0 |
| 00759 | [The Return of the Roman Em...](https://onlinejudge.org/external/7/759.pdf) | validation problem | 529 | | 0.0 |
| 00760 | [DNA Sequencing](https://onlinejudge.org/external/7/760.pdf) | Longest Common Substring of two strings | 1226 | | 0.0 |
| 00762 | [We Ship Cheap](https://onlinejudge.org/external/7/762.pdf) | simple SSSP solvable with BFS; use mapper | 2849 | | 0.0 |
| 00763 | [Fibinary Numbers](https://onlinejudge.org/external/7/763.pdf) | Zeckendorf representation; greedy; Big Integer | 1570 | | 0.0 |
| 00775 | [Hamiltonian Cycle](https://onlinejudge.org/external/7/775.pdf) | backtracking suffices as the search space is small; it is more likely to have a HAMILTONIAN-TOUR in a dense graph, so we can prune early | 457 | | 0.0 |
| 00776 | [Monkeys in a Regular Fores...](https://onlinejudge.org/external/7/776.pdf) | label CCs with indices; format output | 1042 | | 0.0 |
| 00782 | [Contour Painting](https://onlinejudge.org/external/7/782.pdf) | replace spaces with hexes in the grid; similar to UVa 784 and 785 | 674 | | 0.0 |
| 00784 | [Maze Exploration](https://onlinejudge.org/external/7/784.pdf) | similar to UVa 782 and 785 | 3857 | | 0.0 |
| 00785 | [Grid Colouring](https://onlinejudge.org/external/7/785.pdf) | similar to UVa 782 and 784 | 1868 | | 0.0 |
| 00787 | [Maximum Sub-sequence Produ...](https://onlinejudge.org/external/7/787.pdf) | max 1D range product; be careful with 0; use Java BigInteger | 2057 | | 0.0 |
| 00790 | [Head Judge Headache](https://onlinejudge.org/external/7/790.pdf) | multi-fields sorting; use sort; similar to UVa 10258 | 295 | | 0.0 |
| 00793 | [Network Connections](https://onlinejudge.org/external/7/793.pdf) | trivial; application of disjoint sets | 5781 | | 0.0 |
| 00795 | [Sandorf's Cipher](https://onlinejudge.org/external/7/795.pdf) | prepare an 'inverse mapper' | 288 | | 0.0 |
| 00796 | [Critical Links](https://onlinejudge.org/external/7/796.pdf) | finding bridges | 3360 | | 0.0 |
| 00808 | [Bee Breeding](https://onlinejudge.org/external/8/808.pdf) | grid; similar to UVa 10182 | 1016 | | 0.0 |
| 00811 | [The Fortified Forest](https://onlinejudge.org/external/8/811.pdf) | LA 5211 - WorldFinals Eindhoven99; get CH and perimeter of polygon; generate all subsets iteratively with bitmask | 520 | | 0.0 |
| 00812 | [Trade on Verweggistan](https://onlinejudge.org/external/8/812.pdf) | LA 5212 - WorldFinals Eindhoven99; mix between greedy and DP | 843 | | 0.0 |
| 00815 | [Flooded!](https://onlinejudge.org/external/8/815.pdf) | LA 5215 - WorldFinals Eindhoven99; volume; greedy | 1345 | | 0.0 |
| 00816 | [Abbott's Revenge](https://onlinejudge.org/external/8/816.pdf) | LA 5216 - WorldFinals Orlando00; build the graph; then run BFS with state s: (row; col; dir) | 1010 | | 0.0 |
| 00820 | [Internet Bandwidth](https://onlinejudge.org/external/8/820.pdf) | LA 5220 - WorldFinals Orlando00; very basic max flow problem | 5132 | | 0.0 |
| 00821 | [Page Hopping](https://onlinejudge.org/external/8/821.pdf) | LA 5221 - WorldFinals Orlando00; one of the easiest ICPC WorldFinals problem | 4770 | | 0.0 |
| 00824 | [Coast Tracker](https://onlinejudge.org/external/8/824.pdf) | traversal on implicit graph | 617 | | 0.0 |
| 00825 | [Walking on the Safe Side](https://onlinejudge.org/external/8/825.pdf) | counting paths in grid (implicit DAG); DP; similar to UVa 00926 and 11067 | 2445 | | 0.0 |
| 00830 | [Shark](https://onlinejudge.org/external/8/830.pdf) | very hard to get AC; one minor error = WA; not recommended | 227 | | 0.0 |
| 00833 | [Water Falls](https://onlinejudge.org/external/8/833.pdf) | recursive check; use the ccw tests | 993 | | 0.0 |
| 00834 | [Continued Fractions](https://onlinejudge.org/external/8/834.pdf) | do as asked | 5657 | | 0.0 |
| 00836 | [Largest Submatrix](https://onlinejudge.org/external/8/836.pdf) | convert '0' to -INF | 3294 | | 0.0 |
| 00837 | [Light and Transparencies](https://onlinejudge.org/external/8/837.pdf) | line segments; sort x-coords first | 1249 | | 0.0 |
| 00839 | [Not so Mobile](https://onlinejudge.org/external/8/839.pdf) | can be viewed as a recursive problem on tree | 2666 | | 0.0 |
| 00840 | [Deadlock Detection](https://onlinejudge.org/external/8/840.pdf) | a simple problem to detect cycle in a graph; however the output format is not clearly specified | 140 | | 0.0 |
| 00843 | [Crypt Kicker](https://onlinejudge.org/external/8/843.pdf) | backtracking; try mapping each letter to another letter in alphabet; use Trie data structure for speed up | 1561 | | 0.0 |
| 00846 | [Steps](https://onlinejudge.org/external/8/846.pdf) | uses the sum of arithmetic progression formula | 5779 | | 0.0 |
| 00847 | [A Multiplication Game](https://onlinejudge.org/external/8/847.pdf) | simulate the perfect play; also available at Kattis - amultiplicationgame | 5612 | | 0.0 |
| 00848 | [Fmt](https://onlinejudge.org/external/8/848.pdf) | tedious string processing | 395 | | 0.0 |
| 00850 | [Crypt Kicker II](https://onlinejudge.org/external/8/850.pdf) | plaintext attack; tricky test cases | 2108 | | 0.0 |
| 00852 | [Deciding victory in Go](https://onlinejudge.org/external/8/852.pdf) | interesting board game 'Go' | 997 | | 0.0 |
| 00855 | [Lunch in Grid City](https://onlinejudge.org/external/8/855.pdf) | sort; median | 1839 | | 0.0 |
| 00856 | [The Vigenère Cipher](https://onlinejudge.org/external/8/856.pdf) | 3 nested loops; one for each digit | 268 | | 0.0 |
| 00857 | [Quantiser](https://onlinejudge.org/external/8/857.pdf) | MIDI; application in computer music | 229 | | 0.0 |
| 00858 | [Berry Picking](https://onlinejudge.org/external/8/858.pdf) | vertical line and polygon intersection; sort; alternating segments | 379 | | 0.0 |
| 00859 | [Chinese Checkers](https://onlinejudge.org/external/8/859.pdf) | BFS | 171 | | 0.0 |
| 00860 | [Entropy Text Analyzer](https://onlinejudge.org/external/8/860.pdf) | frequency counting | 495 | | 0.0 |
| 00861 | [Little Bishops](https://onlinejudge.org/external/8/861.pdf) | backtracking with pruning as in 8-queens recursive backtracking solution; then pre-calculate the results | 2161 | | 0.0 |
| 00865 | [Substitution Cypher](https://onlinejudge.org/external/8/865.pdf) | simple character substitution mapping | 1072 | | 0.0 |
| 00866 | [Intersecting Line Segments](https://onlinejudge.org/external/8/866.pdf) | use line segment intersection library; O(n^2) solution can pass | 754 | | 0.0 |
| 00868 | [Numerical Maze](https://onlinejudge.org/external/8/868.pdf) | backtracking from row 1 to N; 4 choices per step; some constraints | 339 | | 0.0 |
| 00869 | [Airline Comparison](https://onlinejudge.org/external/8/869.pdf) | run Warshall's 2x on different graph; compare the two Adjacency Matrices | 863 | | 0.0 |
| 00871 | [Counting Cells in a Blob](https://onlinejudge.org/external/8/871.pdf) | find the largest CC size | 2168 | | 0.0 |
| 00872 | [Ordering](https://onlinejudge.org/external/8/872.pdf) | similar to UVa 00124; use backtracking | 1792 | | 0.0 |
| 00880 | [Cantor Fractions](https://onlinejudge.org/external/8/880.pdf) | grid; similar to UVa 264 | 1652 | | 0.0 |
| 00882 | [The Mailbox Manufacturers ...](https://onlinejudge.org/external/8/882.pdf) | s: (lo, hi, mailbox\_left); try all; also available at Kattis - mailbox | 594 | | 0.0 |
| 00884 | [Factorial Factors](https://onlinejudge.org/external/8/884.pdf) | numPF(N); precalculate | 2531 | | 0.0 |
| 00886 | [Named Extension Dialing](https://onlinejudge.org/external/8/886.pdf) | convert first letter of given name and all the letters of the surname into digits; special string matching where we want the matching to start at the prefix of a string | 136 | | 0.0 |
| 00890 | [Maze (II)](https://onlinejudge.org/external/8/890.pdf) | simulation; follow the steps; tedious | 73 | | 0.0 |
| 00892 | [Finding words](https://onlinejudge.org/external/8/892.pdf) | basic string processing problem | 633 | | 0.0 |
| 00893 | [Y3K Problem](https://onlinejudge.org/external/8/893.pdf) | use Java GregorianCalendar; similar to UVa 11356 | 1581 | | 0.0 |
| 00895 | [Word Problem](https://onlinejudge.org/external/8/895.pdf) | get the letter frequency of each word; compare with puzzle line | 1891 | | 0.0 |
| 00897 | [Anagrammatic Primes](https://onlinejudge.org/external/8/897.pdf) | sieve; just need to check digit rotations | 1211 | | 0.0 |
| 00900 | [Brick Wall Patterns](https://onlinejudge.org/external/9/900.pdf) | combinatorics; the pattern ~ Fibonacci | 8410 | | 0.0 |
| 00902 | [Password Search](https://onlinejudge.org/external/9/902.pdf) | read char by char; count word freq | 2719 | | 0.0 |
| 00906 | [Rational Neighbor](https://onlinejudge.org/external/9/906.pdf) | compute c from d = 1 until a/b < c/d | 400 | | 0.0 |
| 00907 | [Winterim Backpacking Trip](https://onlinejudge.org/external/9/907.pdf) | s: (pos; night\_left) | 863 | | 0.0 |
| 00908 | [Re-connecting Computer Sit...](https://onlinejudge.org/external/9/908.pdf) | basic MST problem | 2544 | | 0.0 |
| 00910 | [TV game](https://onlinejudge.org/external/9/910.pdf) | s: (pos; move\_left) | 647 | | 0.0 |
| 00911 | [Multinomial Coefficients](https://onlinejudge.org/external/9/911.pdf) | there is a formula for this: result = n! / (z\_1! \* z\_2! \* z\_3! \* ... \* z\_k!$) | 367 | | 0.0 |
| 00912 | [Live From Mars](https://onlinejudge.org/external/9/912.pdf) | simulation; find and replace | 167 | | 0.0 |
| 00913 | [Joana and the Odd Numbers](https://onlinejudge.org/external/9/913.pdf) | derive the short formulas | 7949 | | 0.0 |
| 00914 | [Jumping Champion](https://onlinejudge.org/external/9/914.pdf) | sieve; be careful with L and U < 2 | 1729 | | 0.0 |
| 00918 | [ASCII Mandelbrot](https://onlinejudge.org/external/9/918.pdf) | tedious; follow the steps | 134 | | 0.0 |
| 00920 | [Sunny Mountains](https://onlinejudge.org/external/9/920.pdf) | Euclidean dist | 1930 | | 0.0 |
| 00922 | [Rectangle by the Ocean](https://onlinejudge.org/external/9/922.pdf) | compute the area of the polygon; define a rectangle with every pair of points; use set to see if a third point of the rectangle is on the polygon; keep the current best | 84 | | 0.0 |
| 00924 | [Spreading The News](https://onlinejudge.org/external/9/924.pdf) | the spread is like BFS traversal | 3164 | | 0.0 |
| 00925 | [No more prerequisites, ple...](https://onlinejudge.org/external/9/925.pdf) | transitive closure | 283 | | 0.0 |
| 00926 | [Walking Around Wisely](https://onlinejudge.org/external/9/926.pdf) | counting paths in grid (implicit DAG); DP; similar to UVa 825 and 11067 | 698 | | 0.0 |
| 00927 | [Integer Sequences from Add...](https://onlinejudge.org/external/9/927.pdf) | use sum of arithmetic series | 1786 | | 0.0 |
| 00928 | [Eternal Truths](https://onlinejudge.org/external/9/928.pdf) | s: (row; col; direction; step) | 596 | | 0.0 |
| 00929 | [Number Maze](https://onlinejudge.org/external/9/929.pdf) | on a 2D maze/implicit graph | 3041 | | 0.0 |
| 00930 | [Polynomial Roots](https://onlinejudge.org/external/9/930.pdf) | Ruffini's rule; roots of quadratic eq | 83 | | 0.0 |
| 00939 | [Genes](https://onlinejudge.org/external/9/939.pdf) | map child name to his/her gene and parents' names | 362 | | 0.0 |
| 00941 | [Permutations](https://onlinejudge.org/external/9/941.pdf) | formula to get the n-th permutation | 1637 | | 0.0 |
| 00942 | [Cyclic Numbers](https://onlinejudge.org/external/9/942.pdf) | similar to UVa 202 | 53 | | 0.0 |
| 00943 | [Number Format Translator](https://onlinejudge.org/external/9/943.pdf) | the Portuguese rule is not given; use translation service in the Internet to help you solve this problem | 12 | | 0.0 |
| 00944 | [Happy Numbers](https://onlinejudge.org/external/9/944.pdf) | similar to UVa 10591 | 840 | | 0.0 |
| 00945 | [Loading a Cargo Ship](https://onlinejudge.org/external/9/945.pdf) | simulate the given cargo loading process | 98 | | 0.0 |
| 00946 | [A Pile of Boxes](https://onlinejudge.org/external/9/946.pdf) | just 1D array manipulation; be careful with the special restriction | 140 | | 0.0 |
| 00947 | [Master Mind Helper](https://onlinejudge.org/external/9/947.pdf) | similar to UVa 340 | 212 | | 0.0 |
| 00948 | [Fibonaccimal Base](https://onlinejudge.org/external/9/948.pdf) | Zeckendorf representation; greedy | 2346 | | 0.0 |
| 00949 | [Getaway](https://onlinejudge.org/external/9/949.pdf) | interesting graph data structure twist | 168 | | 0.0 |
| 00957 | [Popes](https://onlinejudge.org/external/9/957.pdf) | complete search binary search: upper\_bound | 1338 | | 0.0 |
| 00960 | [Gaussian Primes](https://onlinejudge.org/external/9/960.pdf) | there is a number theory behind this | 225 | | 0.0 |
| 00962 | [Taxicab Numbers](https://onlinejudge.org/external/9/962.pdf) | pre-calculate the answer | 480 | | 0.0 |
| 00967 | [Circular](https://onlinejudge.org/external/9/967.pdf) | similar to UVa 00897; but this time the output part can be speed up using DP 1D range sum | 980 | | 0.0 |
| 00974 | [Kaprekar Numbers](https://onlinejudge.org/external/9/974.pdf) | there are not that many Kaprekar numbers | 1182 | | 0.0 |
| 00976 | [Bridge Building](https://onlinejudge.org/external/9/976.pdf) | flood fill to separate North and South banks; compute the cost of installing a bridge at each column; DP | 248 | | 0.0 |
| 00978 | [Lemmings Battle!](https://onlinejudge.org/external/9/978.pdf) | simulation; use multiset | 1800 | | 0.0 |
| 00983 | [Localized Summing for Blur...](https://onlinejudge.org/external/9/983.pdf) | max 2D range sum; get submatrix | 663 | | 0.0 |
| 00985 | [Round and Round Maze](https://onlinejudge.org/external/9/985.pdf) | 4 rotations is the same as 0 rotations; s: (row; col; rotation = [0..3]); find the shortest path from state [1][1][0] to state [R][C][x] where 0 <= x <= 3 | 348 | | 0.0 |
| 00986 | [How Many?](https://onlinejudge.org/external/9/986.pdf) | counting paths in DAG; DP; s: (x; y; lastmove; peaksfound); t: try NE/SE | 371 | | 0.0 |
| 00988 | [Many Paths, One Destinatio...](https://onlinejudge.org/external/9/988.pdf) | counting paths in DAG; DP | 1069 | | 0.0 |
| 00989 | [Su Doku](https://onlinejudge.org/external/9/989.pdf) | classic SUDOKU puzzle; the small 9x9 instance is solvable with backtracking with pruning; use bitmask to speed up | 1087 | | 0.0 |
| 00990 | [Diving for Gold](https://onlinejudge.org/external/9/990.pdf) | print the solution | 2182 | | 0.0 |
| 00991 | [Safe Salutations](https://onlinejudge.org/external/9/991.pdf) | Catalan Numbers | 2197 | | 0.0 |
| 00993 | [Product of digits](https://onlinejudge.org/external/9/993.pdf) | find divisors from 9 down to 1; similar to UVa 10527 | 3442 | | 0.0 |
| 01013 | [Island Hopping](https://onlinejudge.org/external/10/1013.pdf) | LA 2478 - WorldFinals Honolulu02; very interesting MST variant | 148 | | 0.0 |
| 01025 | [A Spy in the Metro](https://onlinejudge.org/external/10/1025.pdf) | s: (station, cur\_t); t: stay until meeting time (if at station N), or either go to right or go to left using any of the available next train, pick the minimum | 701 | | 0.0 |
| 01039 | [Simplified GSM Network](https://onlinejudge.org/external/10/1039.pdf) | LA 3270 - WorldFinals Shanghai05; build the graph with simple geometry; then use Floyd-Warshall | 126 | | 0.0 |
| 01040 | [The Traveling Judges Probl...](https://onlinejudge.org/external/10/1040.pdf) | LA 3271 - WorldFinals Shanghai05; try all subsets of 2^20 cities; MST; complex output formatting | 118 | | 0.0 |
| 01045 | [The Great Wall Game](https://onlinejudge.org/external/10/1045.pdf) | LA 3276 - WorldFinals Shanghai05; try all configurations; weighted matching; pick the best; Kuhn-Munkres | 143 | | 0.0 |
| 01047 | [Zones](https://onlinejudge.org/external/10/1047.pdf) | LA 3278 - WorldFinals Shanghai05; try all 2^n subsets of towers to be taken; use inclusion-exclusion principle | 654 | | 0.0 |
| 01048 | [Low Cost Air Travel](https://onlinejudge.org/external/10/1048.pdf) | LA 3561 - WorldFinals SanAntonio06; tedious state-space search problem; use Dijkstra's | 118 | | 0.0 |
| 01052 | [Bit Compressor](https://onlinejudge.org/external/10/1052.pdf) | LA 3565 - WorldFinals SanAntonio06; backtracking with some form of bitmask | 112 | | 0.0 |
| 01056 | [Degrees of Separation](https://onlinejudge.org/external/10/1056.pdf) | LA 3569 - WorldFinals SanAntonio06; finding diameter of a small graph with Floyd-Warshall | 1014 | | 0.0 |
| 01057 | [Routing](https://onlinejudge.org/external/10/1057.pdf) | LA 3570 - WorldFinals SanAntonio06; Floyd-Warshall; APSP; reduce to weighted SSSP problem; Dijkstra's | 87 | | 0.0 |
| 01061 | [Consanguine Calculations](https://onlinejudge.org/external/10/1061.pdf) | LA 3736 - WorldFinals Tokyo07; try all eight possible blood + Rh types with the information given | 459 | | 0.0 |
| 01062 | [Containers](https://onlinejudge.org/external/10/1062.pdf) | LA 3752 - WorldFinals Tokyo07; simulation with stack; maximum answer is 26 stacks; O(n) solution exists | 1701 | | 0.0 |
| 01064 | [Network](https://onlinejudge.org/external/10/1064.pdf) | LA 3808 - WorldFinals Tokyo07; permutation of up to 5 messages; simulation; mind the word 'consecutive' | 162 | | 0.0 |
| 01069 | [Always an integer](https://onlinejudge.org/external/10/1069.pdf) | LA 4119 - WorldFinals Banff08; string parsing, divisibility of polynomial, brute force, and modPow | 217 | | 0.0 |
| 01076 | [Password Suspects](https://onlinejudge.org/external/10/1076.pdf) | LA 4126 - WorldFinals Banff08; preprocess the strings; challenging DP bitmask; output up to 42 possible solutions | 103 | | 0.0 |
| 01079 | [A Careful Approach](https://onlinejudge.org/external/10/1079.pdf) | LA 4445 - WorldFinals Stockholm09; iterative complete search (permutation); BSTA + greedy | 270 | | 0.0 |
| 01086 | [The Ministers' Major Mess](https://onlinejudge.org/external/10/1086.pdf) | LA 4452 - WorldFinals Stockholm09; can be modeled as a 2-SAT problem | 116 | | 0.0 |
| 01091 | [Barcodes](https://onlinejudge.org/external/10/1091.pdf) | LA 4786 - WorldFinals Harbin10; tedious simulation and reading comprehension | 133 | | 0.0 |
| 01092 | [Tracking Bio-bots](https://onlinejudge.org/external/10/1092.pdf) | LA 4787 - WorldFinals Harbin10; compress graph; traversal from exit with S/W direction; inclusion-exclusion | 159 | | 0.0 |
| 01093 | [Castles](https://onlinejudge.org/external/10/1093.pdf) | LA 4788 - WorldFinals Harbin10; try all possible roots; DP on tree | 113 | | 0.0 |
| 01096 | [The Islands](https://onlinejudge.org/external/10/1096.pdf) | LA 4791 - WorldFinals Harbin10; Bitonic TSP variant; print the actual path | 236 | | 0.0 |
| 01098 | [Robots on Ice](https://onlinejudge.org/external/10/1098.pdf) | LA 4793 - WorldFinals Harbin10; HAMILTONIAN-TOUR; backtracking+pruning; meet in the middle | 251 | | 0.0 |
| 01099 | [Sharing Chocolate](https://onlinejudge.org/external/10/1099.pdf) | LA 4794 - WorldFinals Harbin10; s: (w; bitmask); recover parameter value h | 538 | | 0.0 |
| 01103 | [Ancient Messages](https://onlinejudge.org/external/11/1103.pdf) | LA 5130 - WorldFinals Orlando11; major hint: each hieroglyph has unique number of white CCs | 1179 | | 0.0 |
| 01105 | [Coffee Central](https://onlinejudge.org/external/11/1105.pdf) | LA 5132 - WorldFinals Orlando11; more advanced 2D Range Sum Queries | 121 | | 0.0 |
| 01111 | [Trash Removal](https://onlinejudge.org/external/11/1111.pdf) | LA 5138 - WorldFinals Orlando11; CH; output minimax distance of each CH side to the other vertices | 545 | | 0.0 |
| 01112 | [Mice and Maze](https://onlinejudge.org/external/11/1112.pdf) | LA 2425 - SouthwesternEurope01; SDSP | 2139 | | 0.0 |
| 01121 | [Subsequence](https://onlinejudge.org/external/11/1121.pdf) | LA 2678 - SouthEasternEurope06; sliding window variant | 1422 | | 0.0 |
| 01124 | [Celebrity jeopardy](https://onlinejudge.org/external/11/1124.pdf) | LA 2681 - SouthEasternEurope06; just echo/re-print the input again | 11430 | | 0.0 |
| 01148 | [The mysterious X network](https://onlinejudge.org/external/11/1148.pdf) | LA 3502 - SouthWesternEurope05; single source single target shortest path problem but exclude endpoints | 595 | | 0.0 |
| 01153 | [Keep the Customer Satisfie...](https://onlinejudge.org/external/11/1153.pdf) | greedy; priority queue | 220 | | 0.0 |
| 01160 | [X-Plosives](https://onlinejudge.org/external/11/1160.pdf) | LA 3644 - SouthWesternEurope06; count the number of edges not taken by Kruskal's | 987 | | 0.0 |
| 01172 | [The Bridges of Kolsberg](https://onlinejudge.org/external/11/1172.pdf) | LA 3986 - SouthWesternEurope07; weighted bipartite matching with additional constraints | 485 | | 0.0 |
| 01174 | [IP-TV](https://onlinejudge.org/external/11/1174.pdf) | LA 3988 - SouthWesternEurope07; classic MST; just need a mapper to map city names to indices | 1056 | | 0.0 |
| 01176 | [A Benevolent Josephus](https://onlinejudge.org/external/11/1176.pdf) | LA 2346 - Dhaka01; special case when k = 2; use Josephus recurrence; simulation | 74 | | 0.0 |
| 01180 | [Perfect Numbers](https://onlinejudge.org/external/11/1180.pdf) | LA 2350 - Dhaka01; small prime check | 683 | | 0.0 |
| 01184 | [Air Raid](https://onlinejudge.org/external/11/1184.pdf) | LA 2696 - Dhaka02; MPC on DAG ~ MCBM | 207 | | 0.0 |
| 01185 | [Big Number](https://onlinejudge.org/external/11/1185.pdf) | LA 2697 - Dhaka02; number of digits of factorial; use logarithm to solve it; log(n!) = log(n \* (n-1) \* ... \* 1) = log(n) plus log(n-1) plus ... plus log(1) | 1273 | | 0.0 |
| 01192 | [Searching Sequence Databas...](https://onlinejudge.org/external/11/1192.pdf) | LA2460 - Singapore01; classic String Alignment DP problem with a bit of (unclear) output formatting | 20 | | 0.0 |
| 01193 | [Radar Installation](https://onlinejudge.org/external/11/1193.pdf) | LA 2519 - Beijing02; interval covering | 389 | | 0.0 |
| 01194 | [Machine Schedule](https://onlinejudge.org/external/11/1194.pdf) | LA 2523 - Beijing02; Min Vertex Cover/MVC | 326 | | 0.0 |
| 01195 | [Calling Extraterrestrial I...](https://onlinejudge.org/external/11/1195.pdf) | LA 2565 - Kanazawa02; use sieve to generate the list of primes; brute force each prime p; and use binary search to find the corresponding pair q | 180 | | 0.0 |
| 01196 | [Tiling Up Blocks](https://onlinejudge.org/external/11/1196.pdf) | LA 2815 - Kaohsiung03; sort all the blocks in increasing L[i]; then we get the classical LIS problem | 606 | | 0.0 |
| 01197 | [The Suspects](https://onlinejudge.org/external/11/1197.pdf) | LA 2817 - Kaohsiung03; Connected Components | 1303 | | 0.0 |
| 01198 | [The Geodetic Set Problem](https://onlinejudge.org/external/11/1198.pdf) | LA 2818 - Kaohsiung03; transitive closure | 149 | | 0.0 |
| 01200 | [A DP Problem](https://onlinejudge.org/external/12/1200.pdf) | LA 2972 - Tehran03; tokenize input | 387 | | 0.0 |
| 01201 | [Taxi Cab Scheme](https://onlinejudge.org/external/12/1201.pdf) | LA 3126 - NorthwesternEurope04; MPC on DAG; also available at Kattis - taxicab | 255 | | 0.0 |
| 01202 | [Finding Nemo](https://onlinejudge.org/external/12/1202.pdf) | LA 3133 - Beijing04; SSSP; Dijkstra's on a grid: treat each cell as a vertex; the idea is simple but one should be careful with the implementation | 143 | | 0.0 |
| 01203 | [Argus](https://onlinejudge.org/external/12/1203.pdf) | LA 3135 - Beijing04; use priority\_queue | 2792 | | 0.0 |
| 01206 | [Boundary Points](https://onlinejudge.org/external/12/1206.pdf) | LA 3169 - Manila06; CH; input is formatted in complex manner | 147 | | 0.0 |
| 01207 | [AGTC](https://onlinejudge.org/external/12/1207.pdf) | LA 3170 - Manila06; classical String Edit problem | 685 | | 0.0 |
| 01208 | [Oreon](https://onlinejudge.org/external/12/1208.pdf) | LA 3171 - Manila06; MST | 793 | | 0.0 |
| 01209 | [Wordfish](https://onlinejudge.org/external/12/1209.pdf) | LA 3173 - Manila06; STL next and prev\_permutation | 422 | | 0.0 |
| 01210 | [Sum of Consecutive Prime N...](https://onlinejudge.org/external/12/1210.pdf) | LA 3399 - Tokyo05; simple | 1585 | | 0.0 |
| 01211 | [Atomic Car Race](https://onlinejudge.org/external/12/1211.pdf) | LA 3404 - Tokyo05; precompute T[L], the time to run a path of length L; s: (i) - checkpoint i is we change tire | 244 | | 0.0 |
| 01212 | [Duopoly](https://onlinejudge.org/external/12/1212.pdf) | LA 3483 - Hangzhou05; MWIS on Bipartite Graph | 57 | | 0.0 |
| 01213 | [Sum of Different Primes](https://onlinejudge.org/external/12/1213.pdf) | LA 3619 - Yokohama06; extension of 0-1 KNAPSACK; s: (id, remN, remK) instead of s: (id, remN) | 1512 | | 0.0 |
| 01215 | [String Cutting](https://onlinejudge.org/external/12/1215.pdf) | LA 3669 - Hanoi06 | 181 | | 0.0 |
| 01216 | [The Bug Sensor Problem](https://onlinejudge.org/external/12/1216.pdf) | LA 3678 - Kaohsiung06; minimum 'spanning forest' | 370 | | 0.0 |
| 01217 | [Route Planning](https://onlinejudge.org/external/12/1217.pdf) | LA 3681 - Kaohsiung06; TSP-like optimization problem; which is NP-Hard; solvable with A\*/IDA\* | 56 | | 0.0 |
| 01219 | [Team Arrangement](https://onlinejudge.org/external/12/1219.pdf) | LA 3791 - Tehran06 | 85 | | 0.0 |
| 01220 | [Party at Hali-Bula](https://onlinejudge.org/external/12/1220.pdf) | LA 3794 - Tehran06; Maximum Independent Set (MIS) problem on tree; DP; also check if the MIS is unique | 581 | | 0.0 |
| 01221 | [Against Mammoths](https://onlinejudge.org/external/12/1221.pdf) | LA 3795 - Tehran06; +MCBM | 63 | | 0.0 |
| 01222 | [Bribing FIPA](https://onlinejudge.org/external/12/1222.pdf) | LA 3797 - Tehran06; DP on Tree | 109 | | 0.0 |
| 01223 | [Editor](https://onlinejudge.org/external/12/1223.pdf) | LA 3901 - Seoul07; Longest Repeated Substring (or KMP) | 459 | | 0.0 |
| 01224 | [Tile Code](https://onlinejudge.org/external/12/1224.pdf) | LA 3904 - Seoul07; derive formula from observing the small instances first | 163 | | 0.0 |
| 01225 | [Digit Counting](https://onlinejudge.org/external/12/1225.pdf) | LA 3996 - Danang07; N is small | 8523 | | 0.0 |
| 01226 | [Numerical surprises](https://onlinejudge.org/external/12/1226.pdf) | LA 3997 - Danang07; mod operation | 776 | | 0.0 |
| 01229 | [Sub-dictionary](https://onlinejudge.org/external/12/1229.pdf) | LA 4099 - Iran07; identify the SCC of the graph; these vertices and the vertices that have path towards them are the answers of the question | 234 | | 0.0 |
| 01230 | [MODEX](https://onlinejudge.org/external/12/1230.pdf) | LA 4104 - Singapore07; modPow | 2073 | | 0.0 |
| 01231 | [ACORN](https://onlinejudge.org/external/12/1231.pdf) | LA 4106 - Singapore07; dimension reduction | 464 | | 0.0 |
| 01232 | [SKYLINE](https://onlinejudge.org/external/12/1232.pdf) | LA 4108 - Singapore07; we have to use a Segment Tree; note that this problem is not about RSQ/RMQ | 426 | | 0.0 |
| 01233 | [USHER](https://onlinejudge.org/external/12/1233.pdf) | LA 4109 - Singapore07; Floyd-Warshall can be used to find the minimum cost cycle in the graph | 139 | | 0.0 |
| 01234 | [RACING](https://onlinejudge.org/external/12/1234.pdf) | LA 4110 - Singapore07; 'maximum' spanning tree | 658 | | 0.0 |
| 01235 | [Anti Brute Force Lock](https://onlinejudge.org/external/12/1235.pdf) | LA 4138 - Jakarta08; the underlying problem is MST | 976 | | 0.0 |
| 01237 | [Expert Enough?](https://onlinejudge.org/external/12/1237.pdf) | LA 4142 - Jakarta08; input is small | 2877 | | 0.0 |
| 01238 | [Free Parentheses](https://onlinejudge.org/external/12/1238.pdf) | LA 4143 - Jakarta08; offset technique | 297 | | 0.0 |
| 01239 | [Greatest K-Palindrome Subs...](https://onlinejudge.org/external/12/1239.pdf) | LA 4144 - Jakarta08; as S <= 1000; brute-force is enough; consider odd and even length palindromes | 187 | | 0.0 |
| 01240 | [ICPC Team Strategy](https://onlinejudge.org/external/12/1240.pdf) | LA 4146 - Jakarta08; a medium-level DP problem | 260 | | 0.0 |
| 01241 | [Jollybee Tournament](https://onlinejudge.org/external/12/1241.pdf) | LA 4147 - Jakarta08; easy | 562 | | 0.0 |
| 01242 | [Necklace](https://onlinejudge.org/external/12/1242.pdf) | LA 4271 - Hefei08; to have a necklace; we need to be able to two edge-disjoint s-t flows | 140 | | 0.0 |
| 01243 | [Polynomial-time Reductions](https://onlinejudge.org/external/12/1243.pdf) | LA 4272 - Hefei08; Warshall's transitive closure; SCC; transitive reduction of a directed graph | 55 | | 0.0 |
| 01244 | [Palindromic paths](https://onlinejudge.org/external/12/1244.pdf) | LA 4336 - Amritapuri08; store the best path between i; j; the DP table contains strings | 135 | | 0.0 |
| 01246 | [Find Terrorists](https://onlinejudge.org/external/12/1246.pdf) | LA 4340 - Amrita08; numDiv(N) | 533 | | 0.0 |
| 01247 | [Interstar Transport](https://onlinejudge.org/external/12/1247.pdf) | LA 4524 - Hsinchu09; Floyd-Warshall with modification: prefer shortest path with less intermediate vertices | 326 | | 0.0 |
| 01249 | [Euclid](https://onlinejudge.org/external/12/1249.pdf) | LA 4601 - SoutheastUSA09; vector | 201 | | 0.0 |
| 01250 | [Robot Challenge](https://onlinejudge.org/external/12/1250.pdf) | LA 4607 - SoutheastUSA09; geometry; SSSP on DAG -> DP; DP 1D range sum | 89 | | 0.0 |
| 01251 | [Repeated Substitution with...](https://onlinejudge.org/external/12/1251.pdf) | LA 4637 - Tokyo09 | 117 | | 0.0 |
| 01252 | [Twenty Questions](https://onlinejudge.org/external/12/1252.pdf) | LA 4643 - Tokyo09; DP, s: (mask1, mask2) where mask1/mask2 describes the features/answers, respectively | 405 | | 0.0 |
| 01253 | [Infected Land](https://onlinejudge.org/external/12/1253.pdf) | LA 4645 - Tokyo09; tedious state modeling | 75 | | 0.0 |
| 01254 | [Top 10](https://onlinejudge.org/external/12/1254.pdf) | LA 4657 - Jakarta09; Suffix Array with Segment Tree or Sparse Table; LCP range | 161 | | 0.0 |
| 01258 | [Nowhere Money](https://onlinejudge.org/external/12/1258.pdf) | LA 4721 - Phuket09; Fibonacci variant; Zeckendorf representation; greedy | 163 | | 0.0 |
| 01260 | [Sales](https://onlinejudge.org/external/12/1260.pdf) | LA 4843 - Daejeon10; check all | 2852 | | 0.0 |
| 01261 | [String Popping](https://onlinejudge.org/external/12/1261.pdf) | LA 4844 - Daejeon10; a simple backtracking problem; but we use a setÿto prevent the same state (a substring) from being checked twice | 536 | | 0.0 |
| 01262 | [Password](https://onlinejudge.org/external/12/1262.pdf) | LA 4845 - Daejeon10; sort grid columns; process common passwords in lexicographic order; skip two similar passwords | 798 | | 0.0 |
| 01263 | [Mines](https://onlinejudge.org/external/12/1263.pdf) | LA 4846 - Daejeon10; geometry; SCC; see two related problems: UVa 11504 and 11770 | 218 | | 0.0 |
| 01265 | [Tour Belt](https://onlinejudge.org/external/12/1265.pdf) | LA 4848 - Daejeon10; very interesting non-standard variant of 'maximum' spanning tree | 105 | | 0.0 |
| 01266 | [Magic Square](https://onlinejudge.org/external/12/1266.pdf) | LA 3478 - LatinAmerica05; follow the given construction strategy | 306 | | 0.0 |
| 01280 | [Curvy Little Bottles](https://onlinejudge.org/external/12/1280.pdf) | LA 6027 - WorldFinals Warsaw12; BSTA+geometric formula; also available at Kattis - bottles | 200 | | 0.0 |
| 01281 | [Bus Tour](https://onlinejudge.org/external/12/1281.pdf) | LA 6028 - WorldFinals Warsaw12; DP TSP variant; also available at Kattis - bustour | 97 | | 0.0 |
| 01304 | [Art Gallery](https://onlinejudge.org/external/13/1304.pdf) | LA 2512 - SouthEasternEurope02; cutPolygon and area of polygon | 54 | | 0.0 |
| 01315 | [Crazy tea party](https://onlinejudge.org/external/13/1315.pdf) | find the pattern; hint: odd indices | 204 | | 0.0 |
| 01329 | [Corporative Network](https://onlinejudge.org/external/13/1329.pdf) | LA 3027 - SouthEasternEurope04; interesting UFDS variant; modify the union and find routine | 440 | | 0.0 |
| 01339 | [Ancient Cipher](https://onlinejudge.org/external/13/1339.pdf) | count character frequencies of both strings; sort and compare | 1902 | | 0.0 |
| 01347 | [Tour](https://onlinejudge.org/external/13/1347.pdf) | LA 3305 - SoutheasternEurope05; this is the pure version of Bitonic TSP problem; you may want to start from here | 653 | | 0.0 |
| 01368 | [DNA Consensus String](https://onlinejudge.org/external/13/1368.pdf) | for each column j, find the highest frequency character among all j-th column of all m DNA strings | 1906 | | 0.0 |
| 01388 | [Graveyard](https://onlinejudge.org/external/13/1388.pdf) | LA 3708 - NortheasternEurope06; divide the circle into n sectors first and then into (n m) sectors | 711 | | 0.0 |
| 01449 | [Dominating Patterns](https://onlinejudge.org/external/14/1449.pdf) | LA 4670 - Hefei09; just use strstr; Suffix Array will get TLE as there are too many long strings to be processed | 405 | | 0.0 |
| 01513 | [Movie collection](https://onlinejudge.org/external/15/1513.pdf) | LA 5902 - NorthWesternEurope11; not stack but dynamic RSQ problem; use DAT (for mapping) and Fenwick Tree (for RSQ); also available at Kattis - moviecollection | 281 | | 0.0 |
| 01571 | [How I Mathematician Wonder...](https://onlinejudge.org/external/15/1571.pdf) | LA 3617 - Yokohama06; cutPolygon | 32 | | 0.0 |
| 01577 | [Low Power](https://onlinejudge.org/external/15/1577.pdf) | LA 6398 - WorldFinals StPetersburg13; BSTA+greedy; also available at Kattis - low | 146 | | 0.0 |
| 01583 | [Digit Generator](https://onlinejudge.org/external/15/1583.pdf) | N is small; prepare an array of size 100044; that is the largest possible digit sum for this problem | 2290 | | 0.0 |
| 01584 | [Circular Sequence](https://onlinejudge.org/external/15/1584.pdf) | LA 3225 - Seoul04; min lexicographic rotation; similar with UVa 00719; other solutions exist | 2074 | | 0.0 |
| 01585 | [Score](https://onlinejudge.org/external/15/1585.pdf) | LA 3354 - Seoul05; very easy one pass algorithm | 7120 | | 0.0 |
| 01586 | [Molar mass](https://onlinejudge.org/external/15/1586.pdf) | LA 3900 - Seoul07; basic Chemistry | 4102 | | 0.0 |
| 01588 | [Kickdown](https://onlinejudge.org/external/15/1588.pdf) | LA 3712 - NorthEasternEurope06; good iterative brute force problem; beware of corner cases | 1064 | | 0.0 |
| 01595 | [Symmetry](https://onlinejudge.org/external/15/1595.pdf) | use set to record the positions of all sorted points; check half of the points if the symmetries are in the set too? | 790 | | 0.0 |
| 01600 | [Patrol Robot](https://onlinejudge.org/external/16/1600.pdf) | LA 3670 - Hanoi06; s: (row; col; k\_left); reset k\_left to the original k as soon as the robot enters a non obstacle cell | 529 | | 0.0 |
| 01605 | [Building for UN](https://onlinejudge.org/external/16/1605.pdf) | LA 4044 - NortheasternEurope07; we can answer this problem with just h=2 levels | 395 | | 0.0 |
| 01610 | [Party Games](https://onlinejudge.org/external/16/1610.pdf) | LA 6196 - MidAtlanticUSA12; median | 307 | | 0.0 |
| 01636 | [Headshot](https://onlinejudge.org/external/16/1636.pdf) | LA 4596 - NorthEasternEurope09; ad hoc probability question, one tricky special case involving all zeroes | 407 | | 0.0 |
| 01641 | [ASCII Area](https://onlinejudge.org/external/16/1641.pdf) | scan row by row; flip the status of inside/outside polygon due to the presence of character slash or backslash | 234 | | 0.0 |
| 01644 | [Prime Gap](https://onlinejudge.org/external/16/1644.pdf) | LA 3883 - Tokyo07; sieve; prime check; upper bound - lower bound | 785 | | 0.0 |
| 01645 | [Count](https://onlinejudge.org/external/16/1645.pdf) | LA 6368 - Chengdu12; number of rooted trees with n vertices in which vertices at the same level have the same degree | 176 | | 0.0 |
| 01647 | [Computer Transformation](https://onlinejudge.org/external/16/1647.pdf) | find the simple pattern first using brute force; then precompute the answers using BigInteger | 161 | | 0.0 |
| 01709 | [Amalgamated Artichokes](https://onlinejudge.org/external/17/1709.pdf) | LA 7150 - WorldFinals Marrakech15; linear scan; probably one of the easiest WorldFinals problem; also available at Kattis - artichoke | 268 | | 0.0 |
| 01714 | [Keyboarding](https://onlinejudge.org/external/17/1714.pdf) | LA 7155 - WorldFinals Marrakech15; s: (row, col, char\_typed); also available at Kattis - keyboard | 53 | | 0.0 |
| 01721 | [Window Manager](https://onlinejudge.org/external/17/1721.pdf) | LA 7162 - WorldFinals Marrakech15; tedious simulation problem; also available at Kattis - windows | 6 | | 0.0 |
| 01738 | [Ceiling Function](https://onlinejudge.org/external/17/1738.pdf) | LA 7578 - WorldFinals Phuket16; BST insertion then tree equality check; also available at Kattis - ceiling | 70 | | 0.0 |
| 01753 | [Need for Speed](https://onlinejudge.org/external/17/1753.pdf) | LA 8043 - WorldFinals RapidCity17; BSTA + Physics; also available at Kattis - speed | 63 | | 0.0 |
| 01757 | [Secret Chamber at Mount Ru...](https://onlinejudge.org/external/17/1757.pdf) | LA 8047 - WorldFinals RapidCity17; Warshall's transitive closure; also available at Kattis - secretchamber | 67 | | 0.0 |
| 10000 | [Longest Paths](https://onlinejudge.org/external/100/10000.pdf) | longest paths on DAG; backtracking OK | 4765 | | 0.0 |
| 10001 | [Garden of Eden](https://onlinejudge.org/external/100/10001.pdf) | the upperbound of 2^32 is scary but with efficient pruning; we can pass the time limit as the test case is not extreme | 1050 | | 0.0 |
| 10002 | [Center of Masses](https://onlinejudge.org/external/100/10002.pdf) | centroid; center of CH; area of polygon | 1519 | | 0.0 |
| 10003 | [Cutting Sticks](https://onlinejudge.org/external/100/10003.pdf) | s: (l; r) | 10048 | | 0.0 |
| 10004 | [Bicoloring](https://onlinejudge.org/external/100/10004.pdf) | bipartite graph check | 15955 | | 0.0 |
| 10005 | [Packing polygons](https://onlinejudge.org/external/100/10005.pdf) | complete search; use circle2PtsRad | 1265 | | 0.0 |
| 10006 | [Carmichael Numbers](https://onlinejudge.org/external/100/10006.pdf) | non prime which has >= 3 prime factors | 7587 | | 0.0 |
| 10007 | [Count the Trees](https://onlinejudge.org/external/100/10007.pdf) | answer is Cat(n) \* n!; BigInteger | 2397 | | 0.0 |
| 10008 | [What's Cryptanalysis?](https://onlinejudge.org/external/100/10008.pdf) | A-Z keys | 13856 | | 0.0 |
| 10009 | [All Roads Lead Where?](https://onlinejudge.org/external/100/10009.pdf) | simple SSSP solvable with BFS | 3071 | | 0.0 |
| 10010 | [Where's Waldorf?](https://onlinejudge.org/external/100/10010.pdf) | 2D grid; backtracking | 7338 | | 0.0 |
| 10012 | [How Big Is It?](https://onlinejudge.org/external/100/10012.pdf) | try all 8! permutations; Euclidean dist | 1572 | | 0.0 |
| 10013 | [Super long sums](https://onlinejudge.org/external/100/10013.pdf) | BigInteger addition | 6220 | | 0.0 |
| 10014 | [Simple calculations](https://onlinejudge.org/external/100/10014.pdf) | derive the required formula | 2671 | | 0.0 |
| 10015 | [Joseph's Cousin](https://onlinejudge.org/external/100/10015.pdf) | modified Josephus; dynamic k; variant of UVa 305 | 1643 | | 0.0 |
| 10016 | [Flip-Flop the Squarelotron](https://onlinejudge.org/external/100/10016.pdf) | tedious | 887 | | 0.0 |
| 10017 | [The Never Ending Towers of...](https://onlinejudge.org/external/100/10017.pdf) | classical problem | 878 | | 0.0 |
| 10018 | [Reverse and Add](https://onlinejudge.org/external/100/10018.pdf) | generating palindrome with specific math simulation; very easy | 20602 | | 0.0 |
| 10019 | [Funny Encryption Method](https://onlinejudge.org/external/100/10019.pdf) | find the pattern | 9862 | | 0.0 |
| 10020 | [Minimal coverage](https://onlinejudge.org/external/100/10020.pdf) | interval covering | 2729 | | 0.0 |
| 10021 | [Cube in the labirint](https://onlinejudge.org/external/100/10021.pdf) | s: (row; col; cube position which is a permutation of 6 sides) or up to 10\*10\*720 = 72000 distinct states | 301 | | 0.0 |
| 10022 | [Delta-wave](https://onlinejudge.org/external/100/10022.pdf) | this is not an SSSP problem; find the pattern in this grid (triangle)-like system | 577 | | 0.0 |
| 10023 | [Square root](https://onlinejudge.org/external/100/10023.pdf) | code Newton's method with BigInteger | 1491 | | 0.0 |
| 10025 | [The ? 1 ? 2 ? ... ? n = k ...](https://onlinejudge.org/external/100/10025.pdf) | simplify the formula first; iterative | 3125 | | 0.0 |
| 10026 | [Shoemaker's Problem](https://onlinejudge.org/external/100/10026.pdf) | greedy; sorting | 5680 | | 0.0 |
| 10028 | [Demerit Points](https://onlinejudge.org/external/100/10028.pdf) | tedious simulation with several corner cases | 224 | | 0.0 |
| 10029 | [Edit Step Ladders](https://onlinejudge.org/external/100/10029.pdf) | use map as memo table | 1204 | | 0.0 |
| 10032 | [Tug of War](https://onlinejudge.org/external/100/10032.pdf) | PARTITION; DP Knapsack with optimization to avoid TLE; also available at Kattis - tugofwar | 1291 | | 0.0 |
| 10033 | [Interpreter](https://onlinejudge.org/external/100/10033.pdf) | adhoc; simulation | 3996 | | 0.0 |
| 10034 | [Freckles](https://onlinejudge.org/external/100/10034.pdf) | straightforward MST problem; also available at Kattis - freckles | 7721 | | 0.0 |
| 10035 | [Primary Arithmetic](https://onlinejudge.org/external/100/10035.pdf) | count the number of carry operations | 21607 | | 0.0 |
| 10036 | [Divisibility](https://onlinejudge.org/external/100/10036.pdf) | must use offset technique as value can be negative | 3160 | | 0.0 |
| 10037 | [Bridge](https://onlinejudge.org/external/100/10037.pdf) | greedy; sorting | 2618 | | 0.0 |
| 10038 | [Jolly Jumpers](https://onlinejudge.org/external/100/10038.pdf) | 1D Boolean flags to check [1..n-1]; also available at Kattis - jollyjumpers | 27326 | | 0.0 |
| 10039 | [Railroads](https://onlinejudge.org/external/100/10039.pdf) | create the graph first; then apply DP; s: (city; curtime); t: try all feasible trains | 608 | | 0.0 |
| 10041 | [Vito's Family](https://onlinejudge.org/external/100/10041.pdf) | try all possible locations | 14897 | | 0.0 |
| 10042 | [Smith Numbers](https://onlinejudge.org/external/100/10042.pdf) | prime factorization; sum the digits | 3682 | | 0.0 |
| 10044 | [Erdos Numbers](https://onlinejudge.org/external/100/10044.pdf) | the input parsing part is troublesome | 2061 | | 0.0 |
| 10045 | [Echo](https://onlinejudge.org/external/100/10045.pdf) | brute force string processing | 187 | | 0.0 |
| 10047 | [The Monocycle](https://onlinejudge.org/external/100/10047.pdf) | s: (row, col, dir, color) | 1812 | | 0.0 |
| 10048 | [Audiophobia](https://onlinejudge.org/external/100/10048.pdf) | classic MiniMax path problem | 5163 | | 0.0 |
| 10049 | [Self-describing Sequence](https://onlinejudge.org/external/100/10049.pdf) | enough to get past > 2G by storing only the first 700K numbers of the Self-describing sequence | 2561 | | 0.0 |
| 10050 | [Hartals](https://onlinejudge.org/external/100/10050.pdf) | 1D boolean flag | 12680 | | 0.0 |
| 10051 | [Tower of Cubes](https://onlinejudge.org/external/100/10051.pdf) | longest paths on DAG; DP | 1838 | | 0.0 |
| 10054 | [The Necklace](https://onlinejudge.org/external/100/10054.pdf) | printing the Euler tour | 2804 | | 0.0 |
| 10055 | [Hashmat the Brave Warrior](https://onlinejudge.org/external/100/10055.pdf) | absolute function; the only trap is to use long long | 50991 | | 0.0 |
| 10056 | [What is the Probability ?](https://onlinejudge.org/external/100/10056.pdf) | get the closed form formula | 2726 | | 0.0 |
| 10057 | [A mid-summer night's dream...](https://onlinejudge.org/external/100/10057.pdf) | involves the median; use STL sort; upper\_bound; lower\_bound and some checks | 1987 | | 0.0 |
| 10058 | [Jimmi's Riddles](https://onlinejudge.org/external/100/10058.pdf) | solvable with regex | 630 | | 0.0 |
| 10060 | [A hole to catch a man](https://onlinejudge.org/external/100/10060.pdf) | area of polygon; area of circle | 787 | | 0.0 |
| 10061 | [How many zero's and how ma...](https://onlinejudge.org/external/100/10061.pdf) | in Decimal; '10' with 1 zero is due to factor 2\*5 | 1611 | | 0.0 |
| 10062 | [Tell me the frequencies!](https://onlinejudge.org/external/100/10062.pdf) | ASCII character frequency count | 7052 | | 0.0 |
| 10063 | [Knuth's Permutation](https://onlinejudge.org/external/100/10063.pdf) | do as asked | 1456 | | 0.0 |
| 10065 | [Useless Tile Packers](https://onlinejudge.org/external/100/10065.pdf) | find area of polygon; the CH; then area of CH | 1610 | | 0.0 |
| 10066 | [The Twin Towers](https://onlinejudge.org/external/100/10066.pdf) | Longest Common Subsequence problem; but not on 'string' | 7006 | | 0.0 |
| 10067 | [Playing with Wheels](https://onlinejudge.org/external/100/10067.pdf) | implicit graph in problem statement | 4184 | | 0.0 |
| 10068 | [The Treasure Hunt](https://onlinejudge.org/external/100/10068.pdf) | use BFS from each position to create the APSP data; use backtracking with bitmask and pruning to get the best solution | 144 | | 0.0 |
| 10069 | [Distinct Subsequences](https://onlinejudge.org/external/100/10069.pdf) | use Java BigInteger | 2580 | | 0.0 |
| 10070 | [Leap Year or Not Leap Year...](https://onlinejudge.org/external/100/10070.pdf) | more than ordinary leap years | 5709 | | 0.0 |
| 10071 | [Back to High School Physic...](https://onlinejudge.org/external/100/10071.pdf) | super simple: output 2\*v\*t | 45929 | | 0.0 |
| 10074 | [Take the Land](https://onlinejudge.org/external/100/10074.pdf) | standard problem | 3906 | | 0.0 |
| 10075 | [Airlines](https://onlinejudge.org/external/100/10075.pdf) | Great Circle Distance (gcDistance) with APSP | 858 | | 0.0 |
| 10077 | [The Stern-Brocot Number Sy...](https://onlinejudge.org/external/100/10077.pdf) | binary search | 4230 | | 0.0 |
| 10078 | [The Art Gallery](https://onlinejudge.org/external/100/10078.pdf) | isConvex | 2168 | | 0.0 |
| 10079 | [Pizza Cutting](https://onlinejudge.org/external/100/10079.pdf) | derive the one liner formula | 15210 | | 0.0 |
| 10080 | [Gopher II](https://onlinejudge.org/external/100/10080.pdf) | MCBM; also available at Kattis - gopher2 | 2569 | | 0.0 |
| 10081 | [Tight Words](https://onlinejudge.org/external/100/10081.pdf) | s: (i, j); #tight words of length i that end in digit j divided by #words: (k+1)^n; also available at Kattis - tight | 1722 | | 0.0 |
| 10082 | [WERTYU](https://onlinejudge.org/external/100/10082.pdf) | use 2D mapper array to simplify the problem; also available at Kattis - wertyu | 21157 | | 0.0 |
| 10083 | [Division](https://onlinejudge.org/external/100/10083.pdf) | BigInteger number theory | 785 | | 0.0 |
| 10085 | [The most distant state](https://onlinejudge.org/external/100/10085.pdf) | each vertex is the 9 puzzle configuration; BFS from starting configuration to all vertices; print longest shortest path | 614 | | 0.0 |
| 10086 | [Test the Rods](https://onlinejudge.org/external/100/10086.pdf) | 3.5g | 556 | | 0.0 |
| 10088 | [Trees on My Island](https://onlinejudge.org/external/100/10088.pdf) | Pick's Theorem | 1257 | | 0.0 |
| 10090 | [Marbles](https://onlinejudge.org/external/100/10090.pdf) | use solution for Linear Diophantine Equation | 1863 | | 0.0 |
| 10092 | [The Problem with the Probl...](https://onlinejudge.org/external/100/10092.pdf) | assignment problem; matching with capacity; similar to UVa 259; 11045; and 12873 | 1500 | | 0.0 |
| 10093 | [An Easy Problem!](https://onlinejudge.org/external/100/10093.pdf) | try all | 2222 | | 0.0 |
| 10094 | [Place the Guards](https://onlinejudge.org/external/100/10094.pdf) | this problem is like the n-queens chess problem; but must find/use the pattern! | 446 | | 0.0 |
| 10097 | [The Color Game](https://onlinejudge.org/external/100/10097.pdf) | s: (N1; N2); implicit unweighted graph | 512 | | 0.0 |
| 10098 | [Generating Fast](https://onlinejudge.org/external/100/10098.pdf) | very similar to UVa 195 | 6620 | | 0.0 |
| 10099 | [The Tourist Guide](https://onlinejudge.org/external/100/10099.pdf) | maximin; also solvable with Floyd Warshall's | 5394 | | 0.0 |
| 10100 | [Longest Match](https://onlinejudge.org/external/101/10100.pdf) | Longest Common Subsequence | 2429 | | 0.0 |
| 10101 | [Bangla Numbers](https://onlinejudge.org/external/101/10101.pdf) | follow the problem description carefully | 2985 | | 0.0 |
| 10102 | [The path in the colored fi...](https://onlinejudge.org/external/101/10102.pdf) | 4 nested loops will do; we do not need BFS; get max of minimum Manhattan distance from a 1 to a 3 | 3021 | | 0.0 |
| 10104 | [Euclid Problem](https://onlinejudge.org/external/101/10104.pdf) | pure Ext Euclid problem | 5332 | | 0.0 |
| 10105 | [Polynomial Coefficients](https://onlinejudge.org/external/101/10105.pdf) | similar to UVa 911 | 3274 | | 0.0 |
| 10106 | [Product](https://onlinejudge.org/external/101/10106.pdf) | BigInteger multiplication | 10279 | | 0.0 |
| 10107 | [What is the Median?](https://onlinejudge.org/external/101/10107.pdf) | find median of a growing/dynamic list of integers; we can use multiple calls of nth\_element in algorithm | 13542 | | 0.0 |
| 10110 | [Light, more light](https://onlinejudge.org/external/101/10110.pdf) | check if n is a square number | 15153 | | 0.0 |
| 10111 | [Find the Winning Move](https://onlinejudge.org/external/101/10111.pdf) | Tic-Tac-Toe; minimax; backtracking | 563 | | 0.0 |
| 10112 | [Myacm Triangles](https://onlinejudge.org/external/101/10112.pdf) | test if point inPolygon/inTriangle; similar with UVa 478 | 1679 | | 0.0 |
| 10113 | [Exchange Rates](https://onlinejudge.org/external/101/10113.pdf) | just graph traversal; but uses fraction and GCD | 900 | | 0.0 |
| 10114 | [Loansome Car Buyer](https://onlinejudge.org/external/101/10114.pdf) | just simulate the process | 3953 | | 0.0 |
| 10115 | [Automatic Editing](https://onlinejudge.org/external/101/10115.pdf) | simply do as asked in the problem description; uses string | 2720 | | 0.0 |
| 10116 | [Robot Motion](https://onlinejudge.org/external/101/10116.pdf) | traversal on implicit graph; cycle check | 3072 | | 0.0 |
| 10118 | [Free Candies](https://onlinejudge.org/external/101/10118.pdf) | DP bitmask; not trivial | 779 | | 0.0 |
| 10120 | [Gift?!](https://onlinejudge.org/external/101/10120.pdf) | DP; special case for N >= 49 | 697 | | 0.0 |
| 10123 | [No Tipping](https://onlinejudge.org/external/101/10123.pdf) | DP; s: (bitmask) that describes objects that have been taken; use Physics to determine whether those taken objects will cause the tipping or not | 382 | | 0.0 |
| 10125 | [Sumsets](https://onlinejudge.org/external/101/10125.pdf) | SUBSET-SUM; 4-SUM variant; use unordered\_map to map sum of a and b in S and their two indices; also available at Kattis - sumsets | 2926 | | 0.0 |
| 10126 | [Zipf's Law](https://onlinejudge.org/external/101/10126.pdf) | sort the words to simplify this problem; also available at Kattis - zipfslaw | 704 | | 0.0 |
| 10127 | [Ones](https://onlinejudge.org/external/101/10127.pdf) | no factor of 2 and 5 implies that there is no trailing zero | 9468 | | 0.0 |
| 10128 | [Queue](https://onlinejudge.org/external/101/10128.pdf) | backtracking with pruning; try all $N!$ permutations that satisfy the requirement; 13! will TLE; pre-calculate the results | 1777 | | 0.0 |
| 10129 | [Play on Words](https://onlinejudge.org/external/101/10129.pdf) | Euler Graph property check | 2534 | | 0.0 |
| 10130 | [SuperSale](https://onlinejudge.org/external/101/10130.pdf) | very basic 0-1 KNAPSACK problem | 8321 | | 0.0 |
| 10131 | [Is Bigger Smarter?](https://onlinejudge.org/external/101/10131.pdf) | sort elephants based on decreasing IQ; LIS on increasing weight | 6989 | | 0.0 |
| 10132 | [File Fragmentation](https://onlinejudge.org/external/101/10132.pdf) | use map; brute force | 2158 | | 0.0 |
| 10134 | [AutoFish](https://onlinejudge.org/external/101/10134.pdf) | must be very careful with details | 340 | | 0.0 |
| 10136 | [Chocolate Chip Cookies](https://onlinejudge.org/external/101/10136.pdf) | complete search; use circle2PtsRad; similar with UVa 10005 | 480 | | 0.0 |
| 10137 | [The Trip](https://onlinejudge.org/external/101/10137.pdf) | be careful with precision error; also available at Kattis - trip | 8173 | | 0.0 |
| 10138 | [CDVII](https://onlinejudge.org/external/101/10138.pdf) | map plates to bills; entrance time; and position | 880 | | 0.0 |
| 10139 | [Factovisors](https://onlinejudge.org/external/101/10139.pdf) | factorize m; see if it has support in n!; Legendre's formula; also available at Kattis - factovisors | 3483 | | 0.0 |
| 10140 | [Prime Distance](https://onlinejudge.org/external/101/10140.pdf) | sieve; linear scan | 2726 | | 0.0 |
| 10141 | [Request for Proposal](https://onlinejudge.org/external/101/10141.pdf) | solvable with one linear scan | 4815 | | 0.0 |
| 10142 | [Australian Voting](https://onlinejudge.org/external/101/10142.pdf) | simulation | 3482 | | 0.0 |
| 10145 | [Lock Manager](https://onlinejudge.org/external/101/10145.pdf) | use map and set | 221 | | 0.0 |
| 10146 | [Dictionary](https://onlinejudge.org/external/101/10146.pdf) | the problem description tries to hide the meaning of 'dictionary'; it is not a hard problem actually | 376 | | 0.0 |
| 10147 | [Highways](https://onlinejudge.org/external/101/10147.pdf) | 'minimum' spanning subgraph | 2210 | | 0.0 |
| 10149 | [Yahtzee](https://onlinejudge.org/external/101/10149.pdf) | DP with bitmask; uses card rules; tedious | 701 | | 0.0 |
| 10150 | [Doublets](https://onlinejudge.org/external/101/10150.pdf) | s: (string); BFS; use trie to quickly identify neighbor that is one Hamming distance away; also available at Kattis - doublets | 1661 | | 0.0 |
| 10152 | [ShellSort](https://onlinejudge.org/external/101/10152.pdf) | greedy | 3955 | | 0.0 |
| 10154 | [Weights and Measures](https://onlinejudge.org/external/101/10154.pdf) | LIS variant | 2016 | | 0.0 |
| 10158 | [War](https://onlinejudge.org/external/101/10158.pdf) | advanced usage of disjoint sets with a nice twist; memorize list of enemies | 1887 | | 0.0 |
| 10160 | [Servicing Stations](https://onlinejudge.org/external/101/10160.pdf) | optimization version of Min Vertex Cover on general graph; Dominating Set; which is NP-Hard; strategies: backtracking; sort by decreasing degrees; heavy pruning | 707 | | 0.0 |
| 10161 | [Ant on a Chessboard](https://onlinejudge.org/external/101/10161.pdf) | sqrt and ceil | 7378 | | 0.0 |
| 10162 | [Last Digit](https://onlinejudge.org/external/101/10162.pdf) | cycle after 100 steps; use Java BigInteger to read the input; precalculate | 1956 | | 0.0 |
| 10163 | [Storage Keepers](https://onlinejudge.org/external/101/10163.pdf) | try all possible safe line L and run DP; s: (id; N\_left); t: hire/skip person id for looking at K storage; the DP part is similar to DP 0-1 Knapsack | 513 | | 0.0 |
| 10164 | [Number Game](https://onlinejudge.org/external/101/10164.pdf) | a bit number theory (modulo); backtracking; do memoization on DP s: (sum; taken) | 540 | | 0.0 |
| 10165 | [Stone Game](https://onlinejudge.org/external/101/10165.pdf) | Nim game; application of Sprague-Grundy theorem | 1945 | | 0.0 |
| 10166 | [Travel](https://onlinejudge.org/external/101/10166.pdf) | this can be modeled as an SSSP problem | 230 | | 0.0 |
| 10167 | [Birthday Cake](https://onlinejudge.org/external/101/10167.pdf) | brute force A and B; ccw tests | 2037 | | 0.0 |
| 10168 | [Summation of Four Primes](https://onlinejudge.org/external/101/10168.pdf) | backtracking with pruning | 4425 | | 0.0 |
| 10170 | [The Hotel with Infinite Ro...](https://onlinejudge.org/external/101/10170.pdf) | one liner formula exists | 4549 | | 0.0 |
| 10171 | [Meeting Prof. Miguel...](https://onlinejudge.org/external/101/10171.pdf) | easy with APSP information | 2192 | | 0.0 |
| 10172 | [The Lonesome Cargo Distrib...](https://onlinejudge.org/external/101/10172.pdf) | use both queue and stack | 1071 | | 0.0 |
| 10174 | [Couple-Bachelor-Spinster N...](https://onlinejudge.org/external/101/10174.pdf) | no Spinster number | 667 | | 0.0 |
| 10176 | [Ocean Deep! - Make it shal...](https://onlinejudge.org/external/101/10176.pdf) | convert binary to decimal digit by digit; do modulo 131071 to the intermediate result | 2608 | | 0.0 |
| 10177 | [(2/3/4)-D Sqr/Rects/Cubes/...](https://onlinejudge.org/external/101/10177.pdf) | 2/3/4 nested loops; precalculate | 1832 | | 0.0 |
| 10178 | [Count the Faces.](https://onlinejudge.org/external/101/10178.pdf) | Euler's Formula; a bit of union find | 932 | | 0.0 |
| 10179 | [Irreducable Basic Fraction...](https://onlinejudge.org/external/101/10179.pdf) | EulerPhi(N) | 3650 | | 0.0 |
| 10180 | [Rope Crisis in Ropeland!](https://onlinejudge.org/external/101/10180.pdf) | closest point from AB to origin; arc | 735 | | 0.0 |
| 10181 | [15-Puzzle Problem](https://onlinejudge.org/external/101/10181.pdf) | similar with UVa 652 but larger (now 15 instead of 8); we can use IDA\* | 1081 | | 0.0 |
| 10182 | [Bee Maja](https://onlinejudge.org/external/101/10182.pdf) | grid | 2658 | | 0.0 |
| 10183 | [How Many Fibs?](https://onlinejudge.org/external/101/10183.pdf) | get the number of Fibonaccis when generating them; BigInteger | 4384 | | 0.0 |
| 10187 | [From Dusk Till Dawn](https://onlinejudge.org/external/101/10187.pdf) | special cases: start = destination: 0 litre; starting or destination city not found or destination city not reachable from starting city: no route; the rest: Dijkstra's | 820 | | 0.0 |
| 10188 | [Automated Judge Script](https://onlinejudge.org/external/101/10188.pdf) | simulation | 2711 | | 0.0 |
| 10189 | [Minesweeper](https://onlinejudge.org/external/101/10189.pdf) | simulate the classic Minesweeper game; similar to UVa 10279 | 20285 | | 0.0 |
| 10190 | [Divide, But Not Quite Conq...](https://onlinejudge.org/external/101/10190.pdf) | simulate the process | 3729 | | 0.0 |
| 10191 | [Longest Nap](https://onlinejudge.org/external/101/10191.pdf) | you may want to apply this to your own schedule | 3282 | | 0.0 |
| 10192 | [Vacation](https://onlinejudge.org/external/101/10192.pdf) | Longest Common Subsequence | 6527 | | 0.0 |
| 10193 | [All You Need Is Love](https://onlinejudge.org/external/101/10193.pdf) | convert two binary strings S1 and S2 to decimal and check see if gcd(s1; s2) > 1 | 4436 | | 0.0 |
| 10194 | [Football (aka Soccer)](https://onlinejudge.org/external/101/10194.pdf) | multi-fields sorting; use sort | 3380 | | 0.0 |
| 10195 | [The Knights Of The Round T...](https://onlinejudge.org/external/101/10195.pdf) | triangle'sincircle; Heron's formula | 5605 | | 0.0 |
| 10196 | [Check The Check](https://onlinejudge.org/external/101/10196.pdf) | ad hoc; chess; tedious | 4129 | | 0.0 |
| 10197 | [Learning Portuguese](https://onlinejudge.org/external/101/10197.pdf) | must follow the description very closely | 745 | | 0.0 |
| 10198 | [Counting](https://onlinejudge.org/external/101/10198.pdf) | recurrences; BigInteger | 3477 | | 0.0 |
| 10199 | [Tourist Guide](https://onlinejudge.org/external/101/10199.pdf) | finding articulation points | 2868 | | 0.0 |
| 10200 | [Prime Time](https://onlinejudge.org/external/102/10200.pdf) | complete search; test if isPrime(n^2 n 41) for all n in [a..b]; finally use DP 1D RSQ to speed up the solution | 2524 | | 0.0 |
| 10201 | [Adventures in Moving - Par...](https://onlinejudge.org/external/102/10201.pdf) | s: (pos, fuel\_left); also available at Kattis - adventuremoving4 | 1123 | | 0.0 |
| 10202 | [Pairsumonious Numbers](https://onlinejudge.org/external/102/10202.pdf) | backtracking; pruning | 1038 | | 0.0 |
| 10203 | [Snow Clearing](https://onlinejudge.org/external/102/10203.pdf) | the underlying graph is Euler graph | 584 | | 0.0 |
| 10205 | [Stack 'em Up](https://onlinejudge.org/external/102/10205.pdf) | card game | 3061 | | 0.0 |
| 10209 | [Is This Integration ?](https://onlinejudge.org/external/102/10209.pdf) | square; arcs; similar with UVa 10589 | 4484 | | 0.0 |
| 10210 | [Romeo and Juliet !](https://onlinejudge.org/external/102/10210.pdf) | basic trigonometry | 882 | | 0.0 |
| 10212 | [The Last Non-zero Digit.](https://onlinejudge.org/external/102/10212.pdf) | multiply numbers from N down to N-M+1; use / 10 to discard the trailing zero(es); use % 1 Billion | 1622 | | 0.0 |
| 10213 | [How Many Pieces of Land ?](https://onlinejudge.org/external/102/10213.pdf) | Moser's circle; the formula is hard to derive; g(n) = nC4 nC2 1 | 1820 | | 0.0 |
| 10215 | [The Largest/Smallest Box ....](https://onlinejudge.org/external/102/10215.pdf) | two trivial cases for smallest; derive the formula for largest which involves quadratic equation | 1011 | | 0.0 |
| 10218 | [Let's Dance !!!](https://onlinejudge.org/external/102/10218.pdf) | probability and a bit of binomial coefficients | 352 | | 0.0 |
| 10219 | [Find the ways !](https://onlinejudge.org/external/102/10219.pdf) | count the length of nCk; BigInteger | 3346 | | 0.0 |
| 10220 | [I Love Big Numbers !](https://onlinejudge.org/external/102/10220.pdf) | use Java BigInteger; precalculate | 6190 | | 0.0 |
| 10221 | [Satellites](https://onlinejudge.org/external/102/10221.pdf) | finding arc and chord length of a circle | 3263 | | 0.0 |
| 10222 | [Decode the Mad man](https://onlinejudge.org/external/102/10222.pdf) | simple decoding mechanism | 9299 | | 0.0 |
| 10223 | [How many nodes ?](https://onlinejudge.org/external/102/10223.pdf) | you can precalculate the answers as there are only 19 Catalan Numbers < 2^{32}-1 | 2478 | | 0.0 |
| 10226 | [Hardwood Species](https://onlinejudge.org/external/102/10226.pdf) | use map; sorted output; also available at Kattis - hardwoodspecies | 6271 | | 0.0 |
| 10227 | [Forests](https://onlinejudge.org/external/102/10227.pdf) | merge two disjoint sets if they are consistent; also available at Kattis - forests | 1354 | | 0.0 |
| 10229 | [Modular Fibonacci](https://onlinejudge.org/external/102/10229.pdf) | Fibonacci; modPow | 3398 | | 0.0 |
| 10233 | [Dermuba Triangle](https://onlinejudge.org/external/102/10233.pdf) | the number of items in row forms arithmetic progression series; use hypot | 1017 | | 0.0 |
| 10235 | [Simply Emirp](https://onlinejudge.org/external/102/10235.pdf) | case analysis: prime/emirp/not prime; emirp is prime number that if reversed is still a prime number | 8828 | | 0.0 |
| 10238 | [Throw the Dice](https://onlinejudge.org/external/102/10238.pdf) | DP; s: (dice\_left, score); try F values; Big Integer; no need to simplify the fraction; see UVa 10759 | 364 | | 0.0 |
| 10239 | [The Book-shelver's Problem](https://onlinejudge.org/external/102/10239.pdf) | convert double to long long first; medium DP; either put this book in the current shelf (if possible) or put it in a new shelf | 282 | | 0.0 |
| 10242 | [Fourth Point !!](https://onlinejudge.org/external/102/10242.pdf) | toVec; translate points w.r.t. that vector | 3300 | | 0.0 |
| 10243 | [Fire! Fire!! Fire!!!](https://onlinejudge.org/external/102/10243.pdf) | this problem can be reduced to the Min Vertex Cover problem on Tree; there is a polynomial DP solution for this variant | 954 | | 0.0 |
| 10245 | [The Closest Pair Problem](https://onlinejudge.org/external/102/10245.pdf) | classic | 3703 | | 0.0 |
| 10246 | [Asterix and Obelix](https://onlinejudge.org/external/102/10246.pdf) | modify the Floyd-Warshall recurrence a bit to handle the maximum cost to hold feast for Obelix | 780 | | 0.0 |
| 10249 | [The Grand Dinner](https://onlinejudge.org/external/102/10249.pdf) | greedy; sorting | 1787 | | 0.0 |
| 10250 | [The Other Two Trees](https://onlinejudge.org/external/102/10250.pdf) | vector; rotation | 1187 | | 0.0 |
| 10252 | [Common Permutation](https://onlinejudge.org/external/102/10252.pdf) | A-Z keys | 8021 | | 0.0 |
| 10254 | [The Priest Mathematician](https://onlinejudge.org/external/102/10254.pdf) | find pattern; use Java BigInteger | 1094 | | 0.0 |
| 10256 | [The Great Divide](https://onlinejudge.org/external/102/10256.pdf) | given 2 CHs, output 'No' if there is a point in 1st CH inside the 2nd one; 'Yes' otherwise | 386 | | 0.0 |
| 10257 | [Dick and Jane](https://onlinejudge.org/external/102/10257.pdf) | need some mathematical insights; also available at Kattis - dickandjane | 700 | | 0.0 |
| 10258 | [Contest Scoreboard](https://onlinejudge.org/external/102/10258.pdf) | multi-fields sorting; use sort; similar to UVa 00790 | 5103 | | 0.0 |
| 10259 | [Hippity Hopscotch](https://onlinejudge.org/external/102/10259.pdf) | longest paths on implicit DAG; DP | 757 | | 0.0 |
| 10260 | [Soundex](https://onlinejudge.org/external/102/10260.pdf) | DAT for soundex A-Z code mapping | 7801 | | 0.0 |
| 10261 | [Ferry Loading](https://onlinejudge.org/external/102/10261.pdf) | s: (current\_car; left; right) | 1410 | | 0.0 |
| 10263 | [Railway](https://onlinejudge.org/external/102/10263.pdf) | use distToLineSegment | 1307 | | 0.0 |
| 10264 | [The Most Potent Corner](https://onlinejudge.org/external/102/10264.pdf) | heavy bitmask manipulation | 1683 | | 0.0 |
| 10267 | [Graphical Editor](https://onlinejudge.org/external/102/10267.pdf) | simulation | 3270 | | 0.0 |
| 10268 | [498-bis](https://onlinejudge.org/external/102/10268.pdf) | polynomial derivation; Horner's rule | 1601 | | 0.0 |
| 10269 | [Adventure of Super Mario](https://onlinejudge.org/external/102/10269.pdf) | use Floyd-Warshall to pre-compute APSP using only Villages; use Dijkstra's on s: (u, super\_run\_left) | 702 | | 0.0 |
| 10271 | [Chopsticks](https://onlinejudge.org/external/102/10271.pdf) | Observation: The 3rd chopstick can be any chopstick; s: (pos, K\_left); t: ignore this chopstick, or take this chopstick and the chopstick immediately next to it | 1771 | | 0.0 |
| 10276 | [Hanoi Tower Troubles Again...](https://onlinejudge.org/external/102/10276.pdf) | insert a number one by one | 3431 | | 0.0 |
| 10278 | [Fire Station](https://onlinejudge.org/external/102/10278.pdf) | Dijkstra's from fire stations to all intersections; need pruning to pass the time limit; also available at Kattis - firestation | 1417 | | 0.0 |
| 10279 | [Mine Sweeper](https://onlinejudge.org/external/102/10279.pdf) | a 2D array helps; similar to UVa 10189 | 2082 | | 0.0 |
| 10280 | [Old Wine Into New Bottles](https://onlinejudge.org/external/102/10280.pdf) | Dijkstra's; also available at Kattis - wine | 287 | | 0.0 |
| 10281 | [Average Speed](https://onlinejudge.org/external/102/10281.pdf) | distance = speed\*time elapsed; also available at Kattis - averagespeed | 3266 | | 0.0 |
| 10282 | [Babelfish](https://onlinejudge.org/external/102/10282.pdf) | a pure dictionary problem; use unordered\_map; also available at Kattis - babelfish | 5972 | | 0.0 |
| 10283 | [The Kissing Circles](https://onlinejudge.org/external/102/10283.pdf) | derive the formula | 1099 | | 0.0 |
| 10284 | [Chessboard in FEN](https://onlinejudge.org/external/102/10284.pdf) | FEN = Forsyth-Edwards Notation is a standard notation for describing board positions in a chess game | 1413 | | 0.0 |
| 10285 | [Longest Run on a Snowboard](https://onlinejudge.org/external/102/10285.pdf) | longest paths on implicit DAG; however; the graph is small enough for recursive backtracking solution | 4006 | | 0.0 |
| 10286 | [Trouble with a Pentagon](https://onlinejudge.org/external/102/10286.pdf) | Law of Sines | 3297 | | 0.0 |
| 10287 | [Gifts in a Hexagonal Box](https://onlinejudge.org/external/102/10287.pdf) | derive the formula | 821 | | 0.0 |
| 10290 | [{Sum+=i++} to Reach N](https://onlinejudge.org/external/102/10290.pdf) | find number of odd divisors | 339 | | 0.0 |
| 10293 | [Word Length and Frequency](https://onlinejudge.org/external/102/10293.pdf) | A-Z keys | 1549 | | 0.0 |
| 10295 | [Hay Points](https://onlinejudge.org/external/102/10295.pdf) | use unordered\_map to deal with Hay Points dictionary; also available at Kattis - haypoints | 4492 | | 0.0 |
| 10296 | [Jogging Trails](https://onlinejudge.org/external/102/10296.pdf) | basic Chinese Postman Problem; also available at Kattis - joggingtrails | 676 | | 0.0 |
| 10297 | [Beavergnaw](https://onlinejudge.org/external/102/10297.pdf) | volumes of cylinders and cones; inclusion-exclusion; also available at Kattis - beavergnaw | 2536 | | 0.0 |
| 10298 | [Power Strings](https://onlinejudge.org/external/102/10298.pdf) | find s in s+s; similar with UVa 00455; also available at Kattis - powerstrings | 4489 | | 0.0 |
| 10299 | [Relatives](https://onlinejudge.org/external/102/10299.pdf) | EulerPhi(N); also available at Kattis - relatives | 3026 | | 0.0 |
| 10300 | [Ecological Premium](https://onlinejudge.org/external/103/10300.pdf) | ignore the number of animals | 24928 | | 0.0 |
| 10301 | [Rings and Glue](https://onlinejudge.org/external/103/10301.pdf) | circle-circle intersection; backtracking | 1547 | | 0.0 |
| 10302 | [Summation of Polynomials](https://onlinejudge.org/external/103/10302.pdf) | use long double | 8824 | | 0.0 |
| 10303 | [How Many Trees?](https://onlinejudge.org/external/103/10303.pdf) | generate Cat(n) as shown in this section; use Java BigInteger | 1975 | | 0.0 |
| 10304 | [Optimal Binary Search Tree](https://onlinejudge.org/external/103/10304.pdf) | classical DP; requires 1D range sum and Knuth-Yao speed up to get O(n^2) solution | 1593 | | 0.0 |
| 10305 | [Ordering Tasks](https://onlinejudge.org/external/103/10305.pdf) | simply run toposort algorithm | 10580 | | 0.0 |
| 10306 | [e-Coins](https://onlinejudge.org/external/103/10306.pdf) | s: (conventional-value, infotechnological-value); BFS; also available at Kattis - ecoins | 2400 | | 0.0 |
| 10308 | [Roads in the North](https://onlinejudge.org/external/103/10308.pdf) | diameter of tree | 954 | | 0.0 |
| 10309 | [Turn the Lights Off](https://onlinejudge.org/external/103/10309.pdf) | brute force the first row in 2^10; the rest follows | 1141 | | 0.0 |
| 10310 | [Dog and Gopher](https://onlinejudge.org/external/103/10310.pdf) | complete search; Euclidean distance dist; also available at Kattis - doggopher | 3952 | | 0.0 |
| 10311 | [Goldbach and Euler](https://onlinejudge.org/external/103/10311.pdf) | case analysis; brute force; similar to UVa 543; 686; and 10948 | 2087 | | 0.0 |
| 10312 | [Expression Bracketing](https://onlinejudge.org/external/103/10312.pdf) | number of binary bracketing = Cat(n); number of bracketing = Super-Catalan numbers | 870 | | 0.0 |
| 10313 | [Pay the Price](https://onlinejudge.org/external/103/10313.pdf) | modified coin change and DP 1D range sum | 1496 | | 0.0 |
| 10315 | [Poker Hands](https://onlinejudge.org/external/103/10315.pdf) | tedious problem | 2554 | | 0.0 |
| 10316 | [Airline Hub](https://onlinejudge.org/external/103/10316.pdf) | gcDistance; also available at Kattis - airlinehub | 430 | | 0.0 |
| 10318 | [Security Panel](https://onlinejudge.org/external/103/10318.pdf) | the order is not important, so we can try pressing the buttons in increasing order, row by row, column by column | 707 | | 0.0 |
| 10319 | [Manhattan](https://onlinejudge.org/external/103/10319.pdf) | can be modeled as a 2-SAT problem | 593 | | 0.0 |
| 10323 | [Factorial! You Must be Kid...](https://onlinejudge.org/external/103/10323.pdf) | overflow: n>13/-odd n; underflow: n$<$8/-even n; PS: actually; factorial of negative number is not defined | 7200 | | 0.0 |
| 10324 | [Zeros and Ones](https://onlinejudge.org/external/103/10324.pdf) | simplify using 1D array: change counter | 7432 | | 0.0 |
| 10325 | [The Lottery](https://onlinejudge.org/external/103/10325.pdf) | inclusion exclusion principle; brute force subset for small M <= 15; lcm-gcd | 975 | | 0.0 |
| 10326 | [The Polynomial Equation](https://onlinejudge.org/external/103/10326.pdf) | given roots of the polynomial; reconstruct the polynomial; formatting | 721 | | 0.0 |
| 10327 | [Flip Sort](https://onlinejudge.org/external/103/10327.pdf) | solvable with O(n^2) bubble sort | 12667 | | 0.0 |
| 10328 | [Coin Toss](https://onlinejudge.org/external/103/10328.pdf) | DP; 1-D state; Big Integer | 561 | | 0.0 |
| 10330 | [Power Transmission](https://onlinejudge.org/external/103/10330.pdf) | max flow; vertex capacities | 2173 | | 0.0 |
| 10331 | [The Flyover Construction](https://onlinejudge.org/external/103/10331.pdf) | use Floyd-Warshall to obtain the APSP information; then use brute force to count the time an edge is used; report accordingly | 225 | | 0.0 |
| 10333 | [The Tower of ASCII](https://onlinejudge.org/external/103/10333.pdf) | a real time waster problem | 380 | | 0.0 |
| 10334 | [Ray Through Glasses](https://onlinejudge.org/external/103/10334.pdf) | combinatorics; Big Integer | 4509 | | 0.0 |
| 10336 | [Rank the Languages](https://onlinejudge.org/external/103/10336.pdf) | count and rank CCs with similar color | 4547 | | 0.0 |
| 10337 | [Flight Planner](https://onlinejudge.org/external/103/10337.pdf) | DP; shortest paths on DAG | 2025 | | 0.0 |
| 10338 | [Mischievous Children](https://onlinejudge.org/external/103/10338.pdf) | use long long to store up to 20! | 4518 | | 0.0 |
| 10339 | [Watching Watches](https://onlinejudge.org/external/103/10339.pdf) | find the formula | 455 | | 0.0 |
| 10340 | [All in All](https://onlinejudge.org/external/103/10340.pdf) | greedy | 15291 | | 0.0 |
| 10341 | [Solve It](https://onlinejudge.org/external/103/10341.pdf) | bisection method; for alternative solutions; see http://www.algorithmist.com/index.php/UVa\_10341 | 6077 | | 0.0 |
| 10342 | [Always Late](https://onlinejudge.org/external/103/10342.pdf) | Floyd-Warshall to get APSP values; to get the second best shortest path, try to make a single mistake | 478 | | 0.0 |
| 10344 | [23 out of 5](https://onlinejudge.org/external/103/10344.pdf) | 5 operands + 3 operators | 4016 | | 0.0 |
| 10346 | [Peter's Smokes](https://onlinejudge.org/external/103/10346.pdf) | interesting simulation problem | 15270 | | 0.0 |
| 10347 | [Medians](https://onlinejudge.org/external/103/10347.pdf) | given 3 medians of a triangle; find its area | 4126 | | 0.0 |
| 10349 | [Antenna Placement](https://onlinejudge.org/external/103/10349.pdf) | MIS: V-MCBM; also available at Kattis - antennaplacement | 889 | | 0.0 |
| 10350 | [Liftless EME](https://onlinejudge.org/external/103/10350.pdf) | shortest paths; implicit DAG; DP | 654 | | 0.0 |
| 10354 | [Avoiding Your Boss](https://onlinejudge.org/external/103/10354.pdf) | find and remove edges involved in boss's shortest paths; re-run shortest paths from home to market | 769 | | 0.0 |
| 10356 | [Rough Roads](https://onlinejudge.org/external/103/10356.pdf) | attach one extra info to each vertex: do we come to that vertex using cycle or not; Dijkstra's | 904 | | 0.0 |
| 10357 | [Playball !!!](https://onlinejudge.org/external/103/10357.pdf) | Euclidean dist; simple Physics simulation | 374 | | 0.0 |
| 10359 | [Tiling](https://onlinejudge.org/external/103/10359.pdf) | derive the formula; use Java BigInteger | 1710 | | 0.0 |
| 10360 | [Rat Attack](https://onlinejudge.org/external/103/10360.pdf) | also solvable using 1024^2 DP max sum | 2860 | | 0.0 |
| 10361 | [Automatic Poetry](https://onlinejudge.org/external/103/10361.pdf) | read; tokenize; process as requested | 4909 | | 0.0 |
| 10363 | [Tic Tac Toe](https://onlinejudge.org/external/103/10363.pdf) | check validity of Tic Tac Toe game; tricky; also available at Kattis - tictactoe2 | 2446 | | 0.0 |
| 10364 | [Square](https://onlinejudge.org/external/103/10364.pdf) | bitmask technique can be used | 1560 | | 0.0 |
| 10365 | [Blocks](https://onlinejudge.org/external/103/10365.pdf) | use 3 nested loops with pruning | 1808 | | 0.0 |
| 10368 | [Euclid's Game](https://onlinejudge.org/external/103/10368.pdf) | minimax; backtracking; also available at Kattis - euclidsgame | 1324 | | 0.0 |
| 10369 | [Arctic Network](https://onlinejudge.org/external/103/10369.pdf) | minimum spanning 'forest'; also available at Kattis - arcticnetwork | 3740 | | 0.0 |
| 10370 | [Above Average](https://onlinejudge.org/external/103/10370.pdf) | compute average; see how many are above it; also available at Kattis - aboveaverage | 17267 | | 0.0 |
| 10371 | [Time Zones](https://onlinejudge.org/external/103/10371.pdf) | follow the description, tedious; also available at Kattis - timezones | 788 | | 0.0 |
| 10372 | [Leaps Tall Buildings (in a...](https://onlinejudge.org/external/103/10372.pdf) | binary search the answer and Physics | 195 | | 0.0 |
| 10374 | [Election](https://onlinejudge.org/external/103/10374.pdf) | use unordered\_map for frequency counting | 1231 | | 0.0 |
| 10375 | [Choose and divide](https://onlinejudge.org/external/103/10375.pdf) | the main task is to avoid overflow | 1652 | | 0.0 |
| 10377 | [Maze Traversal](https://onlinejudge.org/external/103/10377.pdf) | traversal on implicit graph | 2025 | | 0.0 |
| 10382 | [Watering Grass](https://onlinejudge.org/external/103/10382.pdf) | interval covering; also available at Kattis - grass | 1419 | | 0.0 |
| 10385 | [Duathlon](https://onlinejudge.org/external/103/10385.pdf) | the function is unimodal; ternary search | 466 | | 0.0 |
| 10387 | [Billiard](https://onlinejudge.org/external/103/10387.pdf) | expanding surface; trigonometry | 1181 | | 0.0 |
| 10388 | [Snap](https://onlinejudge.org/external/103/10388.pdf) | card simulation; uses random number to determine moves; need data structure to maintain the face-up and face-down cards | 149 | | 0.0 |
| 10389 | [Subway](https://onlinejudge.org/external/103/10389.pdf) | use basic geometry skill to build the weighted graph; then run Dijkstra's; also available at Kattis - subway2 | 602 | | 0.0 |
| 10391 | [Compound Words](https://onlinejudge.org/external/103/10391.pdf) | more like a data structure problem | 2277 | | 0.0 |
| 10392 | [Factoring Large Numbers](https://onlinejudge.org/external/103/10392.pdf) | enumerate the prime factors of input | 2604 | | 0.0 |
| 10393 | [The One-Handed Typist](https://onlinejudge.org/external/103/10393.pdf) | follow problem description | 952 | | 0.0 |
| 10394 | [Twin Primes](https://onlinejudge.org/external/103/10394.pdf) | sieve; check if p and p plus 2 are both primes; if yes; they are twin primes; precalculate the result | 5922 | | 0.0 |
| 10397 | [Connect the Campus](https://onlinejudge.org/external/103/10397.pdf) | 'minimum' spanning subgraph | 3086 | | 0.0 |
| 10400 | [Game Show Math](https://onlinejudge.org/external/104/10400.pdf) | backtracking with clever pruning is sufficient | 1904 | | 0.0 |
| 10401 | [Injured Queen Problem](https://onlinejudge.org/external/104/10401.pdf) | counting paths in implicit DAG; DP; s: (col; row); t: next col; avoid 2 or 3 adjacent rows | 1045 | | 0.0 |
| 10404 | [Bachet's Game](https://onlinejudge.org/external/104/10404.pdf) | 2 players game; Dynamic Programming; also available at Kattis - bachetsgame | 2591 | | 0.0 |
| 10405 | [Longest Common Subsequence](https://onlinejudge.org/external/104/10405.pdf) | very classic Longest Common Subsequence problem | 11179 | | 0.0 |
| 10406 | [Cutting tabletops](https://onlinejudge.org/external/104/10406.pdf) | vector; rotate; translate; then cutPolygon | 443 | | 0.0 |
| 10407 | [Simple division](https://onlinejudge.org/external/104/10407.pdf) | subtract the set s with s[0]; find gcd | 2474 | | 0.0 |
| 10408 | [Farey sequences](https://onlinejudge.org/external/104/10408.pdf) | first; generate (i; j) pairs such that gcd(i; j) = 1; then sort | 1742 | | 0.0 |
| 10409 | [Die Game](https://onlinejudge.org/external/104/10409.pdf) | just simulate the die movement | 4624 | | 0.0 |
| 10415 | [Eb Alto Saxophone Player](https://onlinejudge.org/external/104/10415.pdf) | about musical instruments; also available at Kattis - saxophone | 1511 | | 0.0 |
| 10419 | [Sum-up the Primes](https://onlinejudge.org/external/104/10419.pdf) | print path; prime | 531 | | 0.0 |
| 10420 | [List of Conquests](https://onlinejudge.org/external/104/10420.pdf) | word frequency counting; use map | 10190 | | 0.0 |
| 10422 | [Knights in FEN](https://onlinejudge.org/external/104/10422.pdf) | Depth Limited Search (up to 11 moves); also available at Kattis - knightsfen | 1895 | | 0.0 |
| 10424 | [Love Calculator](https://onlinejudge.org/external/104/10424.pdf) | just do as asked | 9063 | | 0.0 |
| 10426 | [Knights' Nightmare](https://onlinejudge.org/external/104/10426.pdf) | for each knight, do BFS when the monster is sleep/awake; try: one awake the monster, the rest go around | 239 | | 0.0 |
| 10427 | [Naughty Sleepy Boys](https://onlinejudge.org/external/104/10427.pdf) | numbers in [10^(k-1)..10^k-1] has k digits | 1752 | | 0.0 |
| 10430 | [Dear GOD](https://onlinejudge.org/external/104/10430.pdf) | BigInteger; derive formula first | 231 | | 0.0 |
| 10432 | [Polygon Inside A Circle](https://onlinejudge.org/external/104/10432.pdf) | simple problem: area of n-sided reg-polygon in a circle | 6179 | | 0.0 |
| 10433 | [Automorphic Numbers](https://onlinejudge.org/external/104/10433.pdf) | BigInteger: pow; substract; mod | 647 | | 0.0 |
| 10436 | [Cheapest way](https://onlinejudge.org/external/104/10436.pdf) | as there is vertex weight, use vertex splitting technique; run Floyd-Warshall on the still-small graph; print path | 335 | | 0.0 |
| 10440 | [Ferry Loading II](https://onlinejudge.org/external/104/10440.pdf) | greedy | 1250 | | 0.0 |
| 10443 | [Rock, Scissors, Paper](https://onlinejudge.org/external/104/10443.pdf) | 2D arrays manipulation; also available at Kattis - rockscissorspaper | 1929 | | 0.0 |
| 10445 | [Make Polygon](https://onlinejudge.org/external/104/10445.pdf) | angle checks; use library code; some corner cases exist | 274 | | 0.0 |
| 10446 | [The Marriage Interview :-)](https://onlinejudge.org/external/104/10446.pdf) | edit the given recursive function a bit; add memoization | 1240 | | 0.0 |
| 10448 | [Unique World](https://onlinejudge.org/external/104/10448.pdf) | after dealing with traversal on tree; you can reduce the original problem into coin change; not trivial | 135 | | 0.0 |
| 10449 | [Traffic](https://onlinejudge.org/external/104/10449.pdf) | find the minimum weight path; which may be negative; be careful: INF negative weight is lower than INF | 1018 | | 0.0 |
| 10450 | [World Cup Noise](https://onlinejudge.org/external/104/10450.pdf) | combinatorics; the pattern ~ Fibonacci | 4582 | | 0.0 |
| 10451 | [Ancient Village Sports](https://onlinejudge.org/external/104/10451.pdf) | inner/outer circle of n-sided reg polygon | 2128 | | 0.0 |
| 10452 | [Marcus](https://onlinejudge.org/external/104/10452.pdf) | at each pos; Indy can go forth/left/right; try all | 2613 | | 0.0 |
| 10453 | [Make Palindrome](https://onlinejudge.org/external/104/10453.pdf) | s: (l; r); t: (l 1; r-1) if S[l] == S[r]; or one plus min of(l 1; r) or (l; r-1); also print the required solution; similar with UVa 10739; 11151; and 11404 | 1517 | | 0.0 |
| 10457 | [Magic Car](https://onlinejudge.org/external/104/10457.pdf) | interesting MST modeling | 230 | | 0.0 |
| 10459 | [The Tree Root](https://onlinejudge.org/external/104/10459.pdf) | diameter of tree | 821 | | 0.0 |
| 10460 | [Find the Permuted String](https://onlinejudge.org/external/104/10460.pdf) | similar nature with UVa 10063 | 596 | | 0.0 |
| 10462 | [Is There A Second Way Left...](https://onlinejudge.org/external/104/10462.pdf) | second best spanning tree | 1328 | | 0.0 |
| 10464 | [Big Big Real Numbers](https://onlinejudge.org/external/104/10464.pdf) | Java BigDecimal class | 675 | | 0.0 |
| 10465 | [Homer Simpson](https://onlinejudge.org/external/104/10465.pdf) | one dimensional DP table | 4013 | | 0.0 |
| 10466 | [How Far?](https://onlinejudge.org/external/104/10466.pdf) | Euclidean dist | 584 | | 0.0 |
| 10469 | [To Carry or not to Carry](https://onlinejudge.org/external/104/10469.pdf) | super simple if you use xor | 11879 | | 0.0 |
| 10473 | [Simple Base Conversion](https://onlinejudge.org/external/104/10473.pdf) | Decimal to Hexadecimal and vice versa; if you use C/C ; you can use strtol | 5456 | | 0.0 |
| 10474 | [Where is the Marble?](https://onlinejudge.org/external/104/10474.pdf) | simple: use sort and then lower\_bound | 10174 | | 0.0 |
| 10475 | [Help the Leaders](https://onlinejudge.org/external/104/10475.pdf) | generate and prune; try all | 467 | | 0.0 |
| 10477 | [The Hybrid Knight](https://onlinejudge.org/external/104/10477.pdf) | s: (row; col; knight\_state); implicit unweighted graph; different edges per different knight\_state | 263 | | 0.0 |
| 10480 | [Sabotage](https://onlinejudge.org/external/104/10480.pdf) | straightforward min cut problem | 1458 | | 0.0 |
| 10482 | [The Candyman Can](https://onlinejudge.org/external/104/10482.pdf) | drop one parameter to save memory | 862 | | 0.0 |
| 10483 | [The Sum Equals the Product](https://onlinejudge.org/external/104/10483.pdf) | 2 nested loops for a; b; derive c from a; b; there are 354 answers for range [0.01 .. 255.99]; similar to UVa 11236 | 413 | | 0.0 |
| 10484 | [Divisibility of Factors](https://onlinejudge.org/external/104/10484.pdf) | prime factors of factorial; D can be negative | 1013 | | 0.0 |
| 10487 | [Closest Sums](https://onlinejudge.org/external/104/10487.pdf) | sort and then do O(n^2) pairings; also available at Kattis - closestsums | 5355 | | 0.0 |
| 10489 | [Boxes of Chocolates](https://onlinejudge.org/external/104/10489.pdf) | keep values small with modulo | 2051 | | 0.0 |
| 10490 | [Mr. Azad and his Son!!!!!](https://onlinejudge.org/external/104/10490.pdf) | ad Hoc; precalculate the answers | 2370 | | 0.0 |
| 10491 | [Cows and Cars](https://onlinejudge.org/external/104/10491.pdf) | two ways to get a car: either pick a cow first; then switch to a car; or pick a car first; and then switch to another car | 2990 | | 0.0 |
| 10493 | [Cats, with or without Hats](https://onlinejudge.org/external/104/10493.pdf) | tree; derive the formula | 951 | | 0.0 |
| 10494 | [If We Were a Child Again](https://onlinejudge.org/external/104/10494.pdf) | BigInteger division | 3785 | | 0.0 |
| 10496 | [Collecting Beepers](https://onlinejudge.org/external/104/10496.pdf) | DP or recursive backtracking with sufficient pruning; also available at Kattis - beepers | 2923 | | 0.0 |
| 10497 | [Sweet Child Makes Trouble](https://onlinejudge.org/external/104/10497.pdf) | the pattern ~ Fibonacci | 1054 | | 0.0 |
| 10499 | [The Land of Justice](https://onlinejudge.org/external/104/10499.pdf) | simple formula exists | 6374 | | 0.0 |
| 10500 | [Robot maps](https://onlinejudge.org/external/105/10500.pdf) | simulate; output formatting | 828 | | 0.0 |
| 10502 | [Counting Rectangles](https://onlinejudge.org/external/105/10502.pdf) | 6 nested loops; rectangle | 1746 | | 0.0 |
| 10503 | [The dominoes solitaire](https://onlinejudge.org/external/105/10503.pdf) | max 13 spaces only | 1702 | | 0.0 |
| 10505 | [Montesco vs Capuleto](https://onlinejudge.org/external/105/10505.pdf) | bipartite; take max(left; right) | 1126 | | 0.0 |
| 10506 | [The Ouroboros problem](https://onlinejudge.org/external/105/10506.pdf) | any valid solution is AC; generate all possible next digit (up to base 10/digit [0..9]); check if it is still a valid Ouroboros sequence | 389 | | 0.0 |
| 10507 | [Waking up brain](https://onlinejudge.org/external/105/10507.pdf) | disjoint sets simplifies this problem | 2096 | | 0.0 |
| 10508 | [Word Morphing](https://onlinejudge.org/external/105/10508.pdf) | number of words = number of letters plus 1 | 1468 | | 0.0 |
| 10509 | [R U Kidding Mr. Feynman?](https://onlinejudge.org/external/105/10509.pdf) | there are only three different cases | 1858 | | 0.0 |
| 10510 | [Cactus](https://onlinejudge.org/external/105/10510.pdf) | use DFS to identify forward/cross edges; involving Strongly Connected graph | 507 | | 0.0 |
| 10511 | [Councilling](https://onlinejudge.org/external/105/10511.pdf) | matching; max flow; print the assignment; also available at Kattis - councilling | 554 | | 0.0 |
| 10514 | [River Crossing](https://onlinejudge.org/external/105/10514.pdf) | use basic geometry to compute edge weights of the graph of islands and the two riverbanks; SSSP; Dijkstra's | 264 | | 0.0 |
| 10515 | [Powers Et Al.](https://onlinejudge.org/external/105/10515.pdf) | concentrate on the last digit | 3217 | | 0.0 |
| 10518 | [How Many Calls?](https://onlinejudge.org/external/105/10518.pdf) | derive the pattern of the answers for small $n$; the answer is 2\*fib(n)-1; then use UVa 10229 solution | 1070 | | 0.0 |
| 10519 | [!! Really Strange !!](https://onlinejudge.org/external/105/10519.pdf) | recurrences; BigInteger | 1428 | | 0.0 |
| 10520 | [Determine it](https://onlinejudge.org/external/105/10520.pdf) | just write the given formula as a top-down DP with memoization | 826 | | 0.0 |
| 10522 | [Height to Area](https://onlinejudge.org/external/105/10522.pdf) | derive the formula; uses Heron's formula | 884 | | 0.0 |
| 10523 | [Very Easy !!!](https://onlinejudge.org/external/105/10523.pdf) | BigInteger addition; multiplication; and power | 3552 | | 0.0 |
| 10525 | [New to Bangladesh?](https://onlinejudge.org/external/105/10525.pdf) | use two adjacency matrices: time and length; use modified Floyd-Warshall | 527 | | 0.0 |
| 10527 | [Persistent Numbers](https://onlinejudge.org/external/105/10527.pdf) | similar to UVa 00993; also available at Kattis - persistent | 740 | | 0.0 |
| 10528 | [Major Scales](https://onlinejudge.org/external/105/10528.pdf) | music knowledge in problem description | 953 | | 0.0 |
| 10530 | [Guessing Game](https://onlinejudge.org/external/105/10530.pdf) | use a 1D flag array; also available at Kattis - guessinggame | 4626 | | 0.0 |
| 10532 | [Combination! Once Again](https://onlinejudge.org/external/105/10532.pdf) | modified binomial coefficient | 511 | | 0.0 |
| 10533 | [Digit Primes](https://onlinejudge.org/external/105/10533.pdf) | sieve; check if a prime is a digit prime; DP 1D range sum | 4170 | | 0.0 |
| 10534 | [Wavio Sequence](https://onlinejudge.org/external/105/10534.pdf) | must use O(n log k) LIS twice | 2882 | | 0.0 |
| 10536 | [Game of Euler](https://onlinejudge.org/external/105/10536.pdf) | model the 4\*4 board and 48 possible pins as bitmask; then this is a simple two player game | 518 | | 0.0 |
| 10537 | [The Toll! Revisited](https://onlinejudge.org/external/105/10537.pdf) | +Dijkstra's on State-Space graph | 623 | | 0.0 |
| 10539 | [Almost Prime Numbers](https://onlinejudge.org/external/105/10539.pdf) | sieve; get 'almost primes' by listing the powers of each prime, sort them; binary search | 2792 | | 0.0 |
| 10541 | [Stripe](https://onlinejudge.org/external/105/10541.pdf) | a good combinatorics problem | 903 | | 0.0 |
| 10543 | [Traveling Politician](https://onlinejudge.org/external/105/10543.pdf) | s: (pos; speech\_given) | 599 | | 0.0 |
| 10544 | [Numbering the Paths](https://onlinejudge.org/external/105/10544.pdf) | counting paths in implicit DAG | 241 | | 0.0 |
| 10550 | [Combination Lock](https://onlinejudge.org/external/105/10550.pdf) | simple; do as asked; also available at Kattis - combinationlock | 10160 | | 0.0 |
| 10551 | [Basic Remains](https://onlinejudge.org/external/105/10551.pdf) | also involving BigInteger mod; also available at Kattis - basicremains | 1944 | | 0.0 |
| 10554 | [Calories from Fat](https://onlinejudge.org/external/105/10554.pdf) | are you concerned with your weights? | 644 | | 0.0 |
| 10555 | [Dead Fraction](https://onlinejudge.org/external/105/10555.pdf) | try every single possible repeating decimals | 491 | | 0.0 |
| 10557 | [XYZZY](https://onlinejudge.org/external/105/10557.pdf) | check 'positive' cycle; check connectedness; also available at Kattis - xyzzy | 1939 | | 0.0 |
| 10559 | [Blocks](https://onlinejudge.org/external/105/10559.pdf) | DP with clever state and transitions | 547 | | 0.0 |
| 10562 | [Undraw the Trees](https://onlinejudge.org/external/105/10562.pdf) | output formatting with clever recursion | 1199 | | 0.0 |
| 10564 | [Paths through the Hourglas...](https://onlinejudge.org/external/105/10564.pdf) | counting paths in implicit DAG (top-down); print one solution | 745 | | 0.0 |
| 10566 | [Crossed Ladders](https://onlinejudge.org/external/105/10566.pdf) | bisection method | 1586 | | 0.0 |
| 10567 | [Helping Fill Bates](https://onlinejudge.org/external/105/10567.pdf) | store inc indices of each char of S in 52 vectors; binary search for the position of the char in the correct vector | 1396 | | 0.0 |
| 10570 | [Meeting with Aliens](https://onlinejudge.org/external/105/10570.pdf) | brute force all possible final configurations (ascending/descending) and see which one requires the smallest number of exchanges | 528 | | 0.0 |
| 10571 | [Products](https://onlinejudge.org/external/105/10571.pdf) | hard backtracking problem; it has similar flavor as Su Doku puzzle | 166 | | 0.0 |
| 10573 | [Geometry Paradox](https://onlinejudge.org/external/105/10573.pdf) | there is no 'impossible' case | 2086 | | 0.0 |
| 10576 | [Y2K Accounting Bug](https://onlinejudge.org/external/105/10576.pdf) | generate all; prune; take max | 1259 | | 0.0 |
| 10577 | [Bounding box](https://onlinejudge.org/external/105/10577.pdf) | get center radius of outer circle from 3 points; get all vertices; get the min-x/max-x/min-y/max-y of the polygon | 624 | | 0.0 |
| 10578 | [The Game of 31](https://onlinejudge.org/external/105/10578.pdf) | backtracking; try all; see who wins the game | 641 | | 0.0 |
| 10579 | [Fibonacci Numbers](https://onlinejudge.org/external/105/10579.pdf) | very easy with Java BigInteger | 5103 | | 0.0 |
| 10582 | [ASCII Labyrinth](https://onlinejudge.org/external/105/10582.pdf) | simplify complex input first; then backtrack | 290 | | 0.0 |
| 10583 | [Ubiquitous Religions](https://onlinejudge.org/external/105/10583.pdf) | count disjoint sets after all unions | 4796 | | 0.0 |
| 10585 | [Center of symmetry](https://onlinejudge.org/external/105/10585.pdf) | sort the points | 767 | | 0.0 |
| 10586 | [Polynomial Remains](https://onlinejudge.org/external/105/10586.pdf) | compute number of prime factors of each integer in the desired range; use 1D RSQ DP; binary search | 673 | | 0.0 |
| 10589 | [Area](https://onlinejudge.org/external/105/10589.pdf) | check if point is inside intersection of 4 circles | 2139 | | 0.0 |
| 10591 | [Happy Number](https://onlinejudge.org/external/105/10591.pdf) | this sequence is 'eventually periodic'; similar to UVa 944 | 6703 | | 0.0 |
| 10592 | [Freedom Fighter](https://onlinejudge.org/external/105/10592.pdf) | floodfill ; two layers | 262 | | 0.0 |
| 10594 | [Data Flow](https://onlinejudge.org/external/105/10594.pdf) | basic min cost max flow problem | 947 | | 0.0 |
| 10596 | [Morning Walk](https://onlinejudge.org/external/105/10596.pdf) | Euler Graph property check | 914 | | 0.0 |
| 10600 | [ACM Contest and Blackout](https://onlinejudge.org/external/106/10600.pdf) | second best spanning tree | 3055 | | 0.0 |
| 10602 | [Editor Nottoobad](https://onlinejudge.org/external/106/10602.pdf) | greedy | 1166 | | 0.0 |
| 10603 | [Fill](https://onlinejudge.org/external/106/10603.pdf) | state: (a; b; c); source: (0; 0; c); 6 possible transitions | 1159 | | 0.0 |
| 10604 | [Chemical Reaction](https://onlinejudge.org/external/106/10604.pdf) | the mixing can be done with any pair of chemicals until there are only two chemicals left; memoize the remaining chemicals with help of map; sorting the remaining chemicals help increasing the number of hits to the memo table | 489 | | 0.0 |
| 10606 | [Opening Doors](https://onlinejudge.org/external/106/10606.pdf) | the solution is simply the highest square number <= N but this problem involves BigInteger; we can use a (rather slow) binary search the answer technique to obtain sqrt(N) | 311 | | 0.0 |
| 10608 | [Friends](https://onlinejudge.org/external/106/10608.pdf) | find the set with the largest element | 5798 | | 0.0 |
| 10610 | [Gopher and Hawks](https://onlinejudge.org/external/106/10610.pdf) | simple SSSP solvable with BFS | 986 | | 0.0 |
| 10611 | [The Playboy Chimp](https://onlinejudge.org/external/106/10611.pdf) | binary search | 5881 | | 0.0 |
| 10616 | [Divisible Group Sums](https://onlinejudge.org/external/106/10616.pdf) | input can be -ve; use long long | 2540 | | 0.0 |
| 10617 | [Again Palindrome](https://onlinejudge.org/external/106/10617.pdf) | s: (l; r); counting substrings that are palindrome | 1442 | | 0.0 |
| 10620 | [A Flea on a Chessboard](https://onlinejudge.org/external/106/10620.pdf) | just simulate the jumps; also available at Kattis - fleaonachessboard | 707 | | 0.0 |
| 10622 | [Perfect P-th Powers](https://onlinejudge.org/external/106/10622.pdf) | GCD of all prime powers; note if x is negative; also available at Kattis - perfectpowers | 2274 | | 0.0 |
| 10624 | [Super Number](https://onlinejudge.org/external/106/10624.pdf) | backtracking with divisibility check | 537 | | 0.0 |
| 10625 | [GNU = GNU'sNotUnix](https://onlinejudge.org/external/106/10625.pdf) | ASCII character; frequency addition n times | 654 | | 0.0 |
| 10626 | [Buying Coke](https://onlinejudge.org/external/106/10626.pdf) | drop parameter n1; recover it from b (number of coke bought), n5, and n10; also available at Kattis - coke | 897 | | 0.0 |
| 10633 | [Rare Easy Problem](https://onlinejudge.org/external/106/10633.pdf) | let C = N-M, N = 10a+b, and M = a; Linear Diophantine Equation: 9a+b = C | 3019 | | 0.0 |
| 10635 | [Prince and Princess](https://onlinejudge.org/external/106/10635.pdf) | find LCS of two permutations; also available at Kattis - princeandprincess | 2081 | | 0.0 |
| 10637 | [Coprimes](https://onlinejudge.org/external/106/10637.pdf) | involving prime numbers and gcd | 762 | | 0.0 |
| 10642 | [Can You Solve It?](https://onlinejudge.org/external/106/10642.pdf) | the reverse of UVa 264 | 2259 | | 0.0 |
| 10643 | [Facing Problem With Trees](https://onlinejudge.org/external/106/10643.pdf) | Cat(n) is part of a bigger problem | 230 | | 0.0 |
| 10645 | [Menu](https://onlinejudge.org/external/106/10645.pdf) | s: (days\_left, budget\_left, prev\_dish, prev\_dish\_cnt); the first 2 params are knapsack-style; the last 2 params to determine price | 217 | | 0.0 |
| 10646 | [What is the Card?](https://onlinejudge.org/external/106/10646.pdf) | shuffle cards with some rules and then get a certain card | 2235 | | 0.0 |
| 10648 | [Chocolate Box](https://onlinejudge.org/external/106/10648.pdf) | DP; s: (rem\_boxes; num\_empty) | 295 | | 0.0 |
| 10650 | [Determinate Prime](https://onlinejudge.org/external/106/10650.pdf) | 3 uni-distance consecutive primes | 1194 | | 0.0 |
| 10651 | [Pebble Solitaire](https://onlinejudge.org/external/106/10651.pdf) | small problem size; doable with backtracking | 2438 | | 0.0 |
| 10652 | [Board Wrapping](https://onlinejudge.org/external/106/10652.pdf) | rotate; translate; CH; area; also available at Kattis - wrapping | 671 | | 0.0 |
| 10653 | [Bombs! NO they are Mines!!](https://onlinejudge.org/external/106/10653.pdf) | need efficient BFS implementation | 3660 | | 0.0 |
| 10655 | [Contemplation! Algebra](https://onlinejudge.org/external/106/10655.pdf) | derive the square matrix | 606 | | 0.0 |
| 10656 | [Maximum Sum (II)](https://onlinejudge.org/external/106/10656.pdf) | greedy | 3732 | | 0.0 |
| 10659 | [Fitting Text into Slides](https://onlinejudge.org/external/106/10659.pdf) | typical presentation programs do this | 282 | | 0.0 |
| 10660 | [Citizen attention offices](https://onlinejudge.org/external/106/10660.pdf) | 7 nested loops; Manhattan distance | 1128 | | 0.0 |
| 10662 | [The Wedding](https://onlinejudge.org/external/106/10662.pdf) | 3 nested loops | 852 | | 0.0 |
| 10664 | [Luggage](https://onlinejudge.org/external/106/10664.pdf) | Subset Sum | 3824 | | 0.0 |
| 10666 | [The Eurocup is Here!](https://onlinejudge.org/external/106/10666.pdf) | analyze the binary representation of X | 492 | | 0.0 |
| 10667 | [Largest Block](https://onlinejudge.org/external/106/10667.pdf) | standard problem | 1853 | | 0.0 |
| 10668 | [Expanding Rods](https://onlinejudge.org/external/106/10668.pdf) | bisection method; also available at Kattis - expandingrods | 550 | | 0.0 |
| 10669 | [Three powers](https://onlinejudge.org/external/106/10669.pdf) | Big Integer is for 3^n; binary rep of set; also available at Kattis - threepowers | 749 | | 0.0 |
| 10670 | [Work Reduction](https://onlinejudge.org/external/106/10670.pdf) | 2 nested loops; with sorting; also available at Kattis - reduction | 1313 | | 0.0 |
| 10672 | [Marbles on a tree](https://onlinejudge.org/external/106/10672.pdf) | greedy; also available at Kattis - marblestree | 805 | | 0.0 |
| 10673 | [Play with Floor and Ceil](https://onlinejudge.org/external/106/10673.pdf) | uses Extended Euclidean | 2866 | | 0.0 |
| 10677 | [Base Equality](https://onlinejudge.org/external/106/10677.pdf) | try all from r2 to r1 | 643 | | 0.0 |
| 10678 | [The Grazing Cow](https://onlinejudge.org/external/106/10678.pdf) | area of an ellipse; generalization of the formula for area of a circle | 2892 | | 0.0 |
| 10679 | [I Love Strings!!](https://onlinejudge.org/external/106/10679.pdf) | the test data weak; just checking if T is a prefix of S is AC when it should not | 3261 | | 0.0 |
| 10680 | [LCM](https://onlinejudge.org/external/106/10680.pdf) | use primefactors([1..N]) to get LCM(1; 2; ...; N) | 1449 | | 0.0 |
| 10681 | [Teobaldo's Trip](https://onlinejudge.org/external/106/10681.pdf) | s: (pos; day\_left) | 856 | | 0.0 |
| 10682 | [Forr](https://onlinejudge.org/external/106/10682.pdf) | s: (current\_city; current\_speed); output path | 163 | | 0.0 |
| 10683 | [The decadary watch](https://onlinejudge.org/external/106/10683.pdf) | simple clock system conversion | 1820 | | 0.0 |
| 10684 | [The jackpot](https://onlinejudge.org/external/106/10684.pdf) | standard; Kadane's algorithm | 7859 | | 0.0 |
| 10685 | [Nature](https://onlinejudge.org/external/106/10685.pdf) | find the set with the largest element | 2346 | | 0.0 |
| 10686 | [SQF Problems](https://onlinejudge.org/external/106/10686.pdf) | use map to manage the data | 375 | | 0.0 |
| 10687 | [Monitoring the Amazon](https://onlinejudge.org/external/106/10687.pdf) | build graph; geometry; reachability | 633 | | 0.0 |
| 10689 | [Yet another Number Sequenc...](https://onlinejudge.org/external/106/10689.pdf) | easy; Pisano period | 1445 | | 0.0 |
| 10690 | [Expression Again](https://onlinejudge.org/external/106/10690.pdf) | DP Subset Sum with negative offset technique; with addition of simple math | 453 | | 0.0 |
| 10693 | [Traffic Volume](https://onlinejudge.org/external/106/10693.pdf) | derive the short Physics formula | 1598 | | 0.0 |
| 10696 | [f91](https://onlinejudge.org/external/106/10696.pdf) | very simple formula simplification | 16793 | | 0.0 |
| 10698 | [Football Sort](https://onlinejudge.org/external/106/10698.pdf) | multi-fields sorting; use sort | 489 | | 0.0 |
| 10699 | [Count the factors](https://onlinejudge.org/external/106/10699.pdf) | numDiffPF(N) for a range | 6438 | | 0.0 |
| 10700 | [Camel trading](https://onlinejudge.org/external/107/10700.pdf) | greedy | 2876 | | 0.0 |
| 10701 | [Pre, in and post](https://onlinejudge.org/external/107/10701.pdf) | reconstructing tree from pre inorder | 2430 | | 0.0 |
| 10702 | [Travelling Salesman](https://onlinejudge.org/external/107/10702.pdf) | s: (pos; T\_left); similar to UVa 12875 | 1292 | | 0.0 |
| 10703 | [Free spots](https://onlinejudge.org/external/107/10703.pdf) | use 2D boolean array of size 500\*500 | 3199 | | 0.0 |
| 10706 | [Number Sequence](https://onlinejudge.org/external/107/10706.pdf) | binary search some mathematical insights | 2079 | | 0.0 |
| 10707 | [2D-Nim](https://onlinejudge.org/external/107/10707.pdf) | check graph isomorphism; a tedious problem; involving connected components | 294 | | 0.0 |
| 10710 | [Chinese Shuffle](https://onlinejudge.org/external/107/10710.pdf) | a bit hard to derive the formula; modPow | 377 | | 0.0 |
| 10714 | [Ants](https://onlinejudge.org/external/107/10714.pdf) | greedy; also available at Kattis - ants | 3159 | | 0.0 |
| 10717 | [Mint](https://onlinejudge.org/external/107/10717.pdf) | complete search + GCD/LCM | 1269 | | 0.0 |
| 10718 | [Bit Mask](https://onlinejudge.org/external/107/10718.pdf) | greedy | 1595 | | 0.0 |
| 10719 | [Quotient Polynomial](https://onlinejudge.org/external/107/10719.pdf) | polynomial division and remainder | 1399 | | 0.0 |
| 10720 | [Graph Construction](https://onlinejudge.org/external/107/10720.pdf) | similar to UVa 11414 and 12786; Erdos-Gallai Theorem | 1284 | | 0.0 |
| 10721 | [Bar Codes](https://onlinejudge.org/external/107/10721.pdf) | s: (n; k); t: try all from 1 to m | 2499 | | 0.0 |
| 10722 | [Super Lucky Numbers](https://onlinejudge.org/external/107/10722.pdf) | counting paths in implicit DAG; s: (N\_digits\_left; B; first; previous\_digit\_is\_one) and use a bit of simple combinatorics to get the answer; need to use Java BigInteger | 402 | | 0.0 |
| 10724 | [Road Construction](https://onlinejudge.org/external/107/10724.pdf) | adding one edge only changes a few things | 416 | | 0.0 |
| 10730 | [Antiarithmetic?](https://onlinejudge.org/external/107/10730.pdf) | 2 nested loops with pruning can still pass the time limit; compare this with UVa 11129; also available at Kattis - antiarithmetic | 1211 | | 0.0 |
| 10731 | [Test](https://onlinejudge.org/external/107/10731.pdf) | SCC + printing solution; also available at Kattis - test2 | 955 | | 0.0 |
| 10733 | [The Colored Cubes](https://onlinejudge.org/external/107/10733.pdf) | Burnside's lemma | 524 | | 0.0 |
| 10734 | [Triangle Partitioning](https://onlinejudge.org/external/107/10734.pdf) | involving triangle/cosine rule; use a data structure that tolerates floating point error due to triangle side normalization so that we count each triangle only once | 267 | | 0.0 |
| 10738 | [Riemann vs Mertens](https://onlinejudge.org/external/107/10738.pdf) | numDiffPF(N) for a range of N | 1309 | | 0.0 |
| 10739 | [String to Palindrome](https://onlinejudge.org/external/107/10739.pdf) | similar to UVa 10453; 11151; and 11404 | 2356 | | 0.0 |
| 10740 | [Not the Best](https://onlinejudge.org/external/107/10740.pdf) | standard K-Best Shortest Paths problem | 347 | | 0.0 |
| 10741 | [Magic Cube](https://onlinejudge.org/external/107/10741.pdf) | similar idea as 2D Magic Square; but now in 3D; just follow the given construction strategy | 192 | | 0.0 |
| 10742 | [The New Rule in Euphomia](https://onlinejudge.org/external/107/10742.pdf) | use sieve; binary search | 849 | | 0.0 |
| 10746 | [Crime Wave - The Sequel](https://onlinejudge.org/external/107/10746.pdf) | min weighted bipartite matching | 827 | | 0.0 |
| 10751 | [Chessboard](https://onlinejudge.org/external/107/10751.pdf) | trivial for N = 1 and N = 2; derive the formula first for N > 2; hint: use diagonal as much as possible | 624 | | 0.0 |
| 10755 | [Garbage Heap](https://onlinejudge.org/external/107/10755.pdf) | max 2D range sum in 2 of the 3 dimensions; max 1D range sum with Kadane's algorithm on the 3rd dimension | 1378 | | 0.0 |
| 10759 | [Dice Throwing](https://onlinejudge.org/external/107/10759.pdf) | DP; s: (dice\_left; score); try 6 values; gcd; similar to UVa 10238 | 1209 | | 0.0 |
| 10761 | [Broken Keyboard](https://onlinejudge.org/external/107/10761.pdf) | tricky with output formatting; note that 'END' is part of input | 318 | | 0.0 |
| 10763 | [Foreign Exchange](https://onlinejudge.org/external/107/10763.pdf) | greedy; sorting | 3809 | | 0.0 |
| 10765 | [Doves and bombs](https://onlinejudge.org/external/107/10765.pdf) | finding articulation points | 1150 | | 0.0 |
| 10771 | [Barbarian tribes](https://onlinejudge.org/external/107/10771.pdf) | brute force; input size is small | 579 | | 0.0 |
| 10773 | [Back to Intermediate Math](https://onlinejudge.org/external/107/10773.pdf) | several tricky cases | 4584 | | 0.0 |
| 10774 | [Repeated Josephus](https://onlinejudge.org/external/107/10774.pdf) | repeated special case of Josephus when k = 2 | 692 | | 0.0 |
| 10776 | [Determine The Combination](https://onlinejudge.org/external/107/10776.pdf) | recursive backtracking | 1153 | | 0.0 |
| 10777 | [God! Save me](https://onlinejudge.org/external/107/10777.pdf) | expected value | 395 | | 0.0 |
| 10779 | [Collectors Problem](https://onlinejudge.org/external/107/10779.pdf) | build a flow graph s.t. each augmenting path corresponds to a series of exchange of duplicate stickers; repeat until this is no longer possible | 767 | | 0.0 |
| 10780 | [Again Prime? No Time.](https://onlinejudge.org/external/107/10780.pdf) | similar to UVa 10139 | 1568 | | 0.0 |
| 10783 | [Odd Sum](https://onlinejudge.org/external/107/10783.pdf) | input range is very small; just brute force it | 25696 | | 0.0 |
| 10784 | [Diagonal](https://onlinejudge.org/external/107/10784.pdf) | the number of diagonals in n-gon = n\*(n-3)/2; use it to derive the solution | 4228 | | 0.0 |
| 10785 | [The Mad Numerologist](https://onlinejudge.org/external/107/10785.pdf) | greedy; sorting | 1376 | | 0.0 |
| 10789 | [Prime Frequency](https://onlinejudge.org/external/107/10789.pdf) | check if a letter's frequency (using DAT) is a prime | 5119 | | 0.0 |
| 10790 | [How Many Points of Interse...](https://onlinejudge.org/external/107/10790.pdf) | uses arithmetic progression formula | 2787 | | 0.0 |
| 10791 | [Minimum Sum LCM](https://onlinejudge.org/external/107/10791.pdf) | analyze the prime factors of N | 1980 | | 0.0 |
| 10792 | [The Laurel-Hardy Story](https://onlinejudge.org/external/107/10792.pdf) | derive the trigonometry formulas | 506 | | 0.0 |
| 10793 | [The Orc Attack](https://onlinejudge.org/external/107/10793.pdf) | Floyd-Warshall simplifies this problem | 825 | | 0.0 |
| 10800 | [Not That Kind of Graph](https://onlinejudge.org/external/108/10800.pdf) | tedious problem | 1586 | | 0.0 |
| 10801 | [Lift Hopping](https://onlinejudge.org/external/108/10801.pdf) | model the graph carefully | 2743 | | 0.0 |
| 10803 | [Thunder Mountain](https://onlinejudge.org/external/108/10803.pdf) | graph is small | 1688 | | 0.0 |
| 10804 | [Gopher Strategy](https://onlinejudge.org/external/108/10804.pdf) | binary search the answer and MCBM; similar with UVa 11262 | 462 | | 0.0 |
| 10805 | [Cockroach Escape Networks](https://onlinejudge.org/external/108/10805.pdf) | involving diameter of tree | 305 | | 0.0 |
| 10806 | [Dijkstra, Dijkstra.](https://onlinejudge.org/external/108/10806.pdf) | send 2 edge-disjoint flows with min cost | 1414 | | 0.0 |
| 10810 | [Ultra-QuickSort](https://onlinejudge.org/external/108/10810.pdf) | requires O(n log n) merge sort; also available at Kattis - ultraquicksort | 3396 | | 0.0 |
| 10812 | [Beat the Spread!](https://onlinejudge.org/external/108/10812.pdf) | be careful with boundary cases! | 16117 | | 0.0 |
| 10813 | [Traditional BINGO](https://onlinejudge.org/external/108/10813.pdf) | follow the problem description | 1266 | | 0.0 |
| 10814 | [Simplifying Fractions](https://onlinejudge.org/external/108/10814.pdf) | BigInteger gcd | 1797 | | 0.0 |
| 10815 | [Andy's First Dictionary](https://onlinejudge.org/external/108/10815.pdf) | use set and string | 8259 | | 0.0 |
| 10816 | [Travel in Desert](https://onlinejudge.org/external/108/10816.pdf) | binary search the answer and Dijkstra's | 781 | | 0.0 |
| 10817 | [Headmaster's Headache](https://onlinejudge.org/external/108/10817.pdf) | s: (id; bitmask) | 872 | | 0.0 |
| 10819 | [Trouble of 13-Dots](https://onlinejudge.org/external/108/10819.pdf) | 0-1 knapsack with 'credit card' twist | 2320 | | 0.0 |
| 10820 | [Send a Table](https://onlinejudge.org/external/108/10820.pdf) | a[i] = a[i-1] plus 2\*EulerPhi(i) | 1774 | | 0.0 |
| 10821 | [Constructing BST](https://onlinejudge.org/external/108/10821.pdf) | greedy | 596 | | 0.0 |
| 10823 | [Of Circles and Squares](https://onlinejudge.org/external/108/10823.pdf) | complete search; check if point inside circles/squares | 379 | | 0.0 |
| 10827 | [Maximum sum on a torus](https://onlinejudge.org/external/108/10827.pdf) | copy n\*n matrix into n\*2n matrix; then this problem becomes a standard max 2D range sum problem again | 2464 | | 0.0 |
| 10832 | [Yoyodyne](https://onlinejudge.org/external/108/10832.pdf) | 3D Euclidean distance; simulation | 244 | | 0.0 |
| 10842 | [Traffic Flow](https://onlinejudge.org/external/108/10842.pdf) | find min weighted edge in 'max' spanning tree | 1792 | | 0.0 |
| 10843 | [Anne's game](https://onlinejudge.org/external/108/10843.pdf) | Cayley's Formula to count the number of spanning trees of a graph with n vertices is n^n-2; use Java BigInteger | 592 | | 0.0 |
| 10848 | [Make Palindrome Checker](https://onlinejudge.org/external/108/10848.pdf) | related to UVa 10453; palindrome check, character frequency check, and a few others | 217 | | 0.0 |
| 10849 | [Move the bishop](https://onlinejudge.org/external/108/10849.pdf) | chess | 1673 | | 0.0 |
| 10850 | [The Gossipy Gossipers Goss...](https://onlinejudge.org/external/108/10850.pdf) | gossip spread simulation | 236 | | 0.0 |
| 10851 | [2D Hieroglyphs decoder](https://onlinejudge.org/external/108/10851.pdf) | ignore border; treat '\/' as 1/0 | 1061 | | 0.0 |
| 10852 | [Less Prime](https://onlinejudge.org/external/108/10852.pdf) | sieve; p = 1; find the first prime number >= n/2 plus 1 | 2549 | | 0.0 |
| 10854 | [Number of Paths](https://onlinejudge.org/external/108/10854.pdf) | recursive parsing plus counting | 403 | | 0.0 |
| 10855 | [Rotated square](https://onlinejudge.org/external/108/10855.pdf) | string array; 90 degrees clockwise rotation | 2358 | | 0.0 |
| 10856 | [Recover Factorial](https://onlinejudge.org/external/108/10856.pdf) | compute number of prime factors of each integer in the desired range; use 1D RSQ DP; binary search | 877 | | 0.0 |
| 10858 | [Unique Factorization](https://onlinejudge.org/external/108/10858.pdf) | use stack | 597 | | 0.0 |
| 10859 | [Placing Lampposts](https://onlinejudge.org/external/108/10859.pdf) | Min-Vertex-Cover; on several trees; maximize number of edges with its two endpoints covered | 495 | | 0.0 |
| 10862 | [Connect the Cable Wires](https://onlinejudge.org/external/108/10862.pdf) | the pattern ends up ~ Fibonacci | 1330 | | 0.0 |
| 10865 | [Brownie Points](https://onlinejudge.org/external/108/10865.pdf) | points and quadrants; simple; also available at Kattis - browniepoints | 880 | | 0.0 |
| 10870 | [Recurrences](https://onlinejudge.org/external/108/10870.pdf) | form the required matrix first; power of matrix | 902 | | 0.0 |
| 10871 | [Primed Subsequence](https://onlinejudge.org/external/108/10871.pdf) | need 1D Range Sum Query | 886 | | 0.0 |
| 10874 | [Segments](https://onlinejudge.org/external/108/10874.pdf) | s: (row; left/right); t: go left/right | 498 | | 0.0 |
| 10875 | [Big Math](https://onlinejudge.org/external/108/10875.pdf) | simple but tedious problem | 206 | | 0.0 |
| 10876 | [Factory Robot](https://onlinejudge.org/external/108/10876.pdf) | binary search the answer and graph connectivity (geometry/Euclidian distance and union find); similar with UVa 295 | 107 | | 0.0 |
| 10878 | [Decode the tape](https://onlinejudge.org/external/108/10878.pdf) | treat space/'o' as 0/1; then it is binary to decimal conversion | 5366 | | 0.0 |
| 10879 | [Code Refactoring](https://onlinejudge.org/external/108/10879.pdf) | just use brute force | 3267 | | 0.0 |
| 10880 | [Colin and Ryan](https://onlinejudge.org/external/108/10880.pdf) | use sort | 1464 | | 0.0 |
| 10882 | [Koerner's Pub](https://onlinejudge.org/external/108/10882.pdf) | inclusion-exclusion principle | 302 | | 0.0 |
| 10887 | [Concatenation of Languages](https://onlinejudge.org/external/108/10887.pdf) | Use O(M\*N\*log(MN)\*10) algorithm; concatenate all pairs of strings; put them in a set; report set size | 1015 | | 0.0 |
| 10888 | [Warehouse](https://onlinejudge.org/external/108/10888.pdf) | BFS/SSSP; min weighted bipartite matching | 374 | | 0.0 |
| 10890 | [Maze](https://onlinejudge.org/external/108/10890.pdf) | looks like a DP problem but the state---involving bitmask---cannot be memoized; fortunately the grid size is small | 237 | | 0.0 |
| 10891 | [Game of Sum](https://onlinejudge.org/external/108/10891.pdf) | Double DP; 1D RSQ plus another DP to evaluate decision tree; s: (i, j); try all splitting points; minimax | 2239 | | 0.0 |
| 10892 | [LCM Cardinality](https://onlinejudge.org/external/108/10892.pdf) | number of divisor pairs of N: (m; n) such that gcd(m; n) = 1 | 2191 | | 0.0 |
| 10894 | [Save Hridoy](https://onlinejudge.org/external/108/10894.pdf) | how fast can you can solve this problem? | 650 | | 0.0 |
| 10895 | [Matrix Transpose](https://onlinejudge.org/external/108/10895.pdf) | transpose adjacency list | 1963 | | 0.0 |
| 10896 | [Known Plaintext Attack](https://onlinejudge.org/external/108/10896.pdf) | try all possible keys; use tokenizer | 831 | | 0.0 |
| 10897 | [Travelling Distance](https://onlinejudge.org/external/108/10897.pdf) | gcDistance | 386 | | 0.0 |
| 10898 | [Combo Deal](https://onlinejudge.org/external/108/10898.pdf) | similar to DP bitmask; store state as integer | 634 | | 0.0 |
| 10901 | [Ferry Loading III](https://onlinejudge.org/external/109/10901.pdf) | simulation with queue; also available at Kattis - ferryloading3 | 1918 | | 0.0 |
| 10902 | [Pick-up Sticks](https://onlinejudge.org/external/109/10902.pdf) | line segment intersection | 882 | | 0.0 |
| 10903 | [Rock-Paper-Scissors Tourna...](https://onlinejudge.org/external/109/10903.pdf) | count wins and losses; output win average; also available at Kattis - rockpaperscissors | 2038 | | 0.0 |
| 10905 | [Children's Game](https://onlinejudge.org/external/109/10905.pdf) | modified comparison function; use sort | 3931 | | 0.0 |
| 10906 | [Strange Integration](https://onlinejudge.org/external/109/10906.pdf) | BNF parsing; iterative solution | 244 | | 0.0 |
| 10908 | [Largest Square](https://onlinejudge.org/external/109/10908.pdf) | 4 nested loops; try all possible odd square lengths | 2019 | | 0.0 |
| 10909 | [Lucky Number](https://onlinejudge.org/external/109/10909.pdf) | involves dynamic selection; use pb\\_ds, Fenwick Tree, or augment balanced BST | 362 | | 0.0 |
| 10910 | [Marks Distribution](https://onlinejudge.org/external/109/10910.pdf) | two dimensional DP table | 1964 | | 0.0 |
| 10911 | [Forming Quiz Teams](https://onlinejudge.org/external/109/10911.pdf) | the intro problem of this book; DP with bitmask; weighted MCM; small complete weighted graph | 2876 | | 0.0 |
| 10912 | [Simple Minded Hashing](https://onlinejudge.org/external/109/10912.pdf) | s: (len; last; sum); t: try next char | 1371 | | 0.0 |
| 10913 | [Walking on a Grid](https://onlinejudge.org/external/109/10913.pdf) | s: (r; c; neg\_left; stat); t: down/(left/right) | 870 | | 0.0 |
| 10916 | [Factstone Benchmark](https://onlinejudge.org/external/109/10916.pdf) | use logarithm; power; also available at Kattis - factstone | 1954 | | 0.0 |
| 10917 | [Walk Through the Forest](https://onlinejudge.org/external/109/10917.pdf) | counting paths in DAG; build the DAG; Dijkstra's from 'home'; also available at Kattis - walkforest | 888 | | 0.0 |
| 10918 | [Tri Tiling](https://onlinejudge.org/external/109/10918.pdf) | there are two related recurrences here | 1922 | | 0.0 |
| 10919 | [Prerequisites?](https://onlinejudge.org/external/109/10919.pdf) | process the requirements as the input is read; also available at Kattis - prerequisites | 2324 | | 0.0 |
| 10920 | [Spiral Tap](https://onlinejudge.org/external/109/10920.pdf) | simulate the process | 2105 | | 0.0 |
| 10921 | [Find the Telephone](https://onlinejudge.org/external/109/10921.pdf) | simple conversion problem | 10300 | | 0.0 |
| 10922 | [2 the 9s](https://onlinejudge.org/external/109/10922.pdf) | test divisibility by 9 | 5462 | | 0.0 |
| 10923 | [Seven Seas](https://onlinejudge.org/external/109/10923.pdf) | s: (ship\_position; location\_of\_enemies; location\_of\_obstacles; steps\_so\_far); implicit weighted graph | 147 | | 0.0 |
| 10924 | [Prime Words](https://onlinejudge.org/external/109/10924.pdf) | check if the sum of letter values is a prime | 9631 | | 0.0 |
| 10925 | [Krakovia](https://onlinejudge.org/external/109/10925.pdf) | BigInteger addition and division | 2108 | | 0.0 |
| 10926 | [How Many Dependencies?](https://onlinejudge.org/external/109/10926.pdf) | counting paths in DAG; DP | 1977 | | 0.0 |
| 10927 | [Bright Lights](https://onlinejudge.org/external/109/10927.pdf) | sort points by gradient; Euclidean dist | 732 | | 0.0 |
| 10928 | [My Dear Neighbours](https://onlinejudge.org/external/109/10928.pdf) | counting out-degrees | 1893 | | 0.0 |
| 10929 | [You can say 11](https://onlinejudge.org/external/109/10929.pdf) | test divisibility by 11 | 10175 | | 0.0 |
| 10930 | [A-Sequence](https://onlinejudge.org/external/109/10930.pdf) | ad-hoc; follow the rules given in description | 1286 | | 0.0 |
| 10931 | [Parity](https://onlinejudge.org/external/109/10931.pdf) | convert decimal to binary; count number of 1s | 8715 | | 0.0 |
| 10934 | [Dropping water balloons](https://onlinejudge.org/external/109/10934.pdf) | Egg dropping puzzle; interesting DP; try all possible answers | 631 | | 0.0 |
| 10935 | [Throwing cards away I](https://onlinejudge.org/external/109/10935.pdf) | simulation with queue | 7209 | | 0.0 |
| 10937 | [Blackbeard the Pirate](https://onlinejudge.org/external/109/10937.pdf) | BFS -> APSP information for TSP; then DP or backtracking | 458 | | 0.0 |
| 10938 | [Flea circus](https://onlinejudge.org/external/109/10938.pdf) | basic LCA problem | 943 | | 0.0 |
| 10940 | [Throwing cards away II](https://onlinejudge.org/external/109/10940.pdf) | find the pattern with brute force solution; then submit the optimized solution | 3223 | | 0.0 |
| 10942 | [Can of Beans](https://onlinejudge.org/external/109/10942.pdf) | try all 3! = 6 permutations of 3 integers to form YY MM DD; check validity of the date; pick the earliest valid date | 360 | | 0.0 |
| 10943 | [How do you add?](https://onlinejudge.org/external/109/10943.pdf) | s: (n; k); t: try all the possible splitting points; alternative solution is to use the closed form mathematical formula: C(n k-1; k-1) which also needs DP | 4473 | | 0.0 |
| 10944 | [Nuts for nuts..](https://onlinejudge.org/external/109/10944.pdf) | BFS -> APSP information for TSP; then use DP as n <= 16 | 633 | | 0.0 |
| 10945 | [Mother bear](https://onlinejudge.org/external/109/10945.pdf) | palindrome check; ignore case and punctuation | 7449 | | 0.0 |
| 10946 | [You want what filled?](https://onlinejudge.org/external/109/10946.pdf) | find CCs and rank them by their size | 2806 | | 0.0 |
| 10947 | [Bear with me, again..](https://onlinejudge.org/external/109/10947.pdf) | graph is small | 657 | | 0.0 |
| 10948 | [The primary problem](https://onlinejudge.org/external/109/10948.pdf) | Goldbach's conjecture; similar to UVa 543; 686; and 10311 | 3244 | | 0.0 |
| 10950 | [Bad Code](https://onlinejudge.org/external/109/10950.pdf) | sort the input; run backtracking; the output should be sorted; only display the first 100 sorted output | 374 | | 0.0 |
| 10954 | [Add All](https://onlinejudge.org/external/109/10954.pdf) | greedy; priority queue | 8648 | | 0.0 |
| 10957 | [So Doku Checker](https://onlinejudge.org/external/109/10957.pdf) | very similar with UVa 989; if you can solve that one; you can modify your code a bit to solve this one | 532 | | 0.0 |
| 10958 | [How Many Solutions?](https://onlinejudge.org/external/109/10958.pdf) | 2 \* numDiv(n\*m\*p\*p) - 1 | 350 | | 0.0 |
| 10959 | [The Party, Part I](https://onlinejudge.org/external/109/10959.pdf) | SSSP from source 0 to the rest | 2162 | | 0.0 |
| 10961 | [Chasing After Don Giovanni](https://onlinejudge.org/external/109/10961.pdf) | tedious simulation | 129 | | 0.0 |
| 10963 | [The Swallowing Ground](https://onlinejudge.org/external/109/10963.pdf) | for two blocks to be merge-able, the gaps between their columns must be the same | 3381 | | 0.0 |
| 10964 | [Strange Planet](https://onlinejudge.org/external/109/10964.pdf) | convert the coordinates to (x; y); then this problem is just about finding Euclidean distance between two coordinates | 401 | | 0.0 |
| 10967 | [The Great Escape](https://onlinejudge.org/external/109/10967.pdf) | model the graph; SSSP | 155 | | 0.0 |
| 10970 | [Big Chocolate](https://onlinejudge.org/external/109/10970.pdf) | direct formula exists; or use DP | 13452 | | 0.0 |
| 10973 | [Triangle Counting](https://onlinejudge.org/external/109/10973.pdf) | 3 nested loops with pruning | 425 | | 0.0 |
| 10976 | [Fractions Again?!](https://onlinejudge.org/external/109/10976.pdf) | total solutions is asked upfront; therefore do brute force twice | 4545 | | 0.0 |
| 10977 | [Enchanted Forest](https://onlinejudge.org/external/109/10977.pdf) | BFS with blocked states | 793 | | 0.0 |
| 10978 | [Let's Play Magic!](https://onlinejudge.org/external/109/10978.pdf) | 1D string array | 1052 | | 0.0 |
| 10980 | [Lowest Price in Town](https://onlinejudge.org/external/109/10980.pdf) | simple DP | 767 | | 0.0 |
| 10982 | [Troublemakers](https://onlinejudge.org/external/109/10982.pdf) | greedy | 334 | | 0.0 |
| 10983 | [Buy one, get the rest free](https://onlinejudge.org/external/109/10983.pdf) | binary search the answer and max flow | 423 | | 0.0 |
| 10986 | [Sending email](https://onlinejudge.org/external/109/10986.pdf) | direct Dijkstra's application | 5634 | | 0.0 |
| 10987 | [Antifloyd](https://onlinejudge.org/external/109/10987.pdf) | creative usage of Floyd-Warshall algorithm; if we can detour without increasing cost, then delete the direct edge | 324 | | 0.0 |
| 10989 | [Bomb, Divide and Conquer](https://onlinejudge.org/external/109/10989.pdf) | this is the basic problem solvable with Stoer Wagner's algorithm | 389 | | 0.0 |
| 10990 | [Another New Function](https://onlinejudge.org/external/109/10990.pdf) | modified sieve to compute a range of Euler Phi values; use DP to compute depth Phi values; then finally use Max 1D Range Sum DP to output the answer | 917 | | 0.0 |
| 10991 | [Region](https://onlinejudge.org/external/109/10991.pdf) | Heron's formula; Law of Cosines; area of sector | 1517 | | 0.0 |
| 10992 | [The Ghost of Programmers](https://onlinejudge.org/external/109/10992.pdf) | input size is up to 50 digits | 536 | | 0.0 |
| 10993 | [Ignoring Digits](https://onlinejudge.org/external/109/10993.pdf) | s: (the current number modulo N); BFS | 201 | | 0.0 |
| 10994 | [Simple Addition](https://onlinejudge.org/external/109/10994.pdf) | formula simplification | 1580 | | 0.0 |
| 10997 | [Medals](https://onlinejudge.org/external/109/10997.pdf) | not an easy problem; require analysis to realize that the search space is small; also available at Kattis - medals | 185 | | 0.0 |
| 10kindsofpeople | [Kattis - 10kindsofpeople](https://open.kattis.com/problems/10kindsofpeople) | intelligent flood fill; just run once to avoid TLE as there are many queries | 2380 | | 3.9 |
| 11000 | [Bee](https://onlinejudge.org/external/110/11000.pdf) | combinatorics; the pattern is similar to Fibonacci | 6588 | | 0.0 |
| 11001 | [Necklace](https://onlinejudge.org/external/110/11001.pdf) | brute force math; maximize function | 1394 | | 0.0 |
| 11002 | [Towards Zero](https://onlinejudge.org/external/110/11002.pdf) | a simple DP; use negative offset technique | 489 | | 0.0 |
| 11003 | [Boxes](https://onlinejudge.org/external/110/11003.pdf) | try all max weight from 0 to max(weight[i] capacity[i]); forall i in [0..n-1]; if a max weight is known; how many boxes can be stacked? | 1568 | | 0.0 |
| 11005 | [Cheapest Base](https://onlinejudge.org/external/110/11005.pdf) | try all possible bases from 2 to 36 | 1725 | | 0.0 |
| 11008 | [Antimatter Ray Clearcuttin...](https://onlinejudge.org/external/110/11008.pdf) | collinear test; DP bitmask | 519 | | 0.0 |
| 11012 | [Cosmic Cabbages](https://onlinejudge.org/external/110/11012.pdf) | find i and j for which this function is maximal: |x\_i-x\_j| |y\_i-y\_j| |z\_i-z\_j|; the solution must be faster than O(n^2) | 504 | | 0.0 |
| 11013 | [Get Straight](https://onlinejudge.org/external/110/11013.pdf) | check permutations of 5 cards to determine the best run; brute force the 6th card and replace one of your card with it | 149 | | 0.0 |
| 11015 | [05-2 Rendezvous](https://onlinejudge.org/external/110/11015.pdf) | graph is small | 1848 | | 0.0 |
| 11021 | [Tribles](https://onlinejudge.org/external/110/11021.pdf) | probability | 549 | | 0.0 |
| 11022 | [String Factoring](https://onlinejudge.org/external/110/11022.pdf) | s: the min weight of substring [i..j]; also available at Kattis - stringfactoring | 709 | | 0.0 |
| 11026 | [A Grouping Problem](https://onlinejudge.org/external/110/11026.pdf) | DP; similar idea with binomial theorem | 610 | | 0.0 |
| 11028 | [Sum of Product](https://onlinejudge.org/external/110/11028.pdf) | this is a 'dartboard sequence' | 326 | | 0.0 |
| 11029 | [Leading and Trailing](https://onlinejudge.org/external/110/11029.pdf) | combination of logarithmic trick to get the first three digits and 'big mod' trick to get the last three digits | 871 | | 0.0 |
| 11032 | [Function Overloading](https://onlinejudge.org/external/110/11032.pdf) | observation: sod(i) can be only from 1 to 63; use 1D Range Sum Query for fun(a; b) | 312 | | 0.0 |
| 11034 | [Ferry Loading IV](https://onlinejudge.org/external/110/11034.pdf) | simulation with queue; also available at Kattis - ferryloading4 | 2663 | | 0.0 |
| 11036 | [Eventually Periodic Sequen...](https://onlinejudge.org/external/110/11036.pdf) | cycle-finding; evaluate Reverse Polish f with a stack | 241 | | 0.0 |
| 11038 | [How Many O's?](https://onlinejudge.org/external/110/11038.pdf) | define a function f that counts the number of 0s from 1 to n; also available at Kattis - howmanyzeros | 928 | | 0.0 |
| 11039 | [Building designing](https://onlinejudge.org/external/110/11039.pdf) | use sort then count different signs | 2310 | | 0.0 |
| 11040 | [Add bricks in the wall](https://onlinejudge.org/external/110/11040.pdf) | non trivial 2D array manipulation | 1709 | | 0.0 |
| 11042 | [Complex, difficult and com...](https://onlinejudge.org/external/110/11042.pdf) | case analysis; only 4 possible outputs | 647 | | 0.0 |
| 11044 | [Searching for Nessy](https://onlinejudge.org/external/110/11044.pdf) | one liner code/formula exists | 13204 | | 0.0 |
| 11045 | [My T-shirt suits me](https://onlinejudge.org/external/110/11045.pdf) | assignment problem; matching with capacity; similar to UVa 259; 10092; and 12873; but actually the input constraint is actually small enough for recursive backtracking | 2014 | | 0.0 |
| 11047 | [The Scrooge Co Problem](https://onlinejudge.org/external/110/11047.pdf) | print path; special case: if origin = destination; print twice | 363 | | 0.0 |
| 11048 | [Automatic Correction of Mi...](https://onlinejudge.org/external/110/11048.pdf) | flexible string comparison with respect to a dictionary | 559 | | 0.0 |
| 11049 | [Basic wall maze](https://onlinejudge.org/external/110/11049.pdf) | some restricted moves; print the path | 761 | | 0.0 |
| 11052 | [Economic phone calls](https://onlinejudge.org/external/110/11052.pdf) | the worst case time complexity of 2^1000 looks scary but the search space is apparently not that big | 150 | | 0.0 |
| 11053 | [Flavius Josephus Reloaded](https://onlinejudge.org/external/110/11053.pdf) | cycle-finding; the answer is N-lambda | 606 | | 0.0 |
| 11054 | [Wine trading in Gergovia](https://onlinejudge.org/external/110/11054.pdf) | greedy | 2566 | | 0.0 |
| 11055 | [Homogeneous squares](https://onlinejudge.org/external/110/11055.pdf) | not classic; observation needed to avoid brute-force solution | 396 | | 0.0 |
| 11056 | [Formula 1](https://onlinejudge.org/external/110/11056.pdf) | sorting; case-insensitive string comparison | 1024 | | 0.0 |
| 11057 | [Exact Sum](https://onlinejudge.org/external/110/11057.pdf) | sort; target pair problem | 7378 | | 0.0 |
| 11059 | [Maximum Product](https://onlinejudge.org/external/110/11059.pdf) | 3 nested loops; input is small | 4769 | | 0.0 |
| 11060 | [Beverages](https://onlinejudge.org/external/110/11060.pdf) | Kahn's algorithm---modified BFS toposort | 2994 | | 0.0 |
| 11062 | [Andy's Second Dictionary](https://onlinejudge.org/external/110/11062.pdf) | similar to UVa 10815 with twists | 1645 | | 0.0 |
| 11063 | [B2-Sequence](https://onlinejudge.org/external/110/11063.pdf) | see if a number is repeated; be careful with -ve | 2329 | | 0.0 |
| 11064 | [Number Theory](https://onlinejudge.org/external/110/11064.pdf) | N - EulerPhi(N) - numDiv(N) | 1220 | | 0.0 |
| 11065 | [A Gentlemen's Agreement](https://onlinejudge.org/external/110/11065.pdf) | optimization version of MAX-INDEPENDENT-SET problem on general graph; also report the number of Independent Sets; bitmask helps in speeding up the solution | 238 | | 0.0 |
| 11067 | [Little Red Riding Hood](https://onlinejudge.org/external/110/11067.pdf) | counting paths in grid (implicit DAG); DP; similar to UVa 825 and 926 | 919 | | 0.0 |
| 11068 | [An Easy Task](https://onlinejudge.org/external/110/11068.pdf) | simple 2 linear equations with 2 unknowns | 1316 | | 0.0 |
| 11069 | [A Graph Problem](https://onlinejudge.org/external/110/11069.pdf) | use Dynamic Programming | 2545 | | 0.0 |
| 11070 | [The Good Old Times](https://onlinejudge.org/external/110/11070.pdf) | recursive grammar evaluation | 342 | | 0.0 |
| 11072 | [Points](https://onlinejudge.org/external/110/11072.pdf) | find CH and then check if the query point inside is inside the convex hull | 298 | | 0.0 |
| 11074 | [Draw Grid](https://onlinejudge.org/external/110/11074.pdf) | output formatting | 1237 | | 0.0 |
| 11076 | [Add Again](https://onlinejudge.org/external/110/11076.pdf) | do not use next\_permutation for 12!; TLE; observe the digits in all permutations; hint: the solution involves factorial | 887 | | 0.0 |
| 11078 | [Open Credit System](https://onlinejudge.org/external/110/11078.pdf) | one linear scan; max function | 2545 | | 0.0 |
| 11080 | [Place the Guards](https://onlinejudge.org/external/110/11080.pdf) | bipartite graph check; tricky cases | 2448 | | 0.0 |
| 11081 | [Strings](https://onlinejudge.org/external/110/11081.pdf) | DP on string; s: (t; i; j; k) | 449 | | 0.0 |
| 11082 | [Matrix Decompressing](https://onlinejudge.org/external/110/11082.pdf) | very similar to Kattis - tomography | 466 | | 0.0 |
| 11084 | [Anagram Division](https://onlinejudge.org/external/110/11084.pdf) | using next\_permutation/brute force is probably not the best approach; there is a DP formulation for this | 317 | | 0.0 |
| 11085 | [Back to the 8-Queens](https://onlinejudge.org/external/110/11085.pdf) | see UVa 750; pre-calculation | 2583 | | 0.0 |
| 11086 | [Composite Prime](https://onlinejudge.org/external/110/11086.pdf) | find numbers N with numPF(N) == 2 | 751 | | 0.0 |
| 11088 | [End up with More Teams](https://onlinejudge.org/external/110/11088.pdf) | similar to UVa 10911 but partitioning of three persons to one team; PARTITION-INTO-TRIANGLES | 636 | | 0.0 |
| 11089 | [Fi-binary Number](https://onlinejudge.org/external/110/11089.pdf) | the list of Fi-binary Numbers follow the Zeckendorf's theorem | 990 | | 0.0 |
| 11090 | [Going in Cycle!!](https://onlinejudge.org/external/110/11090.pdf) | this is the simplest form of Min Mean Cycle problem; however it has small constraints and thus this problem is still solvable with just backtracking | 609 | | 0.0 |
| 11093 | [Just Finish it up](https://onlinejudge.org/external/110/11093.pdf) | linear scan; circular array; a bit challenging | 1212 | | 0.0 |
| 11094 | [Continents](https://onlinejudge.org/external/110/11094.pdf) | tricky flood fill; scrolling | 2966 | | 0.0 |
| 11095 | [Tabriz City](https://onlinejudge.org/external/110/11095.pdf) | optimization version of Min Vertex Cover on general graph which is NP-Hard | 147 | | 0.0 |
| 11096 | [Nails](https://onlinejudge.org/external/110/11096.pdf) | very classic CH problem; perimeter of polygon | 604 | | 0.0 |
| 11099 | [Next Same-Factored](https://onlinejudge.org/external/110/11099.pdf) | generate list of small primes; generate all multiples of each prime factor starting from base using backtracking; do not forget to use use long long | 340 | | 0.0 |
| 11100 | [The Trip, 2007](https://onlinejudge.org/external/111/11100.pdf) | greedy; sorting; also available at Kattis - trip2007 | 1547 | | 0.0 |
| 11101 | [Mall Mania](https://onlinejudge.org/external/111/11101.pdf) | multi-sources BFS from m1; get minimum at border of m2; also available at Kattis - mallmania | 933 | | 0.0 |
| 11103 | [WFF 'N PROOF](https://onlinejudge.org/external/111/11103.pdf) | greedy; sorting; also available at Kattis - wffnproof | 450 | | 0.0 |
| 11105 | [Semi-prime H-numbers](https://onlinejudge.org/external/111/11105.pdf) | need 1D Range Sum Query; also available at Kattis - hnumbers | 861 | | 0.0 |
| 11107 | [Life Forms](https://onlinejudge.org/external/111/11107.pdf) | Longest Common Substring of > 1/2 of the strings; also available at Kattis - lifeforms | 636 | | 0.0 |
| 11108 | [Tautology](https://onlinejudge.org/external/111/11108.pdf) | try all 2^5 = 32 values with pruning; also available at Kattis - tautology | 550 | | 0.0 |
| 11110 | [Equidivisions](https://onlinejudge.org/external/111/11110.pdf) | flood fill satisfy the constraints given | 1634 | | 0.0 |
| 11111 | [Generalized Matrioshkas](https://onlinejudge.org/external/111/11111.pdf) | bracket matching with twists | 1786 | | 0.0 |
| 11115 | [Uncle Jack](https://onlinejudge.org/external/111/11115.pdf) | N^D; use Java BigInteger | 1256 | | 0.0 |
| 11121 | [Base -2](https://onlinejudge.org/external/111/11121.pdf) | search for the term 'negabinary' | 2071 | | 0.0 |
| 11125 | [Arrange Some Marbles](https://onlinejudge.org/external/111/11125.pdf) | counting paths in implicit DAG; the implicit DAG is not trivial; 8 parameters | 334 | | 0.0 |
| 11127 | [Triple-Free Binary Strings](https://onlinejudge.org/external/111/11127.pdf) | backtracking with bitmask | 350 | | 0.0 |
| 11130 | [Billiard bounces](https://onlinejudge.org/external/111/11130.pdf) | mirror the billiard table to the right (and/or top) so that we will only deal with one straight line instead of bouncing lines | 928 | | 0.0 |
| 11131 | [Close Relatives](https://onlinejudge.org/external/111/11131.pdf) | read tree; produce two postorder traversals | 161 | | 0.0 |
| 11133 | [Eigensequence](https://onlinejudge.org/external/111/11133.pdf) | counting paths in DAG; the implicit DAG is not trivial; 2 parameters | 435 | | 0.0 |
| 11136 | [Hoax or what](https://onlinejudge.org/external/111/11136.pdf) | use multiset | 2378 | | 0.0 |
| 11137 | [Ingenuous Cubrency](https://onlinejudge.org/external/111/11137.pdf) | use long long | 4366 | | 0.0 |
| 11138 | [Nuts and Bolts](https://onlinejudge.org/external/111/11138.pdf) | a pure MCBM problem | 1112 | | 0.0 |
| 11140 | [Little Ali's Little Brothe...](https://onlinejudge.org/external/111/11140.pdf) | ad hoc | 294 | | 0.0 |
| 11147 | [KuPellaKeS BST](https://onlinejudge.org/external/111/11147.pdf) | implement the given recursive DnC | 202 | | 0.0 |
| 11148 | [Moliu Fractions](https://onlinejudge.org/external/111/11148.pdf) | extract integers; simple/mixed fractions from a line; a bit of gcd | 311 | | 0.0 |
| 11150 | [Cola](https://onlinejudge.org/external/111/11150.pdf) | similar to UVa 10346; be careful with boundary cases! | 10021 | | 0.0 |
| 11151 | [Longest Palindrome](https://onlinejudge.org/external/111/11151.pdf) | s: (l; r); similar to UVa 10453; 10739; and 11404 | 3330 | | 0.0 |
| 11152 | [Colourful Flowers](https://onlinejudge.org/external/111/11152.pdf) | triangle's (in/circum)circle; Heron's formula | 3942 | | 0.0 |
| 11157 | [Dynamic Frog](https://onlinejudge.org/external/111/11157.pdf) | greedy | 1473 | | 0.0 |
| 11159 | [Factors and Multiples](https://onlinejudge.org/external/111/11159.pdf) | MAX-INDEPENDENT-SET; on Bipartite Graph; ans equals to its MCBM | 1054 | | 0.0 |
| 11160 | [Going Together](https://onlinejudge.org/external/111/11160.pdf) | s: (rA; cA; rB; cB; rC; cC); move A; B; C together | 169 | | 0.0 |
| 11161 | [Help My Brother (II)](https://onlinejudge.org/external/111/11161.pdf) | Fibonacci median | 613 | | 0.0 |
| 11163 | [Jaguar King](https://onlinejudge.org/external/111/11163.pdf) | another puzzle game solvable with IDA\* | 113 | | 0.0 |
| 11164 | [Kingdom Division](https://onlinejudge.org/external/111/11164.pdf) | use Triangle properties | 220 | | 0.0 |
| 11167 | [Monkeys in the Emei Mounta...](https://onlinejudge.org/external/111/11167.pdf) | many edges in the flow graph; compress the capacity-1 edges when possible; use Dinic's | 344 | | 0.0 |
| 11170 | [Cos(NA)](https://onlinejudge.org/external/111/11170.pdf) | key derivation: cos(NA) = 2cos((N-1)A)\*cos(A) - cos((N-2)A); cos(NA) is a polynomial of degree N in cos(A) | 258 | | 0.0 |
| 11172 | [Relational Operator](https://onlinejudge.org/external/111/11172.pdf) | very easy; one liner | 38363 | | 0.0 |
| 11173 | [Grey Codes](https://onlinejudge.org/external/111/11173.pdf) | Divide and Conquer pattern or one liner bit manipulation | 1785 | | 0.0 |
| 11176 | [Winning Streak](https://onlinejudge.org/external/111/11176.pdf) | DP, s: (rem\_games, streak); t: lose this game, or win the next W = [1..n] games and lose the (W+1)-th game | 422 | | 0.0 |
| 11181 | [Probability|Given](https://onlinejudge.org/external/111/11181.pdf) | iterative brute force; try all possibilities | 765 | | 0.0 |
| 11185 | [Ternary](https://onlinejudge.org/external/111/11185.pdf) | Decimal to base 3 | 8047 | | 0.0 |
| 11192 | [Group Reverse](https://onlinejudge.org/external/111/11192.pdf) | character array | 6946 | | 0.0 |
| 11195 | [Another n-Queen Problem](https://onlinejudge.org/external/111/11195.pdf) | use backtracking with bitmask | 1176 | | 0.0 |
| 11198 | [Dancing Digits](https://onlinejudge.org/external/111/11198.pdf) | s: (permutation); tricky to code | 407 | | 0.0 |
| 11201 | [The problem of the crazy l...](https://onlinejudge.org/external/112/11201.pdf) | backtracking involving strings | 317 | | 0.0 |
| 11202 | [The least possible effort](https://onlinejudge.org/external/112/11202.pdf) | consider symmetry and flip | 449 | | 0.0 |
| 11203 | [Can you decide it for ME?](https://onlinejudge.org/external/112/11203.pdf) | count frequency of x/y/z | 919 | | 0.0 |
| 11204 | [Musical instruments](https://onlinejudge.org/external/112/11204.pdf) | only first choice matters | 746 | | 0.0 |
| 11205 | [The broken pedometer](https://onlinejudge.org/external/112/11205.pdf) | try all 2^15 bitmask | 1094 | | 0.0 |
| 11207 | [The easiest way](https://onlinejudge.org/external/112/11207.pdf) | cutting rectangle into 4-equal-sized squares | 1224 | | 0.0 |
| 11212 | [Editing a Book](https://onlinejudge.org/external/112/11212.pdf) | meet in the middle | 570 | | 0.0 |
| 11218 | [KTV](https://onlinejudge.org/external/112/11218.pdf) | still solvable with complete search | 1219 | | 0.0 |
| 11219 | [How old are you?](https://onlinejudge.org/external/112/11219.pdf) | be careful with boundary cases! | 5516 | | 0.0 |
| 11220 | [Decoding the message.](https://onlinejudge.org/external/112/11220.pdf) | follow instruction in the problem | 1627 | | 0.0 |
| 11221 | [Magic square palindromes.](https://onlinejudge.org/external/112/11221.pdf) | palindrome check; we deal with a matrix (magic square) this time | 2467 | | 0.0 |
| 11222 | [Only I did it!](https://onlinejudge.org/external/112/11222.pdf) | use several 1D arrays | 1403 | | 0.0 |
| 11223 | [O: dah dah dah!](https://onlinejudge.org/external/112/11223.pdf) | tedious morse code conversion | 1842 | | 0.0 |
| 11225 | [Tarot scores.](https://onlinejudge.org/external/112/11225.pdf) | card game | 580 | | 0.0 |
| 11226 | [Reaching the fix-point.](https://onlinejudge.org/external/112/11226.pdf) | sumPF(N); get length; DP | 594 | | 0.0 |
| 11227 | [The silver bullet.](https://onlinejudge.org/external/112/11227.pdf) | brute force; collinear test | 736 | | 0.0 |
| 11228 | [Transportation system.](https://onlinejudge.org/external/112/11228.pdf) | split output for short vs long edges | 2021 | | 0.0 |
| 11230 | [Annoying painting tool](https://onlinejudge.org/external/112/11230.pdf) | greedy | 480 | | 0.0 |
| 11231 | [Black and white painting](https://onlinejudge.org/external/112/11231.pdf) | there is an O(1) formula | 1950 | | 0.0 |
| 11233 | [Deli Deli](https://onlinejudge.org/external/112/11233.pdf) | string comparison | 2679 | | 0.0 |
| 11234 | [Expressions](https://onlinejudge.org/external/112/11234.pdf) | converting post-order to level-order; binary tree | 1050 | | 0.0 |
| 11235 | [Frequent values](https://onlinejudge.org/external/112/11235.pdf) | range maximum query | 3196 | | 0.0 |
| 11236 | [Grocery store](https://onlinejudge.org/external/112/11236.pdf) | 3 nested loops for a; b; c; derive d from a; b; c; check if you have 949 lines of output | 1132 | | 0.0 |
| 11239 | [Open Source](https://onlinejudge.org/external/112/11239.pdf) | use map and set to check previous strings; order needed; also available at Kattis - opensource | 1474 | | 0.0 |
| 11240 | [Antimonotonicity](https://onlinejudge.org/external/112/11240.pdf) | greedy | 497 | | 0.0 |
| 11241 | [Humidex](https://onlinejudge.org/external/112/11241.pdf) | the hardest case is computing Dew point given temperature and Humidex; derive it with Algebra | 424 | | 0.0 |
| 11242 | [Tour de France](https://onlinejudge.org/external/112/11242.pdf) | brute force plus sorting; also available at Kattis - tourdefrance | 2303 | | 0.0 |
| 11244 | [Counting Stars](https://onlinejudge.org/external/112/11244.pdf) | count number of CCs | 2960 | | 0.0 |
| 11246 | [K-Multiple Free set](https://onlinejudge.org/external/112/11246.pdf) | derive the formula | 547 | | 0.0 |
| 11247 | [Income Tax](https://onlinejudge.org/external/112/11247.pdf) | brute force around the answer to be safe | 773 | | 0.0 |
| 11254 | [Consecutive Integers](https://onlinejudge.org/external/112/11254.pdf) | use sum of AP; brute force all values of r from sqrt(2n) down to 1; stop at the first valid a | 1207 | | 0.0 |
| 11258 | [String Partition](https://onlinejudge.org/external/112/11258.pdf) | dp(i) = int from substring [i..k] dp(k) | 1169 | | 0.0 |
| 11259 | [Coin Changing Again](https://onlinejudge.org/external/112/11259.pdf) | part of the problem is DP COIN-CHANGE with restricted number of coins per type; inclusion-exclusion | 209 | | 0.0 |
| 11262 | [Weird Fence](https://onlinejudge.org/external/112/11262.pdf) | binary search the answer and MCBM; similar with UVa 10804 | 424 | | 0.0 |
| 11264 | [Coin Collector](https://onlinejudge.org/external/112/11264.pdf) | coin change variant | 1941 | | 0.0 |
| 11265 | [The Sultan's Problem](https://onlinejudge.org/external/112/11265.pdf) | seems to be a complex problem; but essentially just cutPolygon; inPolygon; area | 386 | | 0.0 |
| 11267 | [The Hire-a-Coder Business ...](https://onlinejudge.org/external/112/11267.pdf) | bipartite check; MST; accept -ve weight | 156 | | 0.0 |
| 11269 | [Setting Problems](https://onlinejudge.org/external/112/11269.pdf) | greedy; sorting | 428 | | 0.0 |
| 11270 | [Tiling Dominoes](https://onlinejudge.org/external/112/11270.pdf) | sequence A004003 in OEIS | 435 | | 0.0 |
| 11278 | [One-Handed Typist](https://onlinejudge.org/external/112/11278.pdf) | map QWERTY keys to DVORAK | 1182 | | 0.0 |
| 11279 | [Keyboard Comparison](https://onlinejudge.org/external/112/11279.pdf) | an extension of UVa 11278 problem; it is interesting to compare QWERTY and DVORAK keyboard layout | 111 | | 0.0 |
| 11280 | [Flying to Fredericton](https://onlinejudge.org/external/112/11280.pdf) | modified Bellman-Ford | 635 | | 0.0 |
| 11281 | [Triangular Pegs in Round H...](https://onlinejudge.org/external/112/11281.pdf) | circumcircle for a non obtuse triangle; largest side of the triangle for an obtuse triangle | 221 | | 0.0 |
| 11282 | [Mixing Invitations](https://onlinejudge.org/external/112/11282.pdf) | derangement and binomial coefficient; Big Integer | 494 | | 0.0 |
| 11283 | [Playing Boggle](https://onlinejudge.org/external/112/11283.pdf) | 2D grid; backtracking; do not count twice | 628 | | 0.0 |
| 11284 | [Shopping Trip](https://onlinejudge.org/external/112/11284.pdf) | SSSP pre-processing; TSP variant = we can go home early; tweak DP TSP recurrence a bit: at each state, we have one more option: go home early | 632 | | 0.0 |
| 11285 | [Exchange Rates](https://onlinejudge.org/external/112/11285.pdf) | maintain the best CAD and USD each day; also available at Kattis - exchangerates | 221 | | 0.0 |
| 11286 | [Conformity](https://onlinejudge.org/external/112/11286.pdf) | use unordered\_map to count frequencies of the sorted permutations of 5 ids; also available at Kattis - conformity | 3237 | | 0.0 |
| 11287 | [Pseudoprime Numbers](https://onlinejudge.org/external/112/11287.pdf) | yes if !isPrime(p) && a.modPow(p, p) = a; Big Integer; also available at Kattis - pseudoprime | 1140 | | 0.0 |
| 11288 | [Carpool](https://onlinejudge.org/external/112/11288.pdf) | Floyd-Warshall/APSP; iterative brute force subset and permutation; DP; also available at Kattis - carpool | 88 | | 0.0 |
| 11291 | [Smeech](https://onlinejudge.org/external/112/11291.pdf) | recursive grammar check | 404 | | 0.0 |
| 11292 | [Dragon of Loowater](https://onlinejudge.org/external/112/11292.pdf) | sort; greedy matching; also available at Kattis - loowater | 6557 | | 0.0 |
| 11294 | [Wedding](https://onlinejudge.org/external/112/11294.pdf) | can be modeled as a 2-SAT problem; also available at Kattis - wedding | 326 | | 0.0 |
| 11296 | [Counting Solutions to an I...](https://onlinejudge.org/external/112/11296.pdf) | simple formula exists | 969 | | 0.0 |
| 11297 | [Census](https://onlinejudge.org/external/112/11297.pdf) | Quad Tree with updates or use 2D segment tree | 583 | | 0.0 |
| 11298 | [Dissecting a Hexagon](https://onlinejudge.org/external/112/11298.pdf) | simple maths; derive the pattern first | 270 | | 0.0 |
| 11300 | [Spreading the Wealth](https://onlinejudge.org/external/113/11300.pdf) | use sort; involving the median | 1565 | | 0.0 |
| 11301 | [Great Wall of China](https://onlinejudge.org/external/113/11301.pdf) | modeling; vertex capacity; MCMF | 231 | | 0.0 |
| 11307 | [Alternative Arborescence](https://onlinejudge.org/external/113/11307.pdf) | Min Chromatic Sum; max 6 colors | 458 | | 0.0 |
| 11308 | [Bankrupt Baker](https://onlinejudge.org/external/113/11308.pdf) | use map and set | 1105 | | 0.0 |
| 11309 | [Counting Chaos](https://onlinejudge.org/external/113/11309.pdf) | palindrome check; on HH:MM format | 1144 | | 0.0 |
| 11310 | [Delivery Debacle](https://onlinejudge.org/external/113/11310.pdf) | requires DP: let dp[i] be the number of ways the cakes can be packed for a box 2\*i | 1303 | | 0.0 |
| 11311 | [Exclusively Edible](https://onlinejudge.org/external/113/11311.pdf) | there are 4 heaps; Nim sum | 638 | | 0.0 |
| 11313 | [Gourmet Games](https://onlinejudge.org/external/113/11313.pdf) | similar to UVa 10346 | 1421 | | 0.0 |
| 11314 | [Hardly Hard](https://onlinejudge.org/external/113/11314.pdf) | a thin line cake that is formed by stretching line segment AB until it hits the y and x-axis is the quadrilateral with smallest perimeter | 276 | | 0.0 |
| 11319 | [Stupid Sequence](https://onlinejudge.org/external/113/11319.pdf) | solve the system of the first 7 linear equations; then use all 1500 equations for 'smart sequence' checks | 251 | | 0.0 |
| 11321 | [Sort! Sort!! and Sort!!!](https://onlinejudge.org/external/113/11321.pdf) | be careful with negative mod! | 2417 | | 0.0 |
| 11324 | [The Largest Clique](https://onlinejudge.org/external/113/11324.pdf) | LONGEST-PATH on DAG; first, transform the graph into DAG of its SCCs; toposort | 760 | | 0.0 |
| 11326 | [Laser Pointer](https://onlinejudge.org/external/113/11326.pdf) | trigonometry; tangent; reflection trick | 412 | | 0.0 |
| 11327 | [Enumerating Rational Numbe...](https://onlinejudge.org/external/113/11327.pdf) | pre-calculate EulerPhi(N) | 818 | | 0.0 |
| 11329 | [Curious Fleas](https://onlinejudge.org/external/113/11329.pdf) | s: (bitmask); 4 bits for die position; 16 bits for cells with fleas; 6 bits for side with a flea; use map; tedious | 148 | | 0.0 |
| 11330 | [Andy's Shoes](https://onlinejudge.org/external/113/11330.pdf) | greedy | 339 | | 0.0 |
| 11331 | [The Joys of Farming](https://onlinejudge.org/external/113/11331.pdf) | bipartite graph checks; compute size of left/right sets per bipartite component; DP SUBSET-SUM | 311 | | 0.0 |
| 11332 | [Summing Digits](https://onlinejudge.org/external/113/11332.pdf) | simple recursion | 16904 | | 0.0 |
| 11335 | [Discrete Pursuit](https://onlinejudge.org/external/113/11335.pdf) | greedy | 184 | | 0.0 |
| 11338 | [Minefield](https://onlinejudge.org/external/113/11338.pdf) | the test data is weaker than what the problem description says (n ≤ 10 000); we use O(n^2) loop to build the weighted graph and runs Dijkstra's without getting TLE | 300 | | 0.0 |
| 11340 | [Newspaper](https://onlinejudge.org/external/113/11340.pdf) | ASCII keys | 7302 | | 0.0 |
| 11341 | [Term Strategy](https://onlinejudge.org/external/113/11341.pdf) | s: (id; h\_learned; h\_left); t: learn module 'id' by 1 hour or skip it | 623 | | 0.0 |
| 11342 | [Three-square](https://onlinejudge.org/external/113/11342.pdf) | pre-calculate squared values from 0^2 to 224^2; use 3 nested loops to generate the answers; use map to avoid duplicates | 1713 | | 0.0 |
| 11343 | [Isolated Segments](https://onlinejudge.org/external/113/11343.pdf) | line segment intersection | 809 | | 0.0 |
| 11344 | [The Huge One](https://onlinejudge.org/external/113/11344.pdf) | use divisibility theory of [1..12] | 1412 | | 0.0 |
| 11345 | [Rectangles](https://onlinejudge.org/external/113/11345.pdf) | rectangle-rectangle intersection | 646 | | 0.0 |
| 11346 | [Probability](https://onlinejudge.org/external/113/11346.pdf) | a bit of geometry | 449 | | 0.0 |
| 11347 | [Multifactorials](https://onlinejudge.org/external/113/11347.pdf) | prime-power factorization; numDiv(N) | 515 | | 0.0 |
| 11348 | [Exhibition](https://onlinejudge.org/external/113/11348.pdf) | use map and set to check uniqueness | 552 | | 0.0 |
| 11349 | [Symmetric Matrix](https://onlinejudge.org/external/113/11349.pdf) | use long long to avoid issues | 2667 | | 0.0 |
| 11350 | [Stern-Brocot Tree](https://onlinejudge.org/external/113/11350.pdf) | simple tree data structure question | 1051 | | 0.0 |
| 11351 | [Last Man Standing](https://onlinejudge.org/external/113/11351.pdf) | use general case Josephus recurrence | 741 | | 0.0 |
| 11352 | [Crazy King](https://onlinejudge.org/external/113/11352.pdf) | filter the graph first; then it becomes SSSP | 1322 | | 0.0 |
| 11353 | [A Different Kind of Sortin...](https://onlinejudge.org/external/113/11353.pdf) | numPF(N); sort variant | 581 | | 0.0 |
| 11356 | [Dates](https://onlinejudge.org/external/113/11356.pdf) | very easy if you use Java GregorianCalendar | 841 | | 0.0 |
| 11357 | [Ensuring Truth](https://onlinejudge.org/external/113/11357.pdf) | not a pure CNF SAT(isfiability) problem; it is a special case as only one clause needs to be satisfied | 286 | | 0.0 |
| 11360 | [Have Fun with Matrices](https://onlinejudge.org/external/113/11360.pdf) | do as asked | 1668 | | 0.0 |
| 11361 | [Investigating Div-Sum Prop...](https://onlinejudge.org/external/113/11361.pdf) | counting paths in DAG; need insights for efficient implementation; K > 90 is useless; double DP; use prefix-sum idea | 449 | | 0.0 |
| 11362 | [Phone List](https://onlinejudge.org/external/113/11362.pdf) | string sort; matching | 2678 | | 0.0 |
| 11364 | [Parking](https://onlinejudge.org/external/113/11364.pdf) | linear scan to get l and r; answer = 2\*(r-l) | 10081 | | 0.0 |
| 11367 | [Full Tank?](https://onlinejudge.org/external/113/11367.pdf) | model the graph carefully; state: (location, fuel), source s = (s, 0), sink t = (e, any), only enqueue fuel+1; also available at Kattis - fulltank | 930 | | 0.0 |
| 11369 | [Shopaholic](https://onlinejudge.org/external/113/11369.pdf) | greedy; sorting | 3384 | | 0.0 |
| 11371 | [Number Theory for Newbies](https://onlinejudge.org/external/113/11371.pdf) | the solving strategy is given | 1929 | | 0.0 |
| 11374 | [Airport Express](https://onlinejudge.org/external/113/11374.pdf) | each vertex has one more parameter: has the Commercial-Xpress ticket been used? | 501 | | 0.0 |
| 11375 | [Matches](https://onlinejudge.org/external/113/11375.pdf) | counting paths in DAG; 2 parameters; be careful that we can create a 0 with 6 sticks; need to use Java BigInteger | 460 | | 0.0 |
| 11377 | [Airport Setup](https://onlinejudge.org/external/113/11377.pdf) | a city to another city without/with airport has edge weight 1/0, respectively; BFS+deque; if the start and end city are the same and has no airport, the answer should be 0 | 664 | | 0.0 |
| 11378 | [Bey Battle](https://onlinejudge.org/external/113/11378.pdf) | also a closest pair problem | 377 | | 0.0 |
| 11380 | [Down Went The Titanic](https://onlinejudge.org/external/113/11380.pdf) | max flow modeling with vertex capacities; similar to UVa 12125 | 580 | | 0.0 |
| 11384 | [Help is needed for Dexter](https://onlinejudge.org/external/113/11384.pdf) | find the smallest power of two greater than n; can be solved easily using ceil(eps log2(n)) | 1675 | | 0.0 |
| 11385 | [Da Vinci Code](https://onlinejudge.org/external/113/11385.pdf) | string manipulation and Fibonacci | 1867 | | 0.0 |
| 11387 | [The 3-Regular Graph](https://onlinejudge.org/external/113/11387.pdf) | impossible for odd n or when n = 2; derive the formula | 660 | | 0.0 |
| 11388 | [GCD LCM](https://onlinejudge.org/external/113/11388.pdf) | understand the relationship of GCD with LCM | 5688 | | 0.0 |
| 11389 | [The Bus Driver Problem](https://onlinejudge.org/external/113/11389.pdf) | load balancing | 3914 | | 0.0 |
| 11391 | [Blobs in the Board](https://onlinejudge.org/external/113/11391.pdf) | counting paths in DAG; the implicit DAG is not trivial; 3 parameters with 1 bitmask parameter that describes the 2D grid | 409 | | 0.0 |
| 11393 | [Tri-Isomorphism](https://onlinejudge.org/external/113/11393.pdf) | draw several small Kn; derive the pattern | 198 | | 0.0 |
| 11395 | [Sigma Function](https://onlinejudge.org/external/113/11395.pdf) | key hint: a square number multiplied by powers of two; i.e. 2^k \* i^2 for k >= 0; i >= 1 has odd sum of divisors | 342 | | 0.0 |
| 11396 | [Claw Decomposition](https://onlinejudge.org/external/113/11396.pdf) | it is just a bipartite graph check | 2022 | | 0.0 |
| 11398 | [The Base-1 Number System](https://onlinejudge.org/external/113/11398.pdf) | just follow the new rules | 735 | | 0.0 |
| 11401 | [Triangle Counting](https://onlinejudge.org/external/114/11401.pdf) | spot the pattern | 2621 | | 0.0 |
| 11402 | [Ahoy, Pirates!](https://onlinejudge.org/external/114/11402.pdf) | Segment Tree with lazy updates | 1377 | | 0.0 |
| 11403 | [Binary Multiplication](https://onlinejudge.org/external/114/11403.pdf) | similar with UVa 00338; tedious | 162 | | 0.0 |
| 11404 | [Palindromic Subsequence](https://onlinejudge.org/external/114/11404.pdf) | similar to UVa 10453; 10739; and 11151; print the solution in lexicographically smallest manner | 593 | | 0.0 |
| 11405 | [Can U Win?](https://onlinejudge.org/external/114/11405.pdf) | BFS from k and each P---max 9 items to get APSP information for TSP; then use DP-TSP | 285 | | 0.0 |
| 11407 | [Squares](https://onlinejudge.org/external/114/11407.pdf) | can be memoized | 1746 | | 0.0 |
| 11408 | [Count DePrimes](https://onlinejudge.org/external/114/11408.pdf) | need 1D Range Sum Query | 1118 | | 0.0 |
| 11412 | [Dig the Holes](https://onlinejudge.org/external/114/11412.pdf) | next\_permutation; find one possibility from 6! | 303 | | 0.0 |
| 11413 | [Fill the Containers](https://onlinejudge.org/external/114/11413.pdf) | BSTA + simulation | 2398 | | 0.0 |
| 11414 | [Dream](https://onlinejudge.org/external/114/11414.pdf) | similar to UVa 10720 and 12786; Erdos-Gallai Theorem | 358 | | 0.0 |
| 11415 | [Count the Factorials](https://onlinejudge.org/external/114/11415.pdf) | count the number of factors for each integer; find the number of factors for each factorial number and store it in an array; for each query; use binary search | 454 | | 0.0 |
| 11417 | [GCD](https://onlinejudge.org/external/114/11417.pdf) | just use brute force as input is small | 8485 | | 0.0 |
| 11418 | [Clever Naming Patterns](https://onlinejudge.org/external/114/11418.pdf) | two layers of graph matching (not really bipartite matching); use max flow solution | 714 | | 0.0 |
| 11419 | [SAM I AM](https://onlinejudge.org/external/114/11419.pdf) | MVC; Konig theorem | 728 | | 0.0 |
| 11420 | [Chest of Drawers](https://onlinejudge.org/external/114/11420.pdf) | s: (prev; id; numlck); lock/unlock this chest | 1268 | | 0.0 |
| 11423 | [Cache Simulator](https://onlinejudge.org/external/114/11423.pdf) | clever usage of Fenwick Tree and large array; important hint: look at the constraints carefully | 160 | | 0.0 |
| 11426 | [GCD - Extreme (II)](https://onlinejudge.org/external/114/11426.pdf) | pre-calculate EulerPhi(N) | 948 | | 0.0 |
| 11428 | [Cubes](https://onlinejudge.org/external/114/11428.pdf) | complete search and binary search | 3233 | | 0.0 |
| 11432 | [Busy Programmer](https://onlinejudge.org/external/114/11432.pdf) | counting paths in DAG; the implicit DAG is not trivial; 6 parameters | 281 | | 0.0 |
| 11437 | [Triangle Fun](https://onlinejudge.org/external/114/11437.pdf) | hint: 1/7 | 1007 | | 0.0 |
| 11439 | [Maximizing the ICPC](https://onlinejudge.org/external/114/11439.pdf) | BSTA (the minimum weight); use it to reconstruct the graph; perfect matching on medium-sized general graph | 160 | | 0.0 |
| 11447 | [Reservoir logs](https://onlinejudge.org/external/114/11447.pdf) | area of polygon | 324 | | 0.0 |
| 11448 | [Who said crisis?](https://onlinejudge.org/external/114/11448.pdf) | BigInteger subtraction | 1314 | | 0.0 |
| 11450 | [Wedding shopping](https://onlinejudge.org/external/114/11450.pdf) | standard DP | 4159 | | 0.0 |
| 11451 | [Water restrictions](https://onlinejudge.org/external/114/11451.pdf) | the input constraints are small; backtracking with bitmask without memoization; or use DP | 105 | | 0.0 |
| 11452 | [Dancing the Cheeky-Cheeky](https://onlinejudge.org/external/114/11452.pdf) | string period; small input; brute force | 552 | | 0.0 |
| 11455 | [Behold my quadrangle](https://onlinejudge.org/external/114/11455.pdf) | property check | 5102 | | 0.0 |
| 11456 | [Trainsorting](https://onlinejudge.org/external/114/11456.pdf) | max(LIS(i)+LDS(i)-1), ∀i ∈ [0...n-1]; also available at Kattis - trainsorting | 2435 | | 0.0 |
| 11459 | [Snakes and Ladders](https://onlinejudge.org/external/114/11459.pdf) | simulate it; similar to UVa 647 | 1687 | | 0.0 |
| 11461 | [Square Numbers](https://onlinejudge.org/external/114/11461.pdf) | answer is sqrt(b) - sqrt(a-1) | 10525 | | 0.0 |
| 11462 | [Age Sort](https://onlinejudge.org/external/114/11462.pdf) | standard Counting Sort problem | 11436 | | 0.0 |
| 11463 | [Commandos](https://onlinejudge.org/external/114/11463.pdf) | solution is easy with APSP information | 2465 | | 0.0 |
| 11464 | [Even Parity](https://onlinejudge.org/external/114/11464.pdf) | brute force the first row in 2^15; the rest follows | 1079 | | 0.0 |
| 11466 | [Largest Prime Divisor](https://onlinejudge.org/external/114/11466.pdf) | use efficient sieve implementation to get the largest prime factors | 2350 | | 0.0 |
| 11470 | [Square Sums](https://onlinejudge.org/external/114/11470.pdf) | you can do flood fill layer by layer; however; there is other way to solve this problem; e.g. by finding the patterns | 2522 | | 0.0 |
| 11471 | [Arrange the Tiles](https://onlinejudge.org/external/114/11471.pdf) | reduce search space by grouping tiles of the same type; recursive backtracking | 169 | | 0.0 |
| 11472 | [Beautiful Numbers](https://onlinejudge.org/external/114/11472.pdf) | counting paths in DAG; the implicit DAG is not trivial; 4 parameters with 1 bitmask parameter | 657 | | 0.0 |
| 11473 | [Campus Roads](https://onlinejudge.org/external/114/11473.pdf) | modified perimeter of polygon | 272 | | 0.0 |
| 11474 | [Dying Tree](https://onlinejudge.org/external/114/11474.pdf) | UFDS; connect all tree branches; connect two reachable trees (use geometry); connect trees that can reach doctor | 348 | | 0.0 |
| 11475 | [Extend to Palindrome](https://onlinejudge.org/external/114/11475.pdf) | similar with UVa 12467 | 2414 | | 0.0 |
| 11476 | [Factorizing Larget Integer...](https://onlinejudge.org/external/114/11476.pdf) | basic integer factorization problem that requires Pollard's rho algorithm | 243 | | 0.0 |
| 11479 | [Is this the easiest proble...](https://onlinejudge.org/external/114/11479.pdf) | property check | 8626 | | 0.0 |
| 11480 | [Jimmy's Balls](https://onlinejudge.org/external/114/11480.pdf) | try all r; but simpler formula exists | 914 | | 0.0 |
| 11482 | [Building a Triangular Muse...](https://onlinejudge.org/external/114/11482.pdf) | tedious | 376 | | 0.0 |
| 11483 | [Code Creator](https://onlinejudge.org/external/114/11483.pdf) | straightforward; use 'escape character' | 1058 | | 0.0 |
| 11485 | [Extreme Discrete Summation](https://onlinejudge.org/external/114/11485.pdf) | the problem description looks scary but the solution is not that complex | 132 | | 0.0 |
| 11486 | [Finding Paths in Grid](https://onlinejudge.org/external/114/11486.pdf) | model as adjacency matrix; raise the adjacency matrix to the power of N in O(log N) to get the number of paths | 210 | | 0.0 |
| 11487 | [Gathering Food](https://onlinejudge.org/external/114/11487.pdf) | s: (r; c; cur\_food; len); t: 4 dirs | 412 | | 0.0 |
| 11489 | [Integer Game](https://onlinejudge.org/external/114/11489.pdf) | game theory; reducible to simple math | 1367 | | 0.0 |
| 11490 | [Just Another Problem](https://onlinejudge.org/external/114/11490.pdf) | let missing\_people = 2\*a^2; thickness\_of\_soldiers = b; derive a formula involving a; b; and the given S | 168 | | 0.0 |
| 11491 | [Erasing and Winning](https://onlinejudge.org/external/114/11491.pdf) | greedy | 795 | | 0.0 |
| 11492 | [Babel](https://onlinejudge.org/external/114/11492.pdf) | vertex = word; edges as per problem description; connect source/sink to all words in start/finish language, respectively; vertex split; Dijkstra's | 1096 | | 0.0 |
| 11494 | [Queen](https://onlinejudge.org/external/114/11494.pdf) | ad hoc;chess | 3944 | | 0.0 |
| 11495 | [Bubbles and Buckets](https://onlinejudge.org/external/114/11495.pdf) | requires O(n log n) merge sort | 1678 | | 0.0 |
| 11496 | [Musical Loop](https://onlinejudge.org/external/114/11496.pdf) | store data in 1D array; count the peaks | 1609 | | 0.0 |
| 11498 | [Division of Nlogonia](https://onlinejudge.org/external/114/11498.pdf) | just use if-else statements | 16424 | | 0.0 |
| 11500 | [Vampires](https://onlinejudge.org/external/115/11500.pdf) | Gambler's Ruin Problem | 522 | | 0.0 |
| 11503 | [Virtual Friends](https://onlinejudge.org/external/115/11503.pdf) | maintain set attribute (size) in rep item; also available at Kattis - virtualfriends | 4395 | | 0.0 |
| 11504 | [Dominos](https://onlinejudge.org/external/115/11504.pdf) | count the number of SCCs without incoming edge from a vertex outside that SCC; also available at Kattis - dominos | 3186 | | 0.0 |
| 11505 | [Logo](https://onlinejudge.org/external/115/11505.pdf) | Euclidean dist; also available at Kattis - logo | 880 | | 0.0 |
| 11506 | [Angry Programmer](https://onlinejudge.org/external/115/11506.pdf) | min cut with vertex capacities | 1278 | | 0.0 |
| 11507 | [Bender B. Rodríguez Proble...](https://onlinejudge.org/external/115/11507.pdf) | simulation; if-else | 2583 | | 0.0 |
| 11511 | [Frieze Patterns](https://onlinejudge.org/external/115/11511.pdf) | cycle-finding on vectors; the pattern will cycle fast | 139 | | 0.0 |
| 11512 | [GATTACA](https://onlinejudge.org/external/115/11512.pdf) | Longest Repeated Substring | 1692 | | 0.0 |
| 11513 | [9 Puzzle](https://onlinejudge.org/external/115/11513.pdf) | s: (vector of 9 integers); SDSP; BFS | 575 | | 0.0 |
| 11514 | [Batman](https://onlinejudge.org/external/115/11514.pdf) | modified 0-1 Knapsack; Batman can use or skip a certain super power; check if the best configuration uses ≤ E calories; print 'yes' or 'no' accordingly | 291 | | 0.0 |
| 11515 | [Cranes](https://onlinejudge.org/external/115/11515.pdf) | circle-circle intersection; backtracking or brute force subsets with bitmask; also available at Kattis - cranes | 396 | | 0.0 |
| 11516 | [WiFi](https://onlinejudge.org/external/115/11516.pdf) | +greedy; also available at Kattis - wifi | 989 | | 0.0 |
| 11517 | [Exact Change](https://onlinejudge.org/external/115/11517.pdf) | a variation to the coin change problem; also available at Kattis - exactchange2 | 2418 | | 0.0 |
| 11518 | [Dominos 2](https://onlinejudge.org/external/115/11518.pdf) | unlike UVa 11504, we treat SCCs as CCs; also available at Kattis - dominoes2 | 2466 | | 0.0 |
| 11519 | [Logo 2](https://onlinejudge.org/external/115/11519.pdf) | n vectors that sum to 0; given n-1 vectors, find the unknown vector; also available at Kattis - logo2 | 262 | | 0.0 |
| 11520 | [Fill the Square](https://onlinejudge.org/external/115/11520.pdf) | greedy | 1941 | | 0.0 |
| 11523 | [Recycling](https://onlinejudge.org/external/115/11523.pdf) | each part between non-recyclable items must be solved separately; for each part; use O(n^3) DP | 211 | | 0.0 |
| 11525 | [Permutation](https://onlinejudge.org/external/115/11525.pdf) | use Fenwick Tree and binary search the answer to find the lowest index i that has RSQ(1;i) = Si | 681 | | 0.0 |
| 11526 | [H(n)](https://onlinejudge.org/external/115/11526.pdf) | brute force up to sqrt(n); find the pattern; avoid TLE | 2040 | | 0.0 |
| 11530 | [SMS Typing](https://onlinejudge.org/external/115/11530.pdf) | handphone users encounter this issue in the past | 7317 | | 0.0 |
| 11532 | [Simple Adjacency Maximizat...](https://onlinejudge.org/external/115/11532.pdf) | greedy | 533 | | 0.0 |
| 11536 | [Smallest Sub-Array](https://onlinejudge.org/external/115/11536.pdf) | sliding window variant | 966 | | 0.0 |
| 11538 | [Chess Queen](https://onlinejudge.org/external/115/11538.pdf) | count along rows; columns; and diagonals | 1344 | | 0.0 |
| 11541 | [Decoding](https://onlinejudge.org/external/115/11541.pdf) | read char by char and simulate | 4161 | | 0.0 |
| 11545 | [Avoiding Jungle in the Dar...](https://onlinejudge.org/external/115/11545.pdf) | s: (cPos; cTime; cWTime); t: move forward/rest | 273 | | 0.0 |
| 11547 | [Automatic Answer](https://onlinejudge.org/external/115/11547.pdf) | a one liner O(1) solution exists | 16823 | | 0.0 |
| 11548 | [Blackboard Bonanza](https://onlinejudge.org/external/115/11548.pdf) | 4 nested loops; string; pruning | 369 | | 0.0 |
| 11549 | [Calculator Conundrum](https://onlinejudge.org/external/115/11549.pdf) | repeat squaring with limited digits until it cycles; Floyd's cycle-finding algorithm is only used to detect the cycle; we do not use the value of mu or lambda | 1406 | | 0.0 |
| 11550 | [Demanding Dilemma](https://onlinejudge.org/external/115/11550.pdf) | graph representation; incidence matrix | 880 | | 0.0 |
| 11552 | [Fewest Flops](https://onlinejudge.org/external/115/11552.pdf) | dp(i; c) = minimum number of chunks after considering the first i segments ending with character c | 537 | | 0.0 |
| 11553 | [Grid Game](https://onlinejudge.org/external/115/11553.pdf) | brute force; DP bitmask; or Hungarian | 1344 | | 0.0 |
| 11554 | [Hapless Hedonism](https://onlinejudge.org/external/115/11554.pdf) | similar to UVa 11401 | 735 | | 0.0 |
| 11555 | [Aspen Avenue](https://onlinejudge.org/external/115/11555.pdf) | sort; compute tree positions; s: (l\_left, r\_left), t: put next tree on the left/right; also available at Kattis - aspenavenue | 146 | | 0.0 |
| 11556 | [Best Compression Ever](https://onlinejudge.org/external/115/11556.pdf) | related to power of two; use long long; also available at Kattis - bestcompression | 554 | | 0.0 |
| 11559 | [Event Planning](https://onlinejudge.org/external/115/11559.pdf) | one linear pass | 9790 | | 0.0 |
| 11561 | [Getting Gold](https://onlinejudge.org/external/115/11561.pdf) | flood fill with extra blocking constraint; also available at Kattis - gold | 1048 | | 0.0 |
| 11565 | [Simple Equations](https://onlinejudge.org/external/115/11565.pdf) | 3 nested loops with pruning | 2629 | | 0.0 |
| 11566 | [Let's Yum Cha!](https://onlinejudge.org/external/115/11566.pdf) | KNAPSACK variant: double each dim sum; add one parameter to see if we have bought too many dishes | 509 | | 0.0 |
| 11567 | [Moliu Number Generator](https://onlinejudge.org/external/115/11567.pdf) | greedy | 944 | | 0.0 |
| 11569 | [Lovely Hint](https://onlinejudge.org/external/115/11569.pdf) | determine the length of one of the longest paths and then count the number of such longest paths in DAG | 283 | | 0.0 |
| 11572 | [Unique Snowflakes](https://onlinejudge.org/external/115/11572.pdf) | use unordered\_map to record the occurrence index of a certain snowflake size; use this to determine the answer in linear time; also available at Kattis - snowflakes | 2629 | | 0.0 |
| 11573 | [Ocean Currents](https://onlinejudge.org/external/115/11573.pdf) | 0/1-weighted SSSP; BFS+deque; also available at Kattis - oceancurrents | 332 | | 0.0 |
| 11574 | [Colliding Traffic](https://onlinejudge.org/external/115/11574.pdf) | try all pairs of boats; 0.0 if one pair collide; or, use a quadratic equation; also available at Kattis - collidingtraffic | 143 | | 0.0 |
| 11576 | [Scrolling Sign](https://onlinejudge.org/external/115/11576.pdf) | modified string matching; complete search; also available at Kattis - scrollingsign | 845 | | 0.0 |
| 11577 | [Letter Frequency](https://onlinejudge.org/external/115/11577.pdf) | A-Z keys | 3334 | | 0.0 |
| 11579 | [Triangle Trouble](https://onlinejudge.org/external/115/11579.pdf) | sort; greedily check if three successive sides satisfy triangle inequality and if it is the largest triangle found so far | 676 | | 0.0 |
| 11581 | [Grid Successors](https://onlinejudge.org/external/115/11581.pdf) | simulate the process | 1556 | | 0.0 |
| 11582 | [Colossal Fibonacci Numbers...](https://onlinejudge.org/external/115/11582.pdf) | Pisano period: The sequence f(i)%n is periodic; use modPow | 658 | | 0.0 |
| 11583 | [Alien DNA](https://onlinejudge.org/external/115/11583.pdf) | greedy | 190 | | 0.0 |
| 11584 | [Partitioning by Palindrome...](https://onlinejudge.org/external/115/11584.pdf) | use two O(n^2) DP string; one for palindrome check and the other for partitioning | 1307 | | 0.0 |
| 11585 | [Nurikabe](https://onlinejudge.org/external/115/11585.pdf) | polynomial-time verifier for an NP-complete puzzle Nurikabe; this verifier requires clever usage of flood fill algorithm | 88 | | 0.0 |
| 11586 | [Train Tracks](https://onlinejudge.org/external/115/11586.pdf) | TLE if brute force; find the pattern | 2943 | | 0.0 |
| 11588 | [Image Coding](https://onlinejudge.org/external/115/11588.pdf) | sort simplifies the problem | 1867 | | 0.0 |
| 11594 | [All Pairs Maximum Flow](https://onlinejudge.org/external/115/11594.pdf) | use Gomory-Hu tree | 129 | | 0.0 |
| 11597 | [Spanning Subtree](https://onlinejudge.org/external/115/11597.pdf) | uses knowledge of graph theory; the answer is very trivial | 1954 | | 0.0 |
| 11603 | [Its all about the Bandwidt...](https://onlinejudge.org/external/116/11603.pdf) | get the maximum spanning tree of the input table; then check if its all pairs maximum flow equals to the input table | 96 | | 0.0 |
| 11608 | [No Problem](https://onlinejudge.org/external/116/11608.pdf) | use three arrays: created; required; available | 3326 | | 0.0 |
| 11609 | [Teams](https://onlinejudge.org/external/116/11609.pdf) | N \* 2^(N-1); use Java BigInteger for the modPow part | 1036 | | 0.0 |
| 11610 | [Reverse Prime](https://onlinejudge.org/external/116/11610.pdf) | first; reverse primes less than 10^6; then; append zero(es) if necessary; use Fenwick Tree and binary search | 360 | | 0.0 |
| 11614 | [Etruscan Warriors Never Pl...](https://onlinejudge.org/external/116/11614.pdf) | root of a quadratic equation | 3820 | | 0.0 |
| 11615 | [Family Tree](https://onlinejudge.org/external/116/11615.pdf) | counting size of subtrees | 394 | | 0.0 |
| 11616 | [Roman Numerals](https://onlinejudge.org/external/116/11616.pdf) | Roman numeral conversion problem | 1394 | | 0.0 |
| 11621 | [Small Factors](https://onlinejudge.org/external/116/11621.pdf) | generate numbers with factor 2 and/or 3; sort; upper\_bound | 1028 | | 0.0 |
| 11624 | [Fire!](https://onlinejudge.org/external/116/11624.pdf) | multi-sources BFS; also available at Kattis - fire3 | 2034 | | 0.0 |
| 11626 | [Convex Hull](https://onlinejudge.org/external/116/11626.pdf) | find CH; be careful with collinear points | 643 | | 0.0 |
| 11627 | [Slalom](https://onlinejudge.org/external/116/11627.pdf) | binary search the answer + Physics simulation; also available at Kattis - slalom2 | 255 | | 0.0 |
| 11628 | [Another lottery](https://onlinejudge.org/external/116/11628.pdf) | p[i] = ticket bought by i at the last round/total tickets bought at the last round by all n; gcd | 552 | | 0.0 |
| 11629 | [Ballot evaluation](https://onlinejudge.org/external/116/11629.pdf) | use map | 1220 | | 0.0 |
| 11631 | [Dark roads](https://onlinejudge.org/external/116/11631.pdf) | weight of (all graph edges - all MST edges) | 4393 | | 0.0 |
| 11634 | [Generate random numbers](https://onlinejudge.org/external/116/11634.pdf) | cycle-finding; f(a) = (a\*a/100) % 10000; or use DAT | 886 | | 0.0 |
| 11635 | [Hotel booking](https://onlinejudge.org/external/116/11635.pdf) | Dijkstra's BFS (or 2 Dijkstra's) | 596 | | 0.0 |
| 11636 | [Hello World!](https://onlinejudge.org/external/116/11636.pdf) | uses logarithm | 9143 | | 0.0 |
| 11638 | [Temperature Monitoring](https://onlinejudge.org/external/116/11638.pdf) | simulation; needs to use bitmask for parameter C | 116 | | 0.0 |
| 11639 | [Guard the Land](https://onlinejudge.org/external/116/11639.pdf) | rectangle-rectangle intersection; use flag array | 788 | | 0.0 |
| 11643 | [Knight Tour](https://onlinejudge.org/external/116/11643.pdf) | distance between any 2 interesting positions are computed using a pre-calculated BFS table (corner cases exist); DP TSP | 132 | | 0.0 |
| 11646 | [Athletics Track](https://onlinejudge.org/external/116/11646.pdf) | the circle is at the center of track | 899 | | 0.0 |
| 11648 | [Divide The Land](https://onlinejudge.org/external/116/11648.pdf) | derive the closed form formula | 330 | | 0.0 |
| 11650 | [Mirror Clock](https://onlinejudge.org/external/116/11650.pdf) | some mathematics required; similar to UVa 11677 | 3118 | | 0.0 |
| 11655 | [Waterland](https://onlinejudge.org/external/116/11655.pdf) | counting paths in DAG and one more similar task: counting the number of vertices involved in the paths | 228 | | 0.0 |
| 11658 | [Best Coalitions](https://onlinejudge.org/external/116/11658.pdf) | s: (id; share); t: form/ignore coalition with id | 519 | | 0.0 |
| 11659 | [Informants](https://onlinejudge.org/external/116/11659.pdf) | try all 2^20 bitmask and check | 304 | | 0.0 |
| 11660 | [Look-and-Say sequences](https://onlinejudge.org/external/116/11660.pdf) | simulate; break after $j$-th character | 326 | | 0.0 |
| 11661 | [Burger Time?](https://onlinejudge.org/external/116/11661.pdf) | linear scan | 3999 | | 0.0 |
| 11664 | [Langton's Ant](https://onlinejudge.org/external/116/11664.pdf) | simple simulation involving BigInteger | 138 | | 0.0 |
| 11666 | [Logarithms](https://onlinejudge.org/external/116/11666.pdf) | find the formula! | 503 | | 0.0 |
| 11670 | [Physics Experiment](https://onlinejudge.org/external/116/11670.pdf) | binary search the answer and O(N) greedy simulation | 100 | | 0.0 |
| 11677 | [Alarm Clock](https://onlinejudge.org/external/116/11677.pdf) | similar idea with UVa 11650 | 5720 | | 0.0 |
| 11678 | [Cards' Exchange](https://onlinejudge.org/external/116/11678.pdf) | just an array manipulation problem | 1003 | | 0.0 |
| 11679 | [Sub-prime](https://onlinejudge.org/external/116/11679.pdf) | simulate; see if all banks have ≥ 0 reserve | 2592 | | 0.0 |
| 11683 | [Laser Sculpture](https://onlinejudge.org/external/116/11683.pdf) | one linear pass is enough | 1618 | | 0.0 |
| 11686 | [Pick up sticks](https://onlinejudge.org/external/116/11686.pdf) | cycle check + toposort if DAG; also available at Kattis - pickupsticks | 1515 | | 0.0 |
| 11687 | [Digits](https://onlinejudge.org/external/116/11687.pdf) | direct simulation; also available at Kattis - digits | 2190 | | 0.0 |
| 11689 | [Soda Surpler](https://onlinejudge.org/external/116/11689.pdf) | similar to UVa 10346; also available at Kattis - sodasurpler | 5721 | | 0.0 |
| 11690 | [Money Matters](https://onlinejudge.org/external/116/11690.pdf) | check if total money from each member is 0 | 1330 | | 0.0 |
| 11693 | [Speedy Escape](https://onlinejudge.org/external/116/11693.pdf) | compute shortest paths information using Floyd-Warshall; then use DP; also available at Kattis - speedyescape | 221 | | 0.0 |
| 11695 | [Flight Planning](https://onlinejudge.org/external/116/11695.pdf) | cut the worst edge along the tree diameter; link two centers; also available at Kattis - flight | 335 | | 0.0 |
| 11697 | [Playfair Cipher](https://onlinejudge.org/external/116/11697.pdf) | follow the description; a bit tedious; also available at Kattis - playfair | 430 | | 0.0 |
| 11699 | [Rooks](https://onlinejudge.org/external/116/11699.pdf) | try all the possible row combinations on which we put rooks and keep the best | 178 | | 0.0 |
| 11701 | [Cantor](https://onlinejudge.org/external/117/11701.pdf) | a kind of ternary search | 355 | | 0.0 |
| 11703 | [sqrt log sin](https://onlinejudge.org/external/117/11703.pdf) | can be memoized | 1708 | | 0.0 |
| 11709 | [Trust groups](https://onlinejudge.org/external/117/11709.pdf) | find the number of SCCs | 1366 | | 0.0 |
| 11710 | [Expensive subway](https://onlinejudge.org/external/117/11710.pdf) | output 'Impossible' if the graph is still disconnected after running MST | 1409 | | 0.0 |
| 11713 | [Abstract Names](https://onlinejudge.org/external/117/11713.pdf) | modified string comparison | 4075 | | 0.0 |
| 11714 | [Blind Sorting](https://onlinejudge.org/external/117/11714.pdf) | use decision tree model to find min and second min; eventually the solution only involves logarithm | 723 | | 0.0 |
| 11715 | [Car](https://onlinejudge.org/external/117/11715.pdf) | physics simulation | 4726 | | 0.0 |
| 11716 | [Digital Fortress](https://onlinejudge.org/external/117/11716.pdf) | simple cipher | 4003 | | 0.0 |
| 11717 | [Energy Saving Microcontrol...](https://onlinejudge.org/external/117/11717.pdf) | tricky simulation | 321 | | 0.0 |
| 11718 | [Fantasy of a Summation](https://onlinejudge.org/external/117/11718.pdf) | convert loops to a closed form formula; use modPow to compute the results | 608 | | 0.0 |
| 11719 | [Gridland Airports](https://onlinejudge.org/external/117/11719.pdf) | count the number of spanning tree in a complete bipartite graph; use Java BigInteger | 138 | | 0.0 |
| 11721 | [Instant View of Big Bang](https://onlinejudge.org/external/117/11721.pdf) | find nodes that can reach SCCs with neg cycle | 323 | | 0.0 |
| 11723 | [Numbering Roads](https://onlinejudge.org/external/117/11723.pdf) | simple math | 4726 | | 0.0 |
| 11727 | [Cost Cutting](https://onlinejudge.org/external/117/11727.pdf) | sort the 3 numbers and get the median | 24441 | | 0.0 |
| 11728 | [Alternate Task](https://onlinejudge.org/external/117/11728.pdf) | sumDiv(N) | 1727 | | 0.0 |
| 11729 | [Commando War](https://onlinejudge.org/external/117/11729.pdf) | greedy; sorting | 3054 | | 0.0 |
| 11730 | [Number Transformation](https://onlinejudge.org/external/117/11730.pdf) | factoring; BFS | 937 | | 0.0 |
| 11733 | [Airports](https://onlinejudge.org/external/117/11733.pdf) | maintain cost at every update | 1744 | | 0.0 |
| 11734 | [Big Number of Teams will S...](https://onlinejudge.org/external/117/11734.pdf) | custom comparison | 2916 | | 0.0 |
| 11736 | [Debugging RAM](https://onlinejudge.org/external/117/11736.pdf) | this is a (simplified) introduction to Computer Organization on how computer stores data in memory | 254 | | 0.0 |
| 11742 | [Social Constraints](https://onlinejudge.org/external/117/11742.pdf) | try all permutations | 1355 | | 0.0 |
| 11743 | [Credit Check](https://onlinejudge.org/external/117/11743.pdf) | Luhn's algorithm to check credit card numbers; search the Internet to learn more | 3720 | | 0.0 |
| 11744 | [Parallel Carry Adder](https://onlinejudge.org/external/117/11744.pdf) | this is another topic on Computer Organization; this time on Digital Logic design | 366 | | 0.0 |
| 11747 | [Heavy Cycle Edges](https://onlinejudge.org/external/117/11747.pdf) | sum the edge weights of the chords | 2490 | | 0.0 |
| 11749 | [Poor Trade Advisor](https://onlinejudge.org/external/117/11749.pdf) | find the largest CC with highest average PPA; also solvable with UFDS | 529 | | 0.0 |
| 11752 | [The Super Powers](https://onlinejudge.org/external/117/11752.pdf) | try base: 2 to 2^16; composite power; sort | 729 | | 0.0 |
| 11753 | [Creating Palindrome](https://onlinejudge.org/external/117/11753.pdf) | the state is probably too big if we use DP; but we can pass the time limit with just backtracking | 339 | | 0.0 |
| 11757 | [Winger Trial](https://onlinejudge.org/external/117/11757.pdf) | creative problem about min cut; build the flow graph with a bit of simple geometry involving circle; then find the min cut from source (left side) to sink (right side) | 146 | | 0.0 |
| 11760 | [Brother Arif, Please feed ...](https://onlinejudge.org/external/117/11760.pdf) | separate row col checks; use two bitsets | 747 | | 0.0 |
| 11762 | [Race to 1](https://onlinejudge.org/external/117/11762.pdf) | use Sieve of Eratosthenes to know the rank of each prime number; DP; expected value | 471 | | 0.0 |
| 11764 | [Jumping Mario](https://onlinejudge.org/external/117/11764.pdf) | one linear scan to count high low jumps | 13375 | | 0.0 |
| 11765 | [Component Placement](https://onlinejudge.org/external/117/11765.pdf) | interesting min cut variant | 141 | | 0.0 |
| 11770 | [Lighting Away](https://onlinejudge.org/external/117/11770.pdf) | similar to UVa 11504 | 1291 | | 0.0 |
| 11774 | [Doom's Day](https://onlinejudge.org/external/117/11774.pdf) | find pattern involving gcd with small test cases | 501 | | 0.0 |
| 11777 | [Automate the Grades](https://onlinejudge.org/external/117/11777.pdf) | sort simplifies the problem | 5846 | | 0.0 |
| 11780 | [Miles 2 Km](https://onlinejudge.org/external/117/11780.pdf) | the background problem is Fibonacci numbers | 518 | | 0.0 |
| 11782 | [Optimal Cut](https://onlinejudge.org/external/117/11782.pdf) | s: (id; rem\_K); t: take root/try left-right subtree | 228 | | 0.0 |
| 11783 | [Nails](https://onlinejudge.org/external/117/11783.pdf) | O(N^2) brute force line segment intersection tests | 238 | | 0.0 |
| 11786 | [Global Raining at Bididibu...](https://onlinejudge.org/external/117/11786.pdf) | need to observe the pattern | 338 | | 0.0 |
| 11787 | [Numeral Hieroglyphs](https://onlinejudge.org/external/117/11787.pdf) | follow the description | 678 | | 0.0 |
| 11790 | [Murcia's Skyline](https://onlinejudge.org/external/117/11790.pdf) | combination of LIS LDS; weighted | 2257 | | 0.0 |
| 11792 | [Krochanska is Here!](https://onlinejudge.org/external/117/11792.pdf) | be careful with 'important station' | 381 | | 0.0 |
| 11795 | [Mega Man's Mission](https://onlinejudge.org/external/117/11795.pdf) | DP TSP variant; counting paths on DAG; DP+bitmask; let Mega Buster owned by a dummy 'Robot 0' | 482 | | 0.0 |
| 11797 | [Drutojan Express](https://onlinejudge.org/external/117/11797.pdf) | simulation with 5 queues | 283 | | 0.0 |
| 11799 | [Horror Dash](https://onlinejudge.org/external/117/11799.pdf) | one linear scan; find max value | 15766 | | 0.0 |
| 11800 | [Determine the Shape](https://onlinejudge.org/external/118/11800.pdf) | use next\_permutation to try all possible 4! = 24 permutations of 4 points; check the requirements | 639 | | 0.0 |
| 11804 | [Argentina](https://onlinejudge.org/external/118/11804.pdf) | 5 nested loops | 1320 | | 0.0 |
| 11805 | [Bafana Bafana](https://onlinejudge.org/external/118/11805.pdf) | very simple O(1) formula exists | 8473 | | 0.0 |
| 11806 | [Cheerleaders](https://onlinejudge.org/external/118/11806.pdf) | counting paths in DAG; s: (r; c; rem\_cheerleader; bitmask); bitmask is a 4 bit integer to check if all 4 corners have at least one cheerleader | 616 | | 0.0 |
| 11813 | [Shopping](https://onlinejudge.org/external/118/11813.pdf) | Dijsktra's -> APSP information for TSP; then use DP; n <= 10 | 312 | | 0.0 |
| 11816 | [HST](https://onlinejudge.org/external/118/11816.pdf) | simple math; precision required | 134 | | 0.0 |
| 11817 | [Tunnelling the Earth](https://onlinejudge.org/external/118/11817.pdf) | gcDistance | 486 | | 0.0 |
| 11821 | [High-Precision Number](https://onlinejudge.org/external/118/11821.pdf) | Java BigDecimal class | 613 | | 0.0 |
| 11824 | [A Minimum Land Price](https://onlinejudge.org/external/118/11824.pdf) | sort simplifies the problem | 1709 | | 0.0 |
| 11825 | [Hackers' Crackdown](https://onlinejudge.org/external/118/11825.pdf) | first; use iterative brute force: try which subset of vertices can cover all vertices; then use DP to figure out the best possible attacks | 558 | | 0.0 |
| 11827 | [Maximum GCD](https://onlinejudge.org/external/118/11827.pdf) | GCD of many numbers; small input | 3689 | | 0.0 |
| 11830 | [Contract Revision](https://onlinejudge.org/external/118/11830.pdf) | use BigInteger string representation | 1683 | | 0.0 |
| 11831 | [Sticker Collector Robot](https://onlinejudge.org/external/118/11831.pdf) | traversal on implicit graph | 2732 | | 0.0 |
| 11832 | [Account Book](https://onlinejudge.org/external/118/11832.pdf) | interesting DP; s: (id; val); use offset to handle negative numbers; t: plus or minus; print solution | 438 | | 0.0 |
| 11833 | [Route Change](https://onlinejudge.org/external/118/11833.pdf) | stop Dijkstra's at service route path plus some modification | 381 | | 0.0 |
| 11834 | [Elevator](https://onlinejudge.org/external/118/11834.pdf) | packing two circles in a rectangle | 824 | | 0.0 |
| 11835 | [Formula 1](https://onlinejudge.org/external/118/11835.pdf) | do as asked | 513 | | 0.0 |
| 11837 | [Musical Plagiarism](https://onlinejudge.org/external/118/11837.pdf) | transform the input of X notes into X-1 distances; then apply KMP | 200 | | 0.0 |
| 11838 | [Come and Go](https://onlinejudge.org/external/118/11838.pdf) | see if input graph is an SCC | 2475 | | 0.0 |
| 11839 | [Optical Reader](https://onlinejudge.org/external/118/11839.pdf) | illegal if mark 0 or >1 alternatives | 1384 | | 0.0 |
| 11841 | [Y-game](https://onlinejudge.org/external/118/11841.pdf) | implicit graph; check if there is a CC from x = y = z = 0 to say 'Benny wins' | 137 | | 0.0 |
| 11847 | [Cut the Silver Bar](https://onlinejudge.org/external/118/11847.pdf) | O(1) math formula exists: floor(log2(n)) | 839 | | 0.0 |
| 11849 | [CD](https://onlinejudge.org/external/118/11849.pdf) | unordered\_set is faster than set here; or use modified merge as the input is sorted; also available at Kattis - cd | 4916 | | 0.0 |
| 11850 | [Alaska](https://onlinejudge.org/external/118/11850.pdf) | for each integer location from 0 to 1322; can Brenda reach (anywhere within 200 miles of) any charging stations? | 2524 | | 0.0 |
| 11854 | [Egypt](https://onlinejudge.org/external/118/11854.pdf) | Pythagorean theorem/triple; also available at Kattis - egypt | 10424 | | 0.0 |
| 11855 | [Buzzwords](https://onlinejudge.org/external/118/11855.pdf) | Longest Repeated Substring that appears X times (2 ≤ X < N); also available at Kattis - buzzwords | 159 | | 0.0 |
| 11857 | [Driving Range](https://onlinejudge.org/external/118/11857.pdf) | find weight of the last edge added to MST by Kruskal's; also available at Kattis - drivingrange | 1171 | | 0.0 |
| 11858 | [Frosh Week](https://onlinejudge.org/external/118/11858.pdf) | requires O(n log n) merge sort; 64-bit integer; also available at Kattis - froshweek | 1000 | | 0.0 |
| 11860 | [Document Analyzer](https://onlinejudge.org/external/118/11860.pdf) | use set and map; linear scan | 285 | | 0.0 |
| 11875 | [Brick Game](https://onlinejudge.org/external/118/11875.pdf) | get median of a sorted input | 8247 | | 0.0 |
| 11876 | [N + NOD (N)](https://onlinejudge.org/external/118/11876.pdf) | [lower|upper]\_bound on sorted sequence N | 1400 | | 0.0 |
| 11877 | [The Coco-Cola Store](https://onlinejudge.org/external/118/11877.pdf) | similar to UVa 10346 | 6211 | | 0.0 |
| 11878 | [Homework Checker](https://onlinejudge.org/external/118/11878.pdf) | expression parsing | 2429 | | 0.0 |
| 11879 | [Multiple of 17](https://onlinejudge.org/external/118/11879.pdf) | BigInteger: mod; divide; subtract; equals | 4238 | | 0.0 |
| 11881 | [Internal Rate of Return](https://onlinejudge.org/external/118/11881.pdf) | bisection method | 405 | | 0.0 |
| 11888 | [Abnormal 89's](https://onlinejudge.org/external/118/11888.pdf) | let ss = s+s; find reverse(s) in ss, but it cannot match the first n chars or the last n chars of ss | 911 | | 0.0 |
| 11889 | [Benefit](https://onlinejudge.org/external/118/11889.pdf) | LCM; involving prime factorization | 1389 | | 0.0 |
| 11890 | [Calculus Simplified](https://onlinejudge.org/external/118/11890.pdf) | greedy | 104 | | 0.0 |
| 11894 | [Genius MJ](https://onlinejudge.org/external/118/11894.pdf) | about rotating and translating points | 208 | | 0.0 |
| 11900 | [Boiled Eggs](https://onlinejudge.org/external/119/11900.pdf) | greedy; sorting | 3816 | | 0.0 |
| 11902 | [Dominator](https://onlinejudge.org/external/119/11902.pdf) | disable vertex one by one; check if the reachability from vertex 0 changes | 1745 | | 0.0 |
| 11906 | [Knight in a War Grid](https://onlinejudge.org/external/119/11906.pdf) | DFS/BFS for reachability; several tricky cases; be careful when M = 0; N = 0; or M = N | 1324 | | 0.0 |
| 11908 | [Skyscraper](https://onlinejudge.org/external/119/11908.pdf) | sort the advertisements based on starting level; ending level; and cost; DP 1 dimension | 240 | | 0.0 |
| 11909 | [Soya Milk](https://onlinejudge.org/external/119/11909.pdf) | Law of Sines (or tangent); two possible cases | 1706 | | 0.0 |
| 11917 | [Do Your Own Homework](https://onlinejudge.org/external/119/11917.pdf) | use map | 2247 | | 0.0 |
| 11926 | [Multitasking](https://onlinejudge.org/external/119/11926.pdf) | use 1M bitset to check if a slot is free | 1741 | | 0.0 |
| 11933 | [Splitting Numbers](https://onlinejudge.org/external/119/11933.pdf) | simple bit exercise | 3015 | | 0.0 |
| 11934 | [Magic Formula](https://onlinejudge.org/external/119/11934.pdf) | just do plain brute-force | 3919 | | 0.0 |
| 11935 | [Through the Desert](https://onlinejudge.org/external/119/11935.pdf) | BSTA + simulation | 1053 | | 0.0 |
| 11936 | [The Lazy Lumberjacks](https://onlinejudge.org/external/119/11936.pdf) | see if 3 sides form a valid triangle | 5546 | | 0.0 |
| 11942 | [Lumberjack Sequencing](https://onlinejudge.org/external/119/11942.pdf) | check if input is sorted | 8832 | | 0.0 |
| 11945 | [Financial Management](https://onlinejudge.org/external/119/11945.pdf) | a bit of output formatting | 952 | | 0.0 |
| 11946 | [Code Number](https://onlinejudge.org/external/119/11946.pdf) | ad hoc | 2033 | | 0.0 |
| 11947 | [Cancer or Scorpio](https://onlinejudge.org/external/119/11947.pdf) | easier with Java GregorianCalendar | 1363 | | 0.0 |
| 11951 | [Area](https://onlinejudge.org/external/119/11951.pdf) | use long long; max 2D range sum; prune the search space whenever possible | 1121 | | 0.0 |
| 11952 | [Arithmetic](https://onlinejudge.org/external/119/11952.pdf) | check base 2 to 18; special case for base 1 | 205 | | 0.0 |
| 11953 | [Battleships](https://onlinejudge.org/external/119/11953.pdf) | interesting twist of flood fill problem | 2859 | | 0.0 |
| 11955 | [Binomial Theorem](https://onlinejudge.org/external/119/11955.pdf) | pure application; DP | 887 | | 0.0 |
| 11956 | [Brainfuck](https://onlinejudge.org/external/119/11956.pdf) | simulation; ignore '.' | 1328 | | 0.0 |
| 11957 | [Checkers](https://onlinejudge.org/external/119/11957.pdf) | counting paths in implicit DAG; DP | 599 | | 0.0 |
| 11958 | [Coming Home](https://onlinejudge.org/external/119/11958.pdf) | be careful with 'past midnight' | 1219 | | 0.0 |
| 11959 | [Dice](https://onlinejudge.org/external/119/11959.pdf) | try all possible dice positions; compare with the 2nd one | 490 | | 0.0 |
| 11960 | [Divisor Game](https://onlinejudge.org/external/119/11960.pdf) | modified Sieve; number of divisors; static Range Maximum Query; use Sparse Table data structure | 626 | | 0.0 |
| 11961 | [DNA](https://onlinejudge.org/external/119/11961.pdf) | up to 4^10 possible DNA strings; mutation power is at most K ≤ 5 so the search space is much smaller; sort the output; remove duplicates | 291 | | 0.0 |
| 11962 | [DNA II](https://onlinejudge.org/external/119/11962.pdf) | find formula; similar to UVa 941; base 4 | 310 | | 0.0 |
| 11965 | [Extra Spaces](https://onlinejudge.org/external/119/11965.pdf) | replace consecutive spaces with only one space | 1185 | | 0.0 |
| 11966 | [Galactic Bonding](https://onlinejudge.org/external/119/11966.pdf) | use union find to keep track of the number of disjoint sets/constellations; if Euclidian dist <= D; union the two stars | 556 | | 0.0 |
| 11967 | [Hic-Hac-Hoe](https://onlinejudge.org/external/119/11967.pdf) | brute force; use map as we cannot store the actual tic-tac-toe board; remember n coordinates and check if there are k consecutive coordinates that belong to any one player | 74 | | 0.0 |
| 11968 | [In The Airport](https://onlinejudge.org/external/119/11968.pdf) | average; fabs; if ties; choose the smaller one! | 331 | | 0.0 |
| 11970 | [Lucky Numbers](https://onlinejudge.org/external/119/11970.pdf) | square numbers; divisibility; brute force | 1060 | | 0.0 |
| 11974 | [Switch The Lights](https://onlinejudge.org/external/119/11974.pdf) | s: (bitmask); BFS; similar with UVa 12135 | 435 | | 0.0 |
| 11975 | [Tele-loto](https://onlinejudge.org/external/119/11975.pdf) | 3 nested loops; simulate the game as asked | 153 | | 0.0 |
| 11984 | [A Change in Thermal Unit](https://onlinejudge.org/external/119/11984.pdf) | F to C conversion and vice versa | 7848 | | 0.0 |
| 11986 | [Save from Radiation](https://onlinejudge.org/external/119/11986.pdf) | log2 (N 1); manual check for precision | 455 | | 0.0 |
| 11987 | [Almost Union-Find](https://onlinejudge.org/external/119/11987.pdf) | maintain set attribute (size and sum) in rep item; new operation: move; key idea: do not destroy the parent array structure; also available at Kattis - almostunionfind | 867 | | 0.0 |
| 11988 | [Broken Keyboard (a.k.a. Be...](https://onlinejudge.org/external/119/11988.pdf) | rare linked list problem | 5648 | | 0.0 |
| 11991 | [Easy Problem from Rujia Li...](https://onlinejudge.org/external/119/11991.pdf) | Adjacency List | 4174 | | 0.0 |
| 11995 | [I Can Guess the Data Struc...](https://onlinejudge.org/external/119/11995.pdf) | stack; queue; and priority\_queue | 5332 | | 0.0 |
| 11997 | [K Smallest Sums](https://onlinejudge.org/external/119/11997.pdf) | sort the lists; merge two sorted lists using priority\_queue to keep the K-th smallest sum every time | 887 | | 0.0 |
| 12001 | [UVa Panel Discussion](https://onlinejudge.org/external/120/12001.pdf) | counting; combinatorics | 188 | | 0.0 |
| 12004 | [Bubble Sort](https://onlinejudge.org/external/120/12004.pdf) | try small n; get the pattern; use long long | 1030 | | 0.0 |
| 12005 | [Find Solutions](https://onlinejudge.org/external/120/12005.pdf) | numDiv(4N-3) | 231 | | 0.0 |
| 12015 | [Google is Feeling Lucky](https://onlinejudge.org/external/120/12015.pdf) | traverse the list twice | 7232 | | 0.0 |
| 12019 | [Doom's Day Algorithm](https://onlinejudge.org/external/120/12019.pdf) | Gregorian Calendar; get DAY\_OF\_WEEK | 2235 | | 0.0 |
| 12022 | [Ordering T-shirts](https://onlinejudge.org/external/120/12022.pdf) | number of ways n competitors can rank in a competition allowing for the possibility of ties; sequence A000670 in OEIS | 343 | | 0.0 |
| 12024 | [Hats](https://onlinejudge.org/external/120/12024.pdf) | derangement | 1020 | | 0.0 |
| 12027 | [Very Big Perfect Squares](https://onlinejudge.org/external/120/12027.pdf) | sqrt trick | 376 | | 0.0 |
| 12028 | [A Gift from the Setter](https://onlinejudge.org/external/120/12028.pdf) | generate the array; sort it; prepare 1D Range Sum Query; then the solution will be much simpler | 383 | | 0.0 |
| 12030 | [Help the Winners](https://onlinejudge.org/external/120/12030.pdf) | counting paths in DAG; the implicit DAG is not trivial; s: (idx; bitmask; all1; has2); t: try all shoes that has not been matched to the girl that choose dress 'idx' | 242 | | 0.0 |
| 12032 | [The Monkey and the Oiled B...](https://onlinejudge.org/external/120/12032.pdf) | BSTA + simulation | 2441 | | 0.0 |
| 12036 | [Stable Grid](https://onlinejudge.org/external/120/12036.pdf) | use pigeon hole principle | 857 | | 0.0 |
| 12043 | [Divisors](https://onlinejudge.org/external/120/12043.pdf) | sumDiv(N) and numDiv(N); brute force | 868 | | 0.0 |
| 12047 | [Highest Paid Toll](https://onlinejudge.org/external/120/12047.pdf) | clever usage of Dijkstra's; run Dijkstra's from source and from d from destination | 776 | | 0.0 |
| 12049 | [Just Prune The List](https://onlinejudge.org/external/120/12049.pdf) | unordered\_multiset manipulation | 1576 | | 0.0 |
| 12060 | [All Integer Average](https://onlinejudge.org/external/120/12060.pdf) | LA 3012 - Dhaka04; output format | 926 | | 0.0 |
| 12063 | [Zeros and Ones](https://onlinejudge.org/external/120/12063.pdf) | counting paths in DAG; s: (zeros; ones; mod); we do not need a parameter to denote the current bit as it can be recovered from zeros ones | 428 | | 0.0 |
| 12068 | [Harmonic Mean](https://onlinejudge.org/external/120/12068.pdf) | involving fraction; use LCM and GCD | 1040 | | 0.0 |
| 12070 | [Invite Your Friends](https://onlinejudge.org/external/120/12070.pdf) | LA 3290 - Dhaka05; BFS brute force | 77 | | 0.0 |
| 12071 | [Understanding Recursion](https://onlinejudge.org/external/120/12071.pdf) | reading comprehension; sort the input; compute something | 139 | | 0.0 |
| 12083 | [Guardian of Decency](https://onlinejudge.org/external/120/12083.pdf) | LA 3415 - NorthwesternEurope05; MIS; also available at Kattis - guardianofdecency | 356 | | 0.0 |
| 12085 | [Mobile Casanova](https://onlinejudge.org/external/120/12085.pdf) | LA 2189 - Dhaka06; watch out for PE | 723 | | 0.0 |
| 12086 | [Potentiometers](https://onlinejudge.org/external/120/12086.pdf) | LA 2191 - Dhaka06; pure dynamic RSQ problem; solvable with Fenwick Tree or Segment Tree | 2360 | | 0.0 |
| 12097 | [Pie](https://onlinejudge.org/external/120/12097.pdf) | binary search the answer and geometric formula | 619 | | 0.0 |
| 12100 | [Printer Queue](https://onlinejudge.org/external/121/12100.pdf) | simulation with queue | 1780 | | 0.0 |
| 12101 | [Prime Path](https://onlinejudge.org/external/121/12101.pdf) | BFS; involving prime numbers | 449 | | 0.0 |
| 12108 | [Extraordinarily Tired Stud...](https://onlinejudge.org/external/121/12108.pdf) | simulation with N queues | 495 | | 0.0 |
| 12114 | [Bachelor Arithmetic](https://onlinejudge.org/external/121/12114.pdf) | simple probability | 1155 | | 0.0 |
| 12124 | [Assemble](https://onlinejudge.org/external/121/12124.pdf) | greedy | 497 | | 0.0 |
| 12125 | [March of the Penguins](https://onlinejudge.org/external/121/12125.pdf) | max flow modeling with vertex capacities; similar to UVa 11380; also available at Kattis - marchofpenguins | 385 | | 0.0 |
| 12135 | [Switch Bulbs](https://onlinejudge.org/external/121/12135.pdf) | LA 4201 - Dhaka08; s: (bitmask); BFS; similar with UVa 11974 | 265 | | 0.0 |
| 12136 | [Schedule of a Married Man](https://onlinejudge.org/external/121/12136.pdf) | LA 4202 - Dhaka08; check time | 1325 | | 0.0 |
| 12143 | [Stopping Doom's Day](https://onlinejudge.org/external/121/12143.pdf) | LA 4209 - Dhaka08; formula simplification---the hard part; use BigInteger---the easy part | 70 | | 0.0 |
| 12144 | [Almost Shortest Path](https://onlinejudge.org/external/121/12144.pdf) | Dijkstra's; store multiple predecessors | 439 | | 0.0 |
| 12148 | [Electricity](https://onlinejudge.org/external/121/12148.pdf) | easy with Gregorian Calendar; use method 'add' to add one day to previous date and see if it is the same as the current date | 363 | | 0.0 |
| 12149 | [Feynman](https://onlinejudge.org/external/121/12149.pdf) | finding the pattern; square numbers | 6564 | | 0.0 |
| 12150 | [Pole Position](https://onlinejudge.org/external/121/12150.pdf) | simple manipulation | 713 | | 0.0 |
| 12155 | [ASCII Diamondi](https://onlinejudge.org/external/121/12155.pdf) | LA 4403 - KualaLumpur08; use proper index manipulation | 170 | | 0.0 |
| 12157 | [Tariff Plan](https://onlinejudge.org/external/121/12157.pdf) | LA 4405 - KualaLumpur08; compute and compare the two plans | 4451 | | 0.0 |
| 12159 | [Gun Fight](https://onlinejudge.org/external/121/12159.pdf) | LA 4407 - KualaLumpur08; use simple CCW tests (geometry) to build the bipartite graph; MCBM | 141 | | 0.0 |
| 12160 | [Unlock the Lock](https://onlinejudge.org/external/121/12160.pdf) | LA 4408 - KualaLumpur08; s: (4-digits number); edges: button pushes; BFS | 1188 | | 0.0 |
| 12168 | [Cat vs. Dog](https://onlinejudge.org/external/121/12168.pdf) | LA 4288 - NorthwesternEurope08; MIS; also available at Kattis - catvsdog | 283 | | 0.0 |
| 12169 | [Disgruntled Judge](https://onlinejudge.org/external/121/12169.pdf) | brute force constants a and b between [0..10 000] and do O(n) checks; break early as soon as a solution is found; also available at Kattis - disgruntledjudge | 357 | | 0.0 |
| 12186 | [Another Crisis](https://onlinejudge.org/external/121/12186.pdf) | the input graph is a tree | 579 | | 0.0 |
| 12187 | [Brothers](https://onlinejudge.org/external/121/12187.pdf) | simulate the process | 477 | | 0.0 |
| 12190 | [Electric Bill](https://onlinejudge.org/external/121/12190.pdf) | BSTA + algebra | 432 | | 0.0 |
| 12192 | [Grapevine](https://onlinejudge.org/external/121/12192.pdf) | input array is specially sorted; lower\_bound | 996 | | 0.0 |
| 12195 | [Jingle Composing](https://onlinejudge.org/external/121/12195.pdf) | count the number of correct measures | 1398 | | 0.0 |
| 12205 | [Happy Telephones](https://onlinejudge.org/external/122/12205.pdf) | brute force; check intervals; also available at Kattis - telephones | 477 | | 0.0 |
| 12207 | [That is Your Queue](https://onlinejudge.org/external/122/12207.pdf) | use both queue and deque | 838 | | 0.0 |
| 12208 | [How Many Ones Needed?](https://onlinejudge.org/external/122/12208.pdf) | actually just a simple combinatorics; it is classified here due to the usage of map data structure as the DP table as the range is big | 344 | | 0.0 |
| 12210 | [A Match Making Problem](https://onlinejudge.org/external/122/12210.pdf) | greedy; sorting | 1853 | | 0.0 |
| 12218 | [An Industrial Spy](https://onlinejudge.org/external/122/12218.pdf) | brute force recursive bitmask with prime check; also available at Kattis - industrialspy | 135 | | 0.0 |
| 12230 | [Crossing Rivers](https://onlinejudge.org/external/122/12230.pdf) | simple expected value problem | 272 | | 0.0 |
| 12238 | [Ants Colony](https://onlinejudge.org/external/122/12238.pdf) | similar to UVa 10938 | 504 | | 0.0 |
| 12239 | [Bingo!](https://onlinejudge.org/external/122/12239.pdf) | try all 90^2 pairs; see if all numbers in [0..N] are there | 810 | | 0.0 |
| 12243 | [Flowers Flourish from Fran...](https://onlinejudge.org/external/122/12243.pdf) | simple string tokenizer problem | 1814 | | 0.0 |
| 12247 | [Jollo](https://onlinejudge.org/external/122/12247.pdf) | This is a starred problem; refer to CP3/4 book | 1535 | | 0.0 |
| 12249 | [Overlapping Scenes](https://onlinejudge.org/external/122/12249.pdf) | LA 4994 - KualaLumpur10; try all permutations; a bit of string matching | 175 | | 0.0 |
| 12250 | [Language Detection](https://onlinejudge.org/external/122/12250.pdf) | LA 4995 - KualaLumpur10; if-else | 9766 | | 0.0 |
| 12255 | [Underwater Snipers](https://onlinejudge.org/external/122/12255.pdf) | LA 5000 - KualaLumpur10; binary search the answer and greedy | 73 | | 0.0 |
| 12256 | [Making Quadrilaterals](https://onlinejudge.org/external/122/12256.pdf) | LA 5001 - KualaLumpur10; first 3 sides are 1, 1, 1; the 4th side onwards are sum of previous threes | 224 | | 0.0 |
| 12269 | [Lawn mower](https://onlinejudge.org/external/122/12269.pdf) | sort and check if Guido covers all land (end-to-end and side-to-side); also available at Kattis - lawnmower | 480 | | 0.0 |
| 12279 | [Emoogle Balance](https://onlinejudge.org/external/122/12279.pdf) | simple linear scan | 7162 | | 0.0 |
| 12280 | [A Digital Satire of Digita...](https://onlinejudge.org/external/122/12280.pdf) | a tedious problem | 274 | | 0.0 |
| 12281 | [Hyper Box](https://onlinejudge.org/external/122/12281.pdf) | Zeckendorf theorem a bit of combinatorics | 226 | | 0.0 |
| 12289 | [One-Two-Three](https://onlinejudge.org/external/122/12289.pdf) | just use if-else statements | 11071 | | 0.0 |
| 12290 | [Counting Game](https://onlinejudge.org/external/122/12290.pdf) | no -1 in the answer | 667 | | 0.0 |
| 12291 | [Polyomino Composer](https://onlinejudge.org/external/122/12291.pdf) | do as asked; a bit tedious | 275 | | 0.0 |
| 12293 | [Box Game](https://onlinejudge.org/external/122/12293.pdf) | analyze the game tree of smaller instances to get the mathematical insight to solve this problem | 1091 | | 0.0 |
| 12299 | [RMQ with Shifts](https://onlinejudge.org/external/122/12299.pdf) | Segment Tree with a few point (not range) updates; RMQs | 583 | | 0.0 |
| 12318 | [Digital Roulette](https://onlinejudge.org/external/123/12318.pdf) | brute force with unordered\_set | 293 | | 0.0 |
| 12319 | [Edgetown's Traffic Jams](https://onlinejudge.org/external/123/12319.pdf) | Floyd-Warshall 2x and compare | 306 | | 0.0 |
| 12321 | [Gas Stations](https://onlinejudge.org/external/123/12321.pdf) | interval covering | 547 | | 0.0 |
| 12322 | [Handgun Shooting Sport](https://onlinejudge.org/external/123/12322.pdf) | first; use atan2 to convert angles to 1D intervals; then sort it and use a greedy scan to get the answer | 115 | | 0.0 |
| 12324 | [Philip J. Fry Problem](https://onlinejudge.org/external/123/12324.pdf) | spheres > n are useless | 441 | | 0.0 |
| 12335 | [Lexicographic Order](https://onlinejudge.org/external/123/12335.pdf) | given the k-th permutation, recover the 1st permutation; use factorial; use Java BigInteger | 298 | | 0.0 |
| 12337 | [Bob's Beautiful Balls](https://onlinejudge.org/external/123/12337.pdf) | try all possible row x col size and test if it is beautiful | 240 | | 0.0 |
| 12342 | [Tax Calculator](https://onlinejudge.org/external/123/12342.pdf) | tax computation can be tricky indeed | 1995 | | 0.0 |
| 12346 | [Water Gate Management](https://onlinejudge.org/external/123/12346.pdf) | LA 5723 - Phuket11; try all 2^n combinations; pick the best one | 367 | | 0.0 |
| 12347 | [Binary Search Tree](https://onlinejudge.org/external/123/12347.pdf) | given pre-order traversal of a BST; use BST property to get the BST; output the post-order traversal that BST | 1161 | | 0.0 |
| 12348 | [Fun Coloring](https://onlinejudge.org/external/123/12348.pdf) | LA 5725 - Phuket11; try all 2^n combinations | 135 | | 0.0 |
| 12356 | [Army Buddies](https://onlinejudge.org/external/123/12356.pdf) | similar to deletion in doubly linked lists but we can still use a 1D array for the underlying data structure | 2557 | | 0.0 |
| 12363 | [Hedge Mazes](https://onlinejudge.org/external/123/12363.pdf) | LA 5796 - Latin America; transform input to graph of its bridges; see if b is reachable from a with only the bridges | 239 | | 0.0 |
| 12364 | [In Braille](https://onlinejudge.org/external/123/12364.pdf) | 2D array check; check all possible digits [0..9] | 469 | | 0.0 |
| 12366 | [King's Poker](https://onlinejudge.org/external/123/12366.pdf) | set and pair checks; various corner cases; but the given sample I/O is quite thorough | 431 | | 0.0 |
| 12372 | [Packing for Holiday](https://onlinejudge.org/external/123/12372.pdf) | just check if all L, W, H ≤ 20 | 11024 | | 0.0 |
| 12376 | [As Long as I Learn, I Live](https://onlinejudge.org/external/123/12376.pdf) | simulated greedy traversal on DAG | 1058 | | 0.0 |
| 12379 | [Central Post Office](https://onlinejudge.org/external/123/12379.pdf) | find the diameter of tree first; we only traverse the diameter once and we traverse the other edges twice | 109 | | 0.0 |
| 12390 | [Distributing Ballot Boxes](https://onlinejudge.org/external/123/12390.pdf) | greedy; priority queue | 341 | | 0.0 |
| 12392 | [Guess the Numbers](https://onlinejudge.org/external/123/12392.pdf) | brute force permute up to 5!; recursive string parsing (simple BNF) | 234 | | 0.0 |
| 12394 | [Peer Review](https://onlinejudge.org/external/123/12394.pdf) | interesting problem with real life back story; be careful of various corner cases | 350 | | 0.0 |
| 12397 | [Roman Numerals](https://onlinejudge.org/external/123/12397.pdf) | each Roman digit has a value | 514 | | 0.0 |
| 12398 | [NumPuzz I](https://onlinejudge.org/external/123/12398.pdf) | simulate backwards; do not forget to mod 10 | 584 | | 0.0 |
| 12403 | [Save Setu](https://onlinejudge.org/external/124/12403.pdf) | straightforward | 9068 | | 0.0 |
| 12405 | [Scarecrow](https://onlinejudge.org/external/124/12405.pdf) | simpler interval covering problem | 3409 | | 0.0 |
| 12406 | [Help Dexter](https://onlinejudge.org/external/124/12406.pdf) | try all 2^p possible bitmasks; change '0's to '2's | 583 | | 0.0 |
| 12414 | [Calculating Yuan Fen](https://onlinejudge.org/external/124/12414.pdf) | brute force problem involving string | 292 | | 0.0 |
| 12416 | [Excessive Space Remover](https://onlinejudge.org/external/124/12416.pdf) | the answer is log2 of the max consecutive spaces in a line | 706 | | 0.0 |
| 12428 | [Enemy at the Gates](https://onlinejudge.org/external/124/12428.pdf) | binary search the answer and a bit of graph theory about bridges | 238 | | 0.0 |
| 12439 | [February 29](https://onlinejudge.org/external/124/12439.pdf) | inclusion-exclusion; lots of corner cases; be careful | 1160 | | 0.0 |
| 12442 | [Forwarding Emails](https://onlinejudge.org/external/124/12442.pdf) | modified DFS; special graph | 1882 | | 0.0 |
| 12445 | [Happy 12](https://onlinejudge.org/external/124/12445.pdf) | meet in the middle; similar with UVa 11212; uses heavy bitmasking for the 6 operations | 57 | | 0.0 |
| 12455 | [Bars](https://onlinejudge.org/external/124/12455.pdf) | SUBSET-SUM; try all; see the harder UVa 12911 that requires meet in the middle | 2524 | | 0.0 |
| 12457 | [Tennis contest](https://onlinejudge.org/external/124/12457.pdf) | simple expected value problem; use DP | 221 | | 0.0 |
| 12459 | [Bees' ancestors](https://onlinejudge.org/external/124/12459.pdf) | draw the ancestor tree to see the pattern | 2535 | | 0.0 |
| 12460 | [Careful teacher](https://onlinejudge.org/external/124/12460.pdf) | a simple BFS problem; use set of string data structure to speed up the check if a word is inside dictionary | 175 | | 0.0 |
| 12461 | [Airplane](https://onlinejudge.org/external/124/12461.pdf) | brute force small n to see that the answer is very easy | 1488 | | 0.0 |
| 12463 | [Little Nephew](https://onlinejudge.org/external/124/12463.pdf) | double the socks and the shoes to simplify the problem | 866 | | 0.0 |
| 12464 | [Professor Lazy, Ph.D.](https://onlinejudge.org/external/124/12464.pdf) | although n can be very huge; the pattern is actually cyclic; find the length of the cycle l and modulo n with l | 337 | | 0.0 |
| 12467 | [Secret Word](https://onlinejudge.org/external/124/12467.pdf) | hashing/'border' of KMP; see UVa 11475 | 511 | | 0.0 |
| 12468 | [Zapping](https://onlinejudge.org/external/124/12468.pdf) | easy; there are only 4 possibilities | 7361 | | 0.0 |
| 12469 | [Stones](https://onlinejudge.org/external/124/12469.pdf) | game playing; Dynamic Programming; pruning | 284 | | 0.0 |
| 12470 | [Tribonacci](https://onlinejudge.org/external/124/12470.pdf) | similar to UVa 10229; the 3\*3 matrix is = [0 1 0; 0 0 1; 1 1 1]; the answer is at matrix[1][1] after it is raised to the power of n and with modulo 1000000009 | 546 | | 0.0 |
| 12478 | [Hardest Problem Ever (Easy...](https://onlinejudge.org/external/124/12478.pdf) | try one of the eight names | 3204 | | 0.0 |
| 12482 | [Short Story Competition](https://onlinejudge.org/external/124/12482.pdf) | greedy | 538 | | 0.0 |
| 12485 | [Perfect Choir](https://onlinejudge.org/external/124/12485.pdf) | greedy; sorting | 505 | | 0.0 |
| 12488 | [Start Grid](https://onlinejudge.org/external/124/12488.pdf) | 2 nested loops; simulate overtaking process | 808 | | 0.0 |
| 12498 | [Ant's Shopping Mall](https://onlinejudge.org/external/124/12498.pdf) | 3 nested loops | 320 | | 0.0 |
| 12502 | [Three Families](https://onlinejudge.org/external/125/12502.pdf) | must understand the wording trick first | 3861 | | 0.0 |
| 12503 | [Robot Instructions](https://onlinejudge.org/external/125/12503.pdf) | easy simulation | 4426 | | 0.0 |
| 12504 | [Updating a Dictionary](https://onlinejudge.org/external/125/12504.pdf) | use map; string to string | 926 | | 0.0 |
| 12506 | [Shortest Names](https://onlinejudge.org/external/125/12506.pdf) | we can use Trie to solve this problem | 408 | | 0.0 |
| 12515 | [Movie Police](https://onlinejudge.org/external/125/12515.pdf) | 3 nested loops | 306 | | 0.0 |
| 12516 | [Cinema-cola](https://onlinejudge.org/external/125/12516.pdf) | greedy | 236 | | 0.0 |
| 12527 | [Different Digits](https://onlinejudge.org/external/125/12527.pdf) | try all; check repeated digits | 2249 | | 0.0 |
| 12531 | [Hours and Minutes](https://onlinejudge.org/external/125/12531.pdf) | angles between two clock hands | 2064 | | 0.0 |
| 12532 | [Interval Product](https://onlinejudge.org/external/125/12532.pdf) | clever usage of Fenwick/Segment Tree | 2233 | | 0.0 |
| 12541 | [Birthdates](https://onlinejudge.org/external/125/12541.pdf) | LA 6148 - HatYai12; sort; youngest + oldest | 1916 | | 0.0 |
| 12542 | [Prime Substring](https://onlinejudge.org/external/125/12542.pdf) | LA 6149 - HatYai12; brute force; use isProbablePrime to test primality | 743 | | 0.0 |
| 12543 | [Longest Word](https://onlinejudge.org/external/125/12543.pdf) | LA 6150 - HatYai12; iterative parser | 1141 | | 0.0 |
| 12545 | [Bits Equalizer](https://onlinejudge.org/external/125/12545.pdf) | analyzing patterns; not that hard; also available at Kattis - bitsequalizer | 818 | | 0.0 |
| 12554 | [A Special "Happy Birthday"...](https://onlinejudge.org/external/125/12554.pdf) | easy simulation | 3600 | | 0.0 |
| 12555 | [Baby Me](https://onlinejudge.org/external/125/12555.pdf) | one of the first question asked when a new baby is born; requires a bit of input processing | 898 | | 0.0 |
| 12563 | [Jin Ge Jin Qu hao](https://onlinejudge.org/external/125/12563.pdf) | knapsack style DP; sing or skip a song; special base case; memo of pairs | 630 | | 0.0 |
| 12569 | [Planning mobile robot on T...](https://onlinejudge.org/external/125/12569.pdf) | s: (robot\_pos, obstacle\_mask); BFS | 138 | | 0.0 |
| 12571 | [Brother & Sisters!](https://onlinejudge.org/external/125/12571.pdf) | precalculate AND operations | 316 | | 0.0 |
| 12577 | [Hajj-e-Akbar](https://onlinejudge.org/external/125/12577.pdf) | straightforward | 10492 | | 0.0 |
| 12578 | [10:6:2](https://onlinejudge.org/external/125/12578.pdf) | area of rectangle and circle | 4368 | | 0.0 |
| 12582 | [Wedding of Sultan](https://onlinejudge.org/external/125/12582.pdf) | given graph DFS traversal; count the degree of each vertex | 989 | | 0.0 |
| 12583 | [Memory Overflow](https://onlinejudge.org/external/125/12583.pdf) | 2 nested loops; be careful of overcounting | 1103 | | 0.0 |
| 12592 | [Slogan Learning of Princes...](https://onlinejudge.org/external/125/12592.pdf) | use map; string to string | 1936 | | 0.0 |
| 12602 | [Nice Licence Plates](https://onlinejudge.org/external/126/12602.pdf) | simple base conversion | 2286 | | 0.0 |
| 12604 | [Caesar Cipher](https://onlinejudge.org/external/126/12604.pdf) | try Rabin-Karp/KMP up to 62 times | 119 | | 0.0 |
| 12608 | [Garbage Collection](https://onlinejudge.org/external/126/12608.pdf) | simulation with several corner cases | 312 | | 0.0 |
| 12611 | [Beautiful Flag](https://onlinejudge.org/external/126/12611.pdf) | a problem involving a rectangle and a circle | 1854 | | 0.0 |
| 12614 | [Earn For Future](https://onlinejudge.org/external/126/12614.pdf) | this problem has nice bitmask story camouflage; the final solution--after some thought--is very easy | 1211 | | 0.0 |
| 12620 | [Fibonacci Sum](https://onlinejudge.org/external/126/12620.pdf) | Pisano period of 10^2 = 300 | 380 | | 0.0 |
| 12621 | [On a Diet](https://onlinejudge.org/external/126/12621.pdf) | DP Subset Sum; simplify the multiple of 10 | 222 | | 0.0 |
| 12626 | [I ❤ Pizza](https://onlinejudge.org/external/126/12626.pdf) | A-Z keys | 2431 | | 0.0 |
| 12640 | [Largest Sum Game](https://onlinejudge.org/external/126/12640.pdf) | standard; Kadane's algorithm | 653 | | 0.0 |
| 12641 | [Reodrnreig Lteetrs in Wrod...](https://onlinejudge.org/external/126/12641.pdf) | anagram problem variation | 196 | | 0.0 |
| 12643 | [Tennis Rounds](https://onlinejudge.org/external/126/12643.pdf) | it has tricky test cases | 580 | | 0.0 |
| 12644 | [Vocabulary](https://onlinejudge.org/external/126/12644.pdf) | classic MCBM problem wrapped inside a creative problem statement | 175 | | 0.0 |
| 12646 | [Zero or One](https://onlinejudge.org/external/126/12646.pdf) | simply enumerate all cases | 3753 | | 0.0 |
| 12648 | [Boss](https://onlinejudge.org/external/126/12648.pdf) | simple graph (DAG) traversal; DFS | 204 | | 0.0 |
| 12650 | [Dangerous Dive](https://onlinejudge.org/external/126/12650.pdf) | use 1D Boolean array for each person | 1264 | | 0.0 |
| 12654 | [Patches](https://onlinejudge.org/external/126/12654.pdf) | s: (hole); t: use patch T1 or patch T2 | 193 | | 0.0 |
| 12658 | [Character Recognition?](https://onlinejudge.org/external/126/12658.pdf) | character recognition check | 320 | | 0.0 |
| 12662 | [Good Teacher](https://onlinejudge.org/external/126/12662.pdf) | 1D array manipulation; brute force | 446 | | 0.0 |
| 12665 | [Joking with Fermat's Last ...](https://onlinejudge.org/external/126/12665.pdf) | be careful with boundary conditions | 174 | | 0.0 |
| 12667 | [Last Blood](https://onlinejudge.org/external/126/12667.pdf) | use both 1D and 2D arrays to store submission status | 492 | | 0.0 |
| 12668 | [Attacking rooks](https://onlinejudge.org/external/126/12668.pdf) | LA 6525 - LatinAmerica13; split rows/columns due to the presence of pawns; then run MCBM | 246 | | 0.0 |
| 12673 | [Football](https://onlinejudge.org/external/126/12673.pdf) | LA 6530 - LatinAmerica13; greedy; sorting | 617 | | 0.0 |
| 12694 | [Meeting Room Arrangement](https://onlinejudge.org/external/126/12694.pdf) | LA 6606 - Phuket13; it is safest to just brute force all 2^20 possibilities; greedy solution should be possible too | 411 | | 0.0 |
| 12696 | [Cabin Baggage](https://onlinejudge.org/external/126/12696.pdf) | LA 6608 - Phuket 2013; easy problem | 1658 | | 0.0 |
| 12700 | [Banglawash](https://onlinejudge.org/external/127/12700.pdf) | just do as instructed | 1912 | | 0.0 |
| 12703 | [Little Rakin](https://onlinejudge.org/external/127/12703.pdf) | uses small Fibonacci numbers up to 40 and simple prime factorization as a and b can be non-primes | 259 | | 0.0 |
| 12704 | [Little Masters](https://onlinejudge.org/external/127/12704.pdf) | circle; radius; but eventually just about computing Euclidean distance | 1984 | | 0.0 |
| 12705 | [Breaking Board](https://onlinejudge.org/external/127/12705.pdf) | we need to match grid cells to characters; there is a greedy solution; find the required pattern | 321 | | 0.0 |
| 12708 | [GCD The Largest](https://onlinejudge.org/external/127/12708.pdf) | actually we do not need to compute the GCD; simply find an easy pattern to solve this problem | 1052 | | 0.0 |
| 12709 | [Falling Ants](https://onlinejudge.org/external/127/12709.pdf) | LA 6650 - Dhaka13; although the problem has a complicated story; it has a very easy solution with sort routine | 830 | | 0.0 |
| 12712 | [Pattern Locker](https://onlinejudge.org/external/127/12712.pdf) | the answer is sum i=M to N of C(L\*L;i)\*i!; but simplify the computation of this formula instead of running it directly | 374 | | 0.0 |
| 12718 | [Dromicpalin Substrings](https://onlinejudge.org/external/127/12718.pdf) | LA 6659 - Dhaka13; try all substrings; count character frequencies in them and analyze | 404 | | 0.0 |
| 12720 | [Algorithm of Phil](https://onlinejudge.org/external/127/12720.pdf) | observe the pattern in this binary to decimal conversion variant; involves modulo arithmetic | 192 | | 0.0 |
| 12725 | [Fat and Orial](https://onlinejudge.org/external/127/12725.pdf) | simple O(1) adhoc math formula manipulation | 321 | | 0.0 |
| 12747 | [Back to Edit Distance](https://onlinejudge.org/external/127/12747.pdf) | similar to UVa 10635 | 100 | | 0.0 |
| 12748 | [Wifi Access](https://onlinejudge.org/external/127/12748.pdf) | brute force and simple in-circle test | 349 | | 0.0 |
| 12750 | [Keep Rafa at Chelsea](https://onlinejudge.org/external/127/12750.pdf) | simply loop through the given dataset in O(n) and output the answer | 591 | | 0.0 |
| 12751 | [An Interesting Game](https://onlinejudge.org/external/127/12751.pdf) | sum of arithmetic series [1..N]; inclusion-exclusion | 1068 | | 0.0 |
| 12768 | [Inspired Procrastination](https://onlinejudge.org/external/127/12768.pdf) | insert -F as edge weight; see if negative cycle exists; or find min SSSP value from s = 1 | 25 | | 0.0 |
| 12770 | [Palinagram](https://onlinejudge.org/external/127/12770.pdf) | count frequencies; print odd frequency characters with except the last one -- put it in the middle of a palindrome | 196 | | 0.0 |
| 12783 | [Weak Links](https://onlinejudge.org/external/127/12783.pdf) | finding bridges | 231 | | 0.0 |
| 12786 | [Friendship Networks](https://onlinejudge.org/external/127/12786.pdf) | similar to UVa 10720 and 11414; Erdos-Gallai Theorem | 168 | | 0.0 |
| 12791 | [Lap](https://onlinejudge.org/external/127/12791.pdf) | BSTA + math formula to check if the leader pilot can overtake the backmarker pilot at that lap | 691 | | 0.0 |
| 12792 | [Shuffled Deck](https://onlinejudge.org/external/127/12792.pdf) | simulate the process to get the answer | 244 | | 0.0 |
| 12796 | [Teletransport](https://onlinejudge.org/external/127/12796.pdf) | count the number of paths of length L in an undirected graph where L can be up to 2^30 | 125 | | 0.0 |
| 12797 | [Letters](https://onlinejudge.org/external/127/12797.pdf) | iterative subset; pick subset of UPPERCASE letters for this round; BFS to find the SSSP; pick the best | 206 | | 0.0 |
| 12798 | [Handball](https://onlinejudge.org/external/127/12798.pdf) | simply loop through the given dataset in O(N\*M) and output the answer | 1127 | | 0.0 |
| 12801 | [Grandpa Pepe's Pizza](https://onlinejudge.org/external/128/12801.pdf) | 3 nested loops; still possible to be optimized further | 175 | | 0.0 |
| 12802 | [Gift From the Gods](https://onlinejudge.org/external/128/12802.pdf) | actually a very easy problem; given n; just output 2n; but it has two components: primality check of n and checking if n is a palindrome that requires a bit of string operations | 844 | | 0.0 |
| 12805 | [Raiders of the Lost Sign](https://onlinejudge.org/external/128/12805.pdf) | prime check; primes of format 4m-1 and 4m plus 1; simple prime factorization | 110 | | 0.0 |
| 12808 | [Banning Balconing](https://onlinejudge.org/external/128/12808.pdf) | basic Physics formula for freefall is H = 1/2\*g\*t\*t or t = sqrt(2\*H/g) and the formula for displacement is X = V\*t; they are not given in the problem description | 338 | | 0.0 |
| 12820 | [Cool Word](https://onlinejudge.org/external/128/12820.pdf) | count letter frequencies; let n be the number of different letter frequencies; n has to be greater or equal to 2; then we sort the frequencies and check if we have [1..n-1] | 504 | | 0.0 |
| 12821 | [Double Shortest Paths](https://onlinejudge.org/external/128/12821.pdf) | similar to UVa 10806 | 69 | | 0.0 |
| 12822 | [Extraordinarily large LED](https://onlinejudge.org/external/128/12822.pdf) | convert hh:mm:ss to second to simplify the problem; then this is just a tedious simulation problem | 147 | | 0.0 |
| 12826 | [Incomplete Chessboard](https://onlinejudge.org/external/128/12826.pdf) | SSSP from (r1; c1) to (r2; c2) avoiding (r3; c3); BFS | 159 | | 0.0 |
| 12834 | [Extreme Terror](https://onlinejudge.org/external/128/12834.pdf) | greedy; sorting | 221 | | 0.0 |
| 12840 | [The Archery Puzzle](https://onlinejudge.org/external/128/12840.pdf) | simple backtracking | 129 | | 0.0 |
| 12841 | [In Puzzleland (III)](https://onlinejudge.org/external/128/12841.pdf) | simply find and print the lexicographically smallest Hamiltonian path; use DP-TSP technique | 65 | | 0.0 |
| 12844 | [Outwitting the Weighing Ma...](https://onlinejudge.org/external/128/12844.pdf) | 5 nested loops; scaled down version of UVa 10202; do observations first | 180 | | 0.0 |
| 12848 | [In Puzzleland (IV)](https://onlinejudge.org/external/128/12848.pdf) | find formula involving fraction and use GCD to simplify it | 67 | | 0.0 |
| 12851 | [The Tinker's Puzzle](https://onlinejudge.org/external/128/12851.pdf) | binary search the answer and 3D geometry volume of cone; inclusion-exclusion | 124 | | 0.0 |
| 12852 | [The Miser's Puzzle](https://onlinejudge.org/external/128/12852.pdf) | LCM of the N given numbers times 35 | 76 | | 0.0 |
| 12853 | [The Pony Cart Problem](https://onlinejudge.org/external/128/12853.pdf) | binary search the answer and circumferences of two related circles | 92 | | 0.0 |
| 12854 | [Automated Checking Machine](https://onlinejudge.org/external/128/12854.pdf) | 1D array of size 5; trivial | 1335 | | 0.0 |
| 12855 | [Black and white stones](https://onlinejudge.org/external/128/12855.pdf) | s: (pos, len) that describes the cost to transform the string so that S[0..pos-1] are all already 'B's and S[pos..pos+len] will be transformed to Bs | 148 | | 0.0 |
| 12861 | [Help cupid](https://onlinejudge.org/external/128/12861.pdf) | sort the timezones first and try adjacent pairings (two possibilities) | 210 | | 0.0 |
| 12862 | [Intrepid climber](https://onlinejudge.org/external/128/12862.pdf) | 1D DP to compute the path cost from every vertex that goes up to the mountain top; compute answer | 148 | | 0.0 |
| 12869 | [Zeroes](https://onlinejudge.org/external/128/12869.pdf) | LA 6847 - Bangkok 2014; every zero in factorial(n) is due to multiplication of factor 2 and 5; factor 2 grows faster than factor 5; this is a major hint | 182 | | 0.0 |
| 12870 | [Fishing](https://onlinejudge.org/external/128/12870.pdf) | LA 6848 - Bangkok14; split DP for fishing and nourishing; try all combination of K fishing + 2K nourishing events | 71 | | 0.0 |
| 12873 | [The Programmers](https://onlinejudge.org/external/128/12873.pdf) | LA 6851 - Bangkok14; assignment problem; similar to UVa 00259, 11045, and 10092; use Dinic's | 119 | | 0.0 |
| 12875 | [Concert Tour](https://onlinejudge.org/external/128/12875.pdf) | LA 6853 - Bangkok14; similar to UVa 10702; s: (cur\_store; cur\_concert); t: pick any next store for next concert | 98 | | 0.0 |
| 12876 | [City](https://onlinejudge.org/external/128/12876.pdf) | LA 6854 - Bangkok14; involving degree of vertex; Handshaking lemma | 70 | | 0.0 |
| 12878 | [Flowery Trails](https://onlinejudge.org/external/128/12878.pdf) | Dijkstra's; record predecessor graph as there can be multiple shortest paths; also available at Kattis - flowerytrails | 154 | | 0.0 |
| 12893 | [Count It](https://onlinejudge.org/external/128/12893.pdf) | convert the given code into recursive DnC | 423 | | 0.0 |
| 12894 | [Perfect Flag](https://onlinejudge.org/external/128/12894.pdf) | continuation of UVa 12611; another problem involving a rectangle and a circle | 443 | | 0.0 |
| 12895 | [Armstrong Number](https://onlinejudge.org/external/128/12895.pdf) | verbatim brute force check | 1505 | | 0.0 |
| 12896 | [Mobile SMS](https://onlinejudge.org/external/128/12896.pdf) | simple cipher; use mapper | 994 | | 0.0 |
| 12901 | [Refraction](https://onlinejudge.org/external/129/12901.pdf) | tangent, sine, arcsin, etc | 73 | | 0.0 |
| 12904 | [Load Balancing](https://onlinejudge.org/external/129/12904.pdf) | 3 nested loops; brute force a; b; c; use prefix sum to speed up the checks | 112 | | 0.0 |
| 12908 | [The book thief](https://onlinejudge.org/external/129/12908.pdf) | binary search the answer and sum of arithmetic progression formula | 471 | | 0.0 |
| 12909 | [Numeric Center](https://onlinejudge.org/external/129/12909.pdf) | find the pattern; OEIS A001108 | 69 | | 0.0 |
| 12911 | [Subset sum](https://onlinejudge.org/external/129/12911.pdf) | SUBSET-SUM; we cannot use DP as 1 ≤ N ≤ 40 and -10^9 ≤ T ≤ 10^9; use meet in the middle | 126 | | 0.0 |
| 12916 | [Perfect Cyclic String](https://onlinejudge.org/external/129/12916.pdf) | factorize n; string period; also see UVa 11452 | 94 | | 0.0 |
| 12917 | [Prop hunt!](https://onlinejudge.org/external/129/12917.pdf) | simple O(1) check | 530 | | 0.0 |
| 12918 | [Lucky Thief](https://onlinejudge.org/external/129/12918.pdf) | sum of arithmetic progression; long long | 375 | | 0.0 |
| 12930 | [Bigger or Smaller](https://onlinejudge.org/external/129/12930.pdf) | Java BigDecimal class; compareTo | 160 | | 0.0 |
| 12934 | [Factorial Division](https://onlinejudge.org/external/129/12934.pdf) | can use brute force; stop at n not more than sqrt(k); m smaller than n | 53 | | 0.0 |
| 12938 | [Just Another Easy Problem](https://onlinejudge.org/external/129/12938.pdf) | complete search; 4 digits; square numbers | 137 | | 0.0 |
| 12950 | [Even Obsession](https://onlinejudge.org/external/129/12950.pdf) | clever usage of Dijstra's; instead of extending by one edge, we can extend by two edges at a time | 165 | | 0.0 |
| 12951 | [Stock Market](https://onlinejudge.org/external/129/12951.pdf) | s: (day, has\_stock); t: ignore, buy (if does not have stock), or sell (if has stock) | 168 | | 0.0 |
| 12952 | [Tri-du](https://onlinejudge.org/external/129/12952.pdf) | returning the max of (A, B) is always the best strategy for this problem | 1057 | | 0.0 |
| 12955 | [Factorial](https://onlinejudge.org/external/129/12955.pdf) | there are only 8 eligible factorials under 100000; we can use DP; s: (i, sum); t: take/stay, take/move, don't take/move | 381 | | 0.0 |
| 12959 | [Strategy Game](https://onlinejudge.org/external/129/12959.pdf) | just go through the 1D array | 339 | | 0.0 |
| 12960 | [Palindrome](https://onlinejudge.org/external/129/12960.pdf) | additional twist; special positioning; DP pair | 114 | | 0.0 |
| 12965 | [Angry Bids](https://onlinejudge.org/external/129/12965.pdf) | sort producer/consumer prices; the answer is one of the prices mentioned; use binary searches to count the answer | 54 | | 0.0 |
| 12967 | [Spray Graphs](https://onlinejudge.org/external/129/12967.pdf) | OEIS A173033 | 128 | | 0.0 |
| 12970 | [Alcoholic Pilots](https://onlinejudge.org/external/129/12970.pdf) | simple Physics time comparison; GCD to simplify fraction | 90 | | 0.0 |
| 12981 | [Secret Master Plan](https://onlinejudge.org/external/129/12981.pdf) | small 2x2 matrix rotation | 120 | | 0.0 |
| 12992 | [Huatuo's Medicine](https://onlinejudge.org/external/129/12992.pdf) | simple formula, just 2\*N-1 | 677 | | 0.0 |
| 12996 | [Ultimate Mango Challenge](https://onlinejudge.org/external/129/12996.pdf) | we need 1D array to store the number of N mango types first | 437 | | 0.0 |
| 13007 | [D as in Daedalus](https://onlinejudge.org/external/130/13007.pdf) | simple simulation | 299 | | 0.0 |
| 13012 | [Identifying tea](https://onlinejudge.org/external/130/13012.pdf) | giveaway | 1648 | | 0.0 |
| 13015 | [Promotions](https://onlinejudge.org/external/130/13015.pdf) | modified DFS; special graph; DAG; also available at Kattis - promotions | 68 | | 0.0 |
| 13018 | [Dice Cup](https://onlinejudge.org/external/130/13018.pdf) | 2 dices, small range; 2 nested loops | 307 | | 0.0 |
| 13025 | [Back to the Past](https://onlinejudge.org/external/130/13025.pdf) | giveaway, just print the one-line answer | 1259 | | 0.0 |
| 13026 | [Search the Khoj](https://onlinejudge.org/external/130/13026.pdf) | you have to store the N strings in an array first | 386 | | 0.0 |
| 13031 | [Geek Power Inc.](https://onlinejudge.org/external/130/13031.pdf) | greedy; sorting | 195 | | 0.0 |
| 13034 | [Solve Everything :-)](https://onlinejudge.org/external/130/13034.pdf) | giveaway, simple loop 13 times | 795 | | 0.0 |
| 13037 | [Chocolate](https://onlinejudge.org/external/130/13037.pdf) | we can use set or a sorted array | 136 | | 0.0 |
| 13038 | [Directed Forest](https://onlinejudge.org/external/130/13038.pdf) | simple, use DFS to find the length of the deepest branch | 92 | | 0.0 |
| 13047 | [Arrows](https://onlinejudge.org/external/130/13047.pdf) | simple parsing; left-to-right or right-to-left checks | 163 | | 0.0 |
| 13048 | [Burger Stand](https://onlinejudge.org/external/130/13048.pdf) | use 1D Boolean array; simulate | 204 | | 0.0 |
| 13049 | [Combination Lock](https://onlinejudge.org/external/130/13049.pdf) | simple; for each digit, you should not do more than 5 steps | 258 | | 0.0 |
| 13054 | [Hippo Circus](https://onlinejudge.org/external/130/13054.pdf) | greedy; sorting | 122 | | 0.0 |
| 13055 | [Inception](https://onlinejudge.org/external/130/13055.pdf) | nice problem about stack | 237 | | 0.0 |
| 13059 | [Tennis Championship](https://onlinejudge.org/external/130/13059.pdf) | just simulate the counting; it will only runs in logarithmic steps; use long long | 784 | | 0.0 |
| 13067 | [Prime Kebab Menu](https://onlinejudge.org/external/130/13067.pdf) | cryptic problem description, it turns out that the restaurant uses prime power system; output sum of prime powers | 116 | | 0.0 |
| 13071 | [Double decker](https://onlinejudge.org/external/130/13071.pdf) | simple formula involving sum of arithmetic progression | 159 | | 0.0 |
| 13082 | [High School Assembly](https://onlinejudge.org/external/130/13082.pdf) | greedy | 242 | | 0.0 |
| 13091 | [No Ball](https://onlinejudge.org/external/130/13091.pdf) | just output formatting | 268 | | 0.0 |
| 13093 | [Acronyms](https://onlinejudge.org/external/130/13093.pdf) | simple string tokenize; take first characters of each word | 199 | | 0.0 |
| 13095 | [Tobby and Query](https://onlinejudge.org/external/130/13095.pdf) | create 10 range sum queries; you don't need Fenwick Tree actually | 91 | | 0.0 |
| 13096 | [Standard Deviation](https://onlinejudge.org/external/130/13096.pdf) | there are patterns; but the formula is quite hard to find | 111 | | 0.0 |
| 13103 | [Tobby and Seven](https://onlinejudge.org/external/131/13103.pdf) | try all 2^k combinations; swapping a 0-bit with another 0-bit or 1-bit with another 1-bit has no effect | 46 | | 0.0 |
| 13107 | [Royale With Cheese](https://onlinejudge.org/external/131/13107.pdf) | simple encode; be careful with 20-26 | 160 | | 0.0 |
| 13108 | [Juanma and the Drinking Fo...](https://onlinejudge.org/external/131/13108.pdf) | Moser's circle; the formula is hard to derive; g(n) = nC4 + nC2 + 1 | 139 | | 0.0 |
| 13109 | [Elephants](https://onlinejudge.org/external/131/13109.pdf) | greedy; sorting | 724 | | 0.0 |
| 13113 | [Presidential Election](https://onlinejudge.org/external/131/13113.pdf) | count the votes; sort; pick the top 2 | 67 | | 0.0 |
| 13115 | [Sudoku](https://onlinejudge.org/external/131/13115.pdf) | just a SUDOKU solution verifier; an NP-problem | 173 | | 0.0 |
| 13117 | [ACIS, A Contagious vIruS](https://onlinejudge.org/external/131/13117.pdf) | dist + distToLineSegment | 182 | | 0.0 |
| 13122 | [Funny Cardiologist](https://onlinejudge.org/external/131/13122.pdf) | s: (pos, K\_left); knapsack style DP; jump 1, 2, ..., K\_left points; connect with the two points with a line with cost equals to their Euclidean distance; keep the minimum | 76 | | 0.0 |
| 13127 | [Bank Robbery](https://onlinejudge.org/external/131/13127.pdf) | Dijkstra's from multiple sources | 166 | | 0.0 |
| 13130 | [Cacho](https://onlinejudge.org/external/131/13130.pdf) | simple | 539 | | 0.0 |
| 13131 | [Divisors](https://onlinejudge.org/external/131/13131.pdf) | brute force version of modified sumDiv(N) function | 403 | | 0.0 |
| 13135 | [Homework](https://onlinejudge.org/external/131/13135.pdf) | simple DP; use unordered\_map to map the (large) answer S back to (small) N, which turns out to be not more than 10 000 | 157 | | 0.0 |
| 13140 | [Squares, Lists and Digital...](https://onlinejudge.org/external/131/13140.pdf) | write a brute force program; answer is when i ∈ [9 999..10 005] | 116 | | 0.0 |
| 13141 | [Growing Trees](https://onlinejudge.org/external/131/13141.pdf) | s: (level, branch\_previously); t: not branching if branch\_previously or branching (one side) otherwise | 146 | | 0.0 |
| 13142 | [Destroy the Moon to Save t...](https://onlinejudge.org/external/131/13142.pdf) | BSTA + Physics simulation | 42 | | 0.0 |
| 13145 | [Wuymul Wixcha](https://onlinejudge.org/external/131/13145.pdf) | shift alphabet values by +6 characters to read the problem statement; simple Caesar Cipher problem | 54 | | 0.0 |
| 13146 | [Edid Tistance](https://onlinejudge.org/external/131/13146.pdf) | classic Edit Distance problem | 79 | | 0.0 |
| 13148 | [A Giveaway](https://onlinejudge.org/external/131/13148.pdf) | we can store all precomputed answers - which are given - into unordered\_set | 731 | | 0.0 |
| 13151 | [Rational Grading](https://onlinejudge.org/external/131/13151.pdf) | marking programming exam; ad hoc; straightforward | 91 | | 0.0 |
| 13161 | [Candle Box](https://onlinejudge.org/external/131/13161.pdf) | sum of arithmetic series [1..N]; -6 for Rita or -3 for Theo; brute force Rita's age; also available at Kattis - candlebox | 126 | | 0.0 |
| 13177 | [Orchestral scores](https://onlinejudge.org/external/131/13177.pdf) | greedy; priority queue | 48 | | 0.0 |
| 13181 | [Sleeping in hostels](https://onlinejudge.org/external/131/13181.pdf) | find the largest gap between two Xs; special corner cases at the two end points | 81 | | 0.0 |
| 13185 | [DPA Numbers I](https://onlinejudge.org/external/131/13185.pdf) | just see UVa 13194 | 485 | | 0.0 |
| 13190 | [Rockabye Tobby](https://onlinejudge.org/external/131/13190.pdf) | similar to UVa 01203; use PQ; use drug numbering id as tie-breaker | 156 | | 0.0 |
| 13194 | [DPA Numbers II](https://onlinejudge.org/external/131/13194.pdf) | similar to Kattis - almostperfect; sumDiv(N)-N; long long | 121 | | 0.0 |
| 13212 | [How many inversions?](https://onlinejudge.org/external/132/13212.pdf) | requires O(n log n) merge sort | 79 | | 0.0 |
| 13215 | [Polygonal Park](https://onlinejudge.org/external/132/13215.pdf) | area of rectangle minus area of squares and equilateral triangles | 82 | | 0.0 |
| 13216 | [Problem with a ridiculousl...](https://onlinejudge.org/external/132/13216.pdf) | print the first few answer to see the clear pattern; use Big Integer | 295 | | 0.0 |
| 13217 | [Amazing Function](https://onlinejudge.org/external/132/13217.pdf) | the given function cycles very early so we can pre-calculate the answers although $n$ is very big | 44 | | 0.0 |
| 13249 | [A Contest to Meet](https://onlinejudge.org/external/132/13249.pdf) | Floyd-Warshall; use O(N^2) check, not O(N^4) check to avoid TLE | 58 | | 0.0 |
| 13275 | [Leap Birthdays](https://onlinejudge.org/external/132/13275.pdf) | QY-Y (if not 29 Feb) or NumOfLeapYears(QY)-NumOfLeapYears(Y) otherwise | 283 | | 0.0 |
| 2048 | [Kattis - 2048](https://open.kattis.com/problems/2048) | just a 2D array manipulation problem; utilize symmetry using 90 degrees rotation(s) to reduce 4 cases into 1 | 3150 | | 2.1 |
| 2naire | [Kattis - 2naire](https://open.kattis.com/problems/2naire) | probability; expected value | 192 | | 2.7 |
| 3dprinter | [Kattis - 3dprinter](https://open.kattis.com/problems/3dprinter) | ceil(log2(n))+1 | 3758 | | 2.0 |
| 4thought | [Kattis - 4thought](https://open.kattis.com/problems/4thought) | brute force 4^3 possibilities; integer division; pre-calculate | 2353 | | 2.8 |
| 8queens | [Kattis - 8queens](https://open.kattis.com/problems/8queens) | classic 8-Queens problem; write a checker | 2385 | | 3.2 |
| a1paper | [Kattis - a1paper](https://open.kattis.com/problems/a1paper) | division of A1 paper is a kind of DnC principle | 1212 | | 3.9 |
| aaah | [Kattis - aaah](https://open.kattis.com/problems/aaah) | just compare the length of the two strings | 10978 | | 1.6 |
| abc | [Kattis - abc](https://open.kattis.com/problems/abc) | sort 3 numbers into ABC; then print output as needed | 5282 | | 1.8 |
| abinitio | [Kattis - abinitio](https://open.kattis.com/problems/abinitio) | combo: EL input, AM as working graph DS, AL output (in hash format); all operations must be O(V) or better | 104 | | 7.3 |
| aboveaverage | [Kattis - aboveaverage](https://open.kattis.com/problems/aboveaverage) | compute average; see how many are above it; also available at UVa 10370 - Above Average | 3190 | | 2.0 |
| abstractart | [Kattis - abstractart](https://open.kattis.com/problems/abstractart) | cool area union problem; solvable with java.awt.geom.\* library package; Shoelace's formula | 66 | | 6.0 |
| absurdistan3 | [Kattis - absurdistan3](https://open.kattis.com/problems/absurdistan3) | can be modeled as MCBM; or greedy graph construction with PQ | 312 | | 5.6 |
| acm | [Kattis - acm](https://open.kattis.com/problems/acm) | simple simulation; one pass | 3526 | | 1.5 |
| acm2 | [Kattis - acm2](https://open.kattis.com/problems/acm2) | greedy; sorting | 790 | | 2.6 |
| ada | [Kattis - ada](https://open.kattis.com/problems/ada) | polynomial problem; apply the given procedure recursively | 346 | | 2.8 |
| addingwords | [Kattis - addingwords](https://open.kattis.com/problems/addingwords) | use unordered\_map | 1880 | | 3.9 |
| adjoin | [Kattis - adjoin](https://open.kattis.com/problems/adjoin) | the key parts are finding tree diameter and its center (along that diameter); also see UVa 11695 | 373 | | 5.3 |
| administrativeproblems | [Kattis - administrativeprob...](https://open.kattis.com/problems/administrativeproblems) | use several maps as the output (of spy names) has to be sorted; be careful of corner cases | 194 | | 6.3 |
| airconditioned | [Kattis - airconditioned](https://open.kattis.com/problems/airconditioned) | greedy; sorting | 1116 | | 3.9 |
| airlinehub | [Kattis - airlinehub](https://open.kattis.com/problems/airlinehub) | gcDistance; also available at UVa 10316 - Airline Hub | 211 | | 6.6 |
| airports | [Kattis - airports](https://open.kattis.com/problems/airports) | MIN-PATH-COVER; on DAG; MCBM | 92 | | 6.4 |
| akcija | [Kattis - akcija](https://open.kattis.com/problems/akcija) | greedy; sorting | 2658 | | 2.0 |
| alicedigital | [Kattis - alicedigital](https://open.kattis.com/problems/alicedigital) | max 1D range sum variant; the solution is not DP; notice that m is small | 687 | | 4.2 |
| aliennumbers | [Kattis - aliennumbers](https://open.kattis.com/problems/aliennumbers) | source base to decimal; decimal to target base | 1050 | | 2.1 |
| aliens | [Kattis - aliens](https://open.kattis.com/problems/aliens) | Longest Repeated Substring that appears at least m times; Suffix Array; Use Sparse Table data structure to answer RMQs of LCPs of a range [i-F+2..i] | 89 | | 6.3 |
| allaboutthatbase | [Kattis - allaboutthatbase](https://open.kattis.com/problems/allaboutthatbase) | check base 1 to 36; base 1 is special; Big Integer | 927 | | 2.9 |
| alldifferentdirections | [Kattis - alldifferentdirect...](https://open.kattis.com/problems/alldifferentdirections) | use trigonometry to compute x and y displacement | 446 | | 2.6 |
| allpairspath | [Kattis - allpairspath](https://open.kattis.com/problems/allpairspath) | basic Floyd-Warshall; tricky negative cycle checks | 772 | | 5.5 |
| almostperfect | [Kattis - almostperfect](https://open.kattis.com/problems/almostperfect) | sumDiv(N)-N; minor variation | 1507 | | 3.2 |
| almostunionfind | [Kattis - almostunionfind](https://open.kattis.com/problems/almostunionfind) | new operation: move; idea: do not destroy the parent array structure; also available at UVa 11987 - Almost Union-Find | 618 | | 7.0 |
| alphabet | [Kattis - alphabet](https://open.kattis.com/problems/alphabet) | find LIS of a short string; the answer is 26-LIS\_length | 666 | | 3.2 |
| alphabetanimals | [Kattis - alphabetanimals](https://open.kattis.com/problems/alphabetanimals) | somewhat an Adjacency List data structure | 478 | | 3.4 |
| alphabetspam | [Kattis - alphabetspam](https://open.kattis.com/problems/alphabetspam) | count the frequencies of lowercase, uppercase, and whitespace characters | 3902 | | 1.4 |
| amazing | [Kattis - amazing](https://open.kattis.com/problems/amazing) | run DFS and react based on the output of the program | 215 | | 5.2 |
| amoebas | [Kattis - amoebas](https://open.kattis.com/problems/amoebas) | easy floodfill | 1079 | | 1.8 |
| amsterdamdistance | [Kattis - amsterdamdistance](https://open.kattis.com/problems/amsterdamdistance) | arcs of circles; no need to model this as an SSSP problem/Dijkstra's | 571 | | 2.9 |
| amultiplicationgame | [Kattis - amultiplicationgam...](https://open.kattis.com/problems/amultiplicationgame) | simulate the perfect play; also available at UVa 00847 - A multiplication game | 213 | | 4.7 |
| anagramcounting | [Kattis - anagramcounting](https://open.kattis.com/problems/anagramcounting) | use Big Integer | 1117 | | 3.1 |
| anewalphabet | [Kattis - anewalphabet](https://open.kattis.com/problems/anewalphabet) | simple cipher; 26 characters | 4154 | | 1.8 |
| animal | [Kattis - animal](https://open.kattis.com/problems/animal) | Singapore15 preliminary; hash the subtrees and compare them | 203 | | 6.8 |
| anotherbrick | [Kattis - anotherbrick](https://open.kattis.com/problems/anotherbrick) | simple simulation | 1424 | | 1.9 |
| anothercandies | [Kattis - anothercandies](https://open.kattis.com/problems/anothercandies) | simple modular arithmetic | 1843 | | 2.7 |
| antennaplacement | [Kattis - antennaplacement](https://open.kattis.com/problems/antennaplacement) | MIS: V-MCBM; also available at UVa 10349 - Antenna Placement | 36 | | 5.2 |
| anthony | [Kattis - anthony](https://open.kattis.com/problems/anthony) | DP probability; need to drop one parameter (N or M) and recover it from the other one | 203 | | 5.2 |
| anthonyanddiablo | [Kattis - anthonyanddiablo](https://open.kattis.com/problems/anthonyanddiablo) | area and perimeter of a circle | 937 | | 2.3 |
| anti11 | [Kattis - anti11](https://open.kattis.com/problems/anti11) | this problem degenerates into a modified Fibonacci numbers | 518 | | 2.7 |
| antiarithmetic | [Kattis - antiarithmetic](https://open.kattis.com/problems/antiarithmetic) | 2 nested loops with pruning can still pass the time limit; compare this with UVa 11129; also available at UVa 10730 - Antiarithmetic? | 195 | | 7.3 |
| ants | [Kattis - ants](https://open.kattis.com/problems/ants) | greedy; also available at UVa 10714 - Ants | 1145 | | 2.5 |
| apaxiaaans | [Kattis - apaxiaaans](https://open.kattis.com/problems/apaxiaaans) | solvable with regex | 6751 | | 1.4 |
| apaxianparent | [Kattis - apaxianparent](https://open.kattis.com/problems/apaxianparent) | really ad hoc; the rules are specific for this problem | 707 | | 1.5 |
| appallingarchitecture | [Kattis - appallingarchitect...](https://open.kattis.com/problems/appallingarchitecture) | get formula of center of gravity; involving averages | 139 | | 4.0 |
| apples | [Kattis - apples](https://open.kattis.com/problems/apples) | 2D array manipulation; gravity simulation | 439 | | 3.6 |
| applesack | [Kattis - applesack](https://open.kattis.com/problems/applesack) | greedy | 202 | | 3.5 |
| aprizenoonecanwin | [Kattis - aprizenoonecanwin](https://open.kattis.com/problems/aprizenoonecanwin) | greedy; sorting | 790 | | 2.5 |
| aqueducts | [Kattis - aqueducts](https://open.kattis.com/problems/aqueducts) | build bipartite graph; weighted MCBM; Hungarian | 51 | | 6.0 |
| arbitrage | [Kattis - arbitrage](https://open.kattis.com/problems/arbitrage) | arbitrage problem; similar to UVa 00104 and 00436 | 324 | | 3.3 |
| arcticnetwork | [Kattis - arcticnetwork](https://open.kattis.com/problems/arcticnetwork) | minimum spanning 'forest'; also available at UVa 10369 - Arctic Networks | 435 | | 4.4 |
| areal | [Kattis - areal](https://open.kattis.com/problems/areal) | just output 4\*sqrt(a) | 3732 | | 1.5 |
| areyoulistening | [Kattis - areyoulistening](https://open.kattis.com/problems/areyoulistening) | brute force; try all possible answers; circle intersection tests | 410 | | 2.8 |
| arithmetic | [Kattis - arithmetic](https://open.kattis.com/problems/arithmetic) | conversion of octal (per 4 bits) to hexa (per 3 bits); be careful with leading zeroes | 726 | | 3.9 |
| armystrengtheasy | [Kattis - armystrengtheasy](https://open.kattis.com/problems/armystrengtheasy) | also see Kattis - armystrengthhard | 1585 | | 2.1 |
| armystrengthhard | [Kattis - armystrengthhard](https://open.kattis.com/problems/armystrengthhard) | also see Kattis - armystrengtheasy; re-read the problem statement several times to unveil a trivial solution | 1466 | | 2.2 |
| arrivingontime | [Kattis - arrivingontime](https://open.kattis.com/problems/arrivingontime) | BSTA: the latest starting time; use Dijkstra's to compute whether we can still arrive at meeting point on time | 79 | | 6.3 |
| artichoke | [Kattis - artichoke](https://open.kattis.com/problems/artichoke) | LA 7150 - WorldFinals Marrakech15; linear scan; probably one of the easiest WorldFinals problem; also available at UVa 01709 | 1390 | | 2.8 |
| asciiaddition | [Kattis - asciiaddition](https://open.kattis.com/problems/asciiaddition) | a+b problem in text format; total gimmick; time waster | 509 | | 1.9 |
| asciifigurerotation | [Kattis - asciifigurerotatio...](https://open.kattis.com/problems/asciifigurerotation) | rotate the input 90 degrees clockwise; remove trailing whitespaces; tedious | 521 | | 3.5 |
| aspenavenue | [Kattis - aspenavenue](https://open.kattis.com/problems/aspenavenue) | sort; compute tree positions; s: (l\_left, r\_left), t: put next tree on the left/right; also available at UVa 11555 - Aspen Avenue | 223 | | 5.8 |
| assembly | [Kattis - assembly](https://open.kattis.com/problems/assembly) | we can model the problem as a small connectivity graph; use Warshall's transitive closure algorithm to check if there is a self loop | 305 | | 3.9 |
| astro | [Kattis - astro](https://open.kattis.com/problems/astro) | use large Boolean array | 115 | | 4.3 |
| automatictrading | [Kattis - automatictrading](https://open.kattis.com/problems/automatictrading) | Suffix Array; LCP of a range; use Sparse Table | 160 | | 5.2 |
| autori | [Kattis - autori](https://open.kattis.com/problems/autori) | simple string tokenizer problem | 11602 | | 1.2 |
| averageseasy | [Kattis - averageseasy](https://open.kattis.com/problems/averageseasy) | find O(n) formula; also see Kattis - averageshard | 758 | | 2.4 |
| averageshard | [Kattis - averageshard](https://open.kattis.com/problems/averageshard) | find O(n) formula; also see Kattis - averageseasy | 605 | | 2.6 |
| averagespeed | [Kattis - averagespeed](https://open.kattis.com/problems/averagespeed) | distance = speed\*time elapsed; also available at UVa 10281 - Average Speed | 322 | | 3.7 |
| avion | [Kattis - avion](https://open.kattis.com/problems/avion) | trivial string matching; just find 'FBI' in the input | 1361 | | 1.4 |
| avoidingtheapocalypse | [Kattis - avoidingtheapocaly...](https://open.kattis.com/problems/avoidingtheapocalypse) | interesting max flow modeling; blow the vertices based on time | 191 | | 4.4 |
| awkwardparty | [Kattis - awkwardparty](https://open.kattis.com/problems/awkwardparty) | use unordered\_map to running max and running min; report the largest difference | 611 | | 3.0 |
| baas | [Kattis - baas](https://open.kattis.com/problems/baas) | try all possible vertex to be 'optimized'; LONGEST-PATH on DAG | 55 | | 4.5 |
| babelfish | [Kattis - babelfish](https://open.kattis.com/problems/babelfish) | a pure dictionary problem; use unordered\_map; also available at UVa 10282 - Babelfish | 2835 | | 2.3 |
| babybites | [Kattis - babybites](https://open.kattis.com/problems/babybites) | easy simulation | 1624 | | 1.7 |
| babylonian | [Kattis - babylonian](https://open.kattis.com/problems/babylonian) | base 60 | 464 | | 2.2 |
| babynames | [Kattis - babynames](https://open.kattis.com/problems/babynames) | dynamic rank problem; use two pb\_ds | 87 | | 5.5 |
| bachetsgame | [Kattis - bachetsgame](https://open.kattis.com/problems/bachetsgame) | 2 players game; Dynamic Programming; also available at UVa 10404 - Bachet's Game | 724 | | 2.1 |
| backspace | [Kattis - backspace](https://open.kattis.com/problems/backspace) | we can use deque (or vector) to help solve this problem | 2517 | | 3.0 |
| baconeggsandspam | [Kattis - baconeggsandspam](https://open.kattis.com/problems/baconeggsandspam) | use map; sort | 1712 | | 1.6 |
| bagoftiles | [Kattis - bagoftiles](https://open.kattis.com/problems/bagoftiles) | count number of ways to do COIN-CHANGE; meet in the middle; DP combinatorics (n choose k) to find the answer for a+b | 102 | | 6.5 |
| balanceddiet | [Kattis - balanceddiet](https://open.kattis.com/problems/balanceddiet) | PARTITION; n ≤ 20; use DP SUBSET-SUM style | 316 | | 4.0 |
| ballotboxes | [Kattis - ballotboxes](https://open.kattis.com/problems/ballotboxes) | greedy; priority queue | 776 | | 4.4 |
| ballsandneedles | [Kattis - ballsandneedles](https://open.kattis.com/problems/ballsandneedles) | cycle check on 2 similar graphs; easier solution exists | 161 | | 3.2 |
| baloni | [Kattis - baloni](https://open.kattis.com/problems/baloni) | clever use of 1D histogram array to decompose the shots as per requirement | 689 | | 3.5 |
| bank | [Kattis - bank](https://open.kattis.com/problems/bank) | greedy | 2389 | | 2.6 |
| bard | [Kattis - bard](https://open.kattis.com/problems/bard) | use one unordered\_set per villager; simulate the singing process | 637 | | 2.6 |
| base2palindrome | [Kattis - base2palindrome](https://open.kattis.com/problems/base2palindrome) | construct all possible base 2 palindromes; put into a set to remove duplicates and maintain order; output the M-th one | 385 | | 4.4 |
| basicinterpreter | [Kattis - basicinterpreter](https://open.kattis.com/problems/basicinterpreter) | the harder version of Kattis - variablearithmetic; tedious; be careful; print string inside double quotes verbatim | 152 | | 6.7 |
| basicprogramming1 | [Kattis - basicprogramming1](https://open.kattis.com/problems/basicprogramming1) | a nice summative problem for programming examination of a basic programming methodology course | 201 | | 4.0 |
| basicprogramming2 | [Kattis - basicprogramming2](https://open.kattis.com/problems/basicprogramming2) | a nice problem about basic sorting applications | 189 | | 3.4 |
| basicremains | [Kattis - basicremains](https://open.kattis.com/problems/basicremains) | also involving Big Integer modulo; also available at UVa 10551 - Basic Remains | 174 | | 3.4 |
| basketballoneonone | [Kattis - basketballoneonone](https://open.kattis.com/problems/basketballoneonone) | linear pass | 957 | | 1.6 |
| batmanacci | [Kattis - batmanacci](https://open.kattis.com/problems/batmanacci) | Fibonacci; observation on N; Divide and Conquer | 331 | | 3.8 |
| batteries | [Kattis - batteries](https://open.kattis.com/problems/batteries) | Egg dropping puzzle with just 2 batteries; special case | 146 | | 3.6 |
| batterup | [Kattis - batterup](https://open.kattis.com/problems/batterup) | easy one loop | 4542 | | 1.3 |
| battleship | [Kattis - battleship](https://open.kattis.com/problems/battleship) | simulation; reading comprehension; many corner cases | 120 | | 5.4 |
| battlesimulation | [Kattis - battlesimulation](https://open.kattis.com/problems/battlesimulation) | one pass; special check on 3! = 6 possible combinations of 3 combo moves | 900 | | 2.8 |
| bazen | [Kattis - bazen](https://open.kattis.com/problems/bazen) | half area of triangle; six possible cases only | 218 | | 2.7 |
| beanbag | [Kattis - beanbag](https://open.kattis.com/problems/beanbag) | SET-COVER problem; T farmers can collude to give Jack the hardest possible subset of beans to be given freely to Jack | 119 | | 4.9 |
| beatspread | [Kattis - beatspread](https://open.kattis.com/problems/beatspread) | be careful with boundary cases!; also available at UVa 10812 - Beat the Spread | 980 | | 2.4 |
| beautifulprimes | [Kattis - beautifulprimes](https://open.kattis.com/problems/beautifulprimes) | use all 2s first; use 11 to increase digits | 171 | | 4.1 |
| beavergnaw | [Kattis - beavergnaw](https://open.kattis.com/problems/beavergnaw) | volumes of cylinders and cones; inclusion-exclusion; also available at UVa 10297 - Beavergnaw | 1210 | | 1.4 |
| beehives | [Kattis - beehives](https://open.kattis.com/problems/beehives) | 2D nested loops; Euclidean dist; use hypot; easy | 665 | | 2.1 |
| beehives2 | [Kattis - beehives2](https://open.kattis.com/problems/beehives2) | find the girth (length of shortest cycle) of input graph; multiple calls of BFS | 98 | | 4.4 |
| beehouseperimeter | [Kattis - beehouseperimeter](https://open.kattis.com/problems/beehouseperimeter) | transform the hexagonal grid like Kattis - honeyheist; flood fill from outside Alice's house; count #walls touched | 155 | | 4.0 |
| beekeeper | [Kattis - beekeeper](https://open.kattis.com/problems/beekeeper) | single loop; be careful that vowel set here includes 'y' | 1025 | | 2.7 |
| beepers | [Kattis - beepers](https://open.kattis.com/problems/beepers) | DP or recursive backtracking with sufficient pruning; also available at UVa 10496 - Collecting Beepers | 196 | | 4.6 |
| bela | [Kattis - bela](https://open.kattis.com/problems/bela) | simple card scoring problem | 3731 | | 1.3 |
| bestbefore | [Kattis - bestbefore](https://open.kattis.com/problems/bestbefore) | tedious; 3! = 6 possibilities to check | 148 | | 4.0 |
| bestcompression | [Kattis - bestcompression](https://open.kattis.com/problems/bestcompression) | related to power of two; use long long; also available at UVa 11556 - Best Compression Ever | 719 | | 2.1 |
| bestrelayteam | [Kattis - bestrelayteam](https://open.kattis.com/problems/bestrelayteam) | sort runners based on flying start times; brute force first runner and pick top 3 other flying start runners | 1420 | | 1.9 |
| bicikli | [Kattis - bicikli](https://open.kattis.com/problems/bicikli) | reachability test from source and sink; toposort; counting paths on DAG; modulo | 103 | | 6.4 |
| biggest | [Kattis - biggest](https://open.kattis.com/problems/biggest) | find biggest area of sector using simulation; use array (not that larget) to avoid precision error | 147 | | 6.6 |
| bigtruck | [Kattis - bigtruck](https://open.kattis.com/problems/bigtruck) | s: (city, items\_picked); use Dijkstra's | 1144 | | 3.2 |
| bijele | [Kattis - bijele](https://open.kattis.com/problems/bijele) | super simple | 10381 | | 1.4 |
| bikegears | [Kattis - bikegears](https://open.kattis.com/problems/bikegears) | 2D nested loops; sort the output | 185 | | 5.4 |
| bilateral | [Kattis - bilateral](https://open.kattis.com/problems/bilateral) | MIN-VERTEX-COVER on Bipartite Graph; MCBM; Konig's theorem that can handle the 1009 case correctly | 43 | | 6.5 |
| billiard | [Kattis - billiard](https://open.kattis.com/problems/billiard) | enlarge the billiard table; then this is solvable with atan2 | 856 | | 1.6 |
| bing | [Kattis - bing](https://open.kattis.com/problems/bing) | map all prefixes to frequencies using Hash Table; or use Trie | 1061 | | 3.6 |
| birds | [Kattis - birds](https://open.kattis.com/problems/birds) | greedy; sorting | 566 | | 3.5 |
| birthday | [Kattis - birthday](https://open.kattis.com/problems/birthday) | check if the input graph contains any bridge; N is small though so weaker solution can still be accepted | 323 | | 4.3 |
| birthdayboy | [Kattis - birthdayboy](https://open.kattis.com/problems/birthdayboy) | convert mm-dd into [0..364]; use DAT; find largest gap via brute force | 108 | | 4.6 |
| bishops | [Kattis - bishops](https://open.kattis.com/problems/bishops) | chess pattern involving bishops; from IPSC 2004 | 1185 | | 2.2 |
| bitbybit | [Kattis - bitbybit](https://open.kattis.com/problems/bitbybit) | be very careful with and + or corner cases | 955 | | 2.9 |
| bits | [Kattis - bits](https://open.kattis.com/problems/bits) | use GNU C++ \_\_builtin\_popcount | 1066 | | 2.6 |
| bitsequalizer | [Kattis - bitsequalizer](https://open.kattis.com/problems/bitsequalizer) | analyzing patterns; also available at UVa 12545 - Bits Equalizer | 174 | | 4.5 |
| blackfriday | [Kattis - blackfriday](https://open.kattis.com/problems/blackfriday) | 2D nested loops; frequency counting | 2384 | | 2.2 |
| blackout | [Kattis - blackout](https://open.kattis.com/problems/blackout) | interactive game theory; block one row; mirror jury's move | 129 | | 3.1 |
| blockcrusher | [Kattis - blockcrusher](https://open.kattis.com/problems/blockcrusher) | Dijkstra's from top row to bottom row (or vice versa); print path | 257 | | 5.1 |
| blockgame2 | [Kattis - blockgame2](https://open.kattis.com/problems/blockgame2) | observe the pattern; 2 winnable cases if N == M and N%M == 0; only 1 move if M < N < 2M; we can always win if N > 2M | 314 | | 3.2 |
| boatparts | [Kattis - boatparts](https://open.kattis.com/problems/boatparts) | use unordered\_set | 1398 | | 1.6 |
| bobby | [Kattis - bobby](https://open.kattis.com/problems/bobby) | computation of expected value | 618 | | 2.8 |
| boggle | [Kattis - boggle](https://open.kattis.com/problems/boggle) | 2D grid; backtracking | 323 | | 3.8 |
| bookcircle | [Kattis - bookcircle](https://open.kattis.com/problems/bookcircle) | left set: boys; right set: girls; add edge (i, j) if boy i reads same book as girl j; MIN-VERTEX-COVER on Bipartite Graph = MCBM | 137 | | 4.4 |
| bookclub | [Kattis - bookclub](https://open.kattis.com/problems/bookclub) | check if perfect MCBM is possible | 307 | | 4.5 |
| booking | [Kattis - booking](https://open.kattis.com/problems/booking) | 2 events per booking (need room and release room); convert to minutes; be careful of leap year on 2016; sort the events; linear processing | 164 | | 5.4 |
| bookingaroom | [Kattis - bookingaroom](https://open.kattis.com/problems/bookingaroom) | only 100 rooms; use 1D Boolean array | 2849 | | 1.7 |
| bossbattle | [Kattis - bossbattle](https://open.kattis.com/problems/bossbattle) | trick question | 1391 | | 1.8 |
| bottledup | [Kattis - bottledup](https://open.kattis.com/problems/bottledup) | find integer a and b so that a\*v1 + b\*v2 == s; single loop | 637 | | 2.6 |
| bottles | [Kattis - bottles](https://open.kattis.com/problems/bottles) | LA 6027 - WorldFinals Warsaw12; BSTA+geometric formula; also available at UVa 01280 - Curvy Little Bottles | 217 | | 3.0 |
| boundingrobots | [Kattis - boundingrobots](https://open.kattis.com/problems/boundingrobots) | maintain separate variables | 1141 | | 1.6 |
| bowserspipes | [Kattis - bowserspipes](https://open.kattis.com/problems/bowserspipes) | the underlying graph is a DAG; multi-sources shortest paths on DAG; map the answers | 42 | | 5.2 |
| bread | [Kattis - bread](https://open.kattis.com/problems/bread) | inversion index; hard to derive | 249 | | 5.0 |
| breakingbad | [Kattis - breakingbad](https://open.kattis.com/problems/breakingbad) | check if we can decompose the vertices into two disjoint sets; bipartite graph check | 643 | | 4.2 |
| brexit | [Kattis - brexit](https://open.kattis.com/problems/brexit) | toposort; chain reaction; modified Kahn's algorithm | 826 | | 3.6 |
| bribe | [Kattis - bribe](https://open.kattis.com/problems/bribe) | DP probability; bitmask, need to drop one parameter (cur\_money) and recover it from the bitmask | 53 | | 6.3 |
| brokenswords | [Kattis - brokenswords](https://open.kattis.com/problems/brokenswords) | easy counting problem | 367 | | 1.7 |
| browniepoints | [Kattis - browniepoints](https://open.kattis.com/problems/browniepoints) | points and quadrants; simple; also available at UVa 10865 - Brownie Points | 154 | | 2.3 |
| bst | [Kattis - bst](https://open.kattis.com/problems/bst) | simulate special BST [1..N] insertions using set | 449 | | 7.3 |
| bubbletea | [Kattis - bubbletea](https://open.kattis.com/problems/bubbletea) | simple simulation | 806 | | 2.2 |
| budget | [Kattis - budget](https://open.kattis.com/problems/budget) | max flow with lower bound | 66 | | 6.8 |
| buggyrobot | [Kattis - buggyrobot](https://open.kattis.com/problems/buggyrobot) | s: (r, c, k); robot at (r, c) executing kth command; t: skip or follow the command (success/fail), or add new DRUL command; also available at Kattis - buggyrobot2 | 84 | | 5.2 |
| buggyrobot2 | [Kattis - buggyrobot2](https://open.kattis.com/problems/buggyrobot2) | see Kattis - buggyrobot | 55 | | 6.3 |
| builddeps | [Kattis - builddeps](https://open.kattis.com/problems/builddeps) | the graph is acyclic; toposort with DFS from the changed file | 626 | | 4.7 |
| buildingboundaries | [Kattis - buildingboundaries](https://open.kattis.com/problems/buildingboundaries) | try all 2^3 = 8 orientations of 3 buildings; 3 horizontal packing; 3 vertical packing; 3! = 3 of 1 building on top of 2 others | 207 | | 3.4 |
| bumped | [Kattis - bumped](https://open.kattis.com/problems/bumped) | s: (city, has\_use\_free\_ticket); use Dijkstra's | 545 | | 4.4 |
| bungeejumping | [Kattis - bungeejumping](https://open.kattis.com/problems/bungeejumping) | real life Physics simulation; need someone who is good with Physics to understand the problem and derive the required formula | 64 | | 4.8 |
| burrowswheeler | [Kattis - burrowswheeler](https://open.kattis.com/problems/burrowswheeler) | duplicate input string; basic Suffix Array construction problem; print the required characters | 96 | | 6.2 |
| bus | [Kattis - bus](https://open.kattis.com/problems/bus) | involving powers of two | 1785 | | 1.7 |
| busnumbers | [Kattis - busnumbers](https://open.kattis.com/problems/busnumbers) | only 1000 bus numbers; use 1D Boolean array | 2776 | | 2.4 |
| busnumbers2 | [Kattis - busnumbers2](https://open.kattis.com/problems/busnumbers2) | complete search; use unordered\_map | 377 | | 3.0 |
| busplanning | [Kattis - busplanning](https://open.kattis.com/problems/busplanning) | MIN-CLIQUE-COVER; DP bitmask over sets | 91 | | 5.4 |
| bustour | [Kattis - bustour](https://open.kattis.com/problems/bustour) | LA 6028 - WorldFinals Warsaw12; DP TSP variant; also available at UVa 01281 - Bus Tour | 124 | | 6.1 |
| busyschedule | [Kattis - busyschedule](https://open.kattis.com/problems/busyschedule) | sort the time; be careful of corner cases | 811 | | 2.4 |
| buttonbashing | [Kattis - buttonbashing](https://open.kattis.com/problems/buttonbashing) | very similar to UVa 12160 | 728 | | 3.4 |
| buzzwords | [Kattis - buzzwords](https://open.kattis.com/problems/buzzwords) | Longest Repeated Substring that appears X times (2 ≤ X < N); also available at UVa 11855 - Buzzwords | 141 | | 5.0 |
| caching | [Kattis - caching](https://open.kattis.com/problems/caching) | combo ds (unordered\_map and set) | 210 | | 5.8 |
| cakeymccakeface | [Kattis - cakeymccakeface](https://open.kattis.com/problems/cakeymccakeface) | map differences to frequencies; return the one with maximum frequency and if ties, the smallest difference | 197 | | 3.8 |
| calculatingdartscores | [Kattis - calculatingdartsco...](https://open.kattis.com/problems/calculatingdartscores) | 6 nested loops but easy; see if a\*i +b\*j + c\*k == n | 752 | | 2.8 |
| calculator | [Kattis - calculator](https://open.kattis.com/problems/calculator) | recursive parser and evaluator | 351 | | 3.3 |
| calories | [Kattis - calories](https://open.kattis.com/problems/calories) | are you concerned with your weights?; also available at UVa 10554 - Calories from Fat | 328 | | 2.0 |
| candlebox | [Kattis - candlebox](https://open.kattis.com/problems/candlebox) | sum of arithmetic series [1..N]; -6 for Rita or -3 for Theo; brute force Rita's age; also available at UVa 13161 - Candle Box | 448 | | 2.6 |
| candydistribution | [Kattis - candydistribution](https://open.kattis.com/problems/candydistribution) | the problem boils down to finding C-1 (mod K); be careful when the answer is "IMPOSSIBLE" or ≤ K | 199 | | 4.9 |
| candydivision | [Kattis - candydivision](https://open.kattis.com/problems/candydivision) | complete search from 1 to sqrt(N); insert all divisors into set for automatic sorting and elimination of duplicates | 702 | | 3.4 |
| canonical | [Kattis - canonical](https://open.kattis.com/problems/canonical) | complete search possible range of counter examples; do both greedy COIN-CHANGE and DP COIN-CHANGE | 502 | | 5.7 |
| cantinaofbabel | [Kattis - cantinaofbabel](https://open.kattis.com/problems/cantinaofbabel) | build directed graph 'can\_speak'; compute the largest SCC of 'can\_speak'; keep this largest SCC | 379 | | 3.5 |
| cantor | [Kattis - cantor](https://open.kattis.com/problems/cantor) | ternary search; also available at UVa 11701 - Cantor | 255 | | 2.7 |
| canvas | [Kattis - canvas](https://open.kattis.com/problems/canvas) | greedy; priority queue | 214 | | 3.5 |
| cardboardcontainer | [Kattis - cardboardcontainer](https://open.kattis.com/problems/cardboardcontainer) | two out of L, W, and H must be ≤ sqrt(V); brute force L and W in sqrt(V)\*sqrt(V) and test if V is divisible by (L\*W) | 141 | | 2.5 |
| cardmagic | [Kattis - cardmagic](https://open.kattis.com/problems/cardmagic) | s: (deck, tgt\_left); t: val 1 to K ≤ tgt\_left | 133 | | 3.9 |
| cardtrading | [Kattis - cardtrading](https://open.kattis.com/problems/cardtrading) | greedy | 38 | | 5.0 |
| cardtrick2 | [Kattis - cardtrick2](https://open.kattis.com/problems/cardtrick2) | n <= 13, we can simulate the process using queue and precalculate all 13 possible answers | 869 | | 1.6 |
| carefulascent | [Kattis - carefulascent](https://open.kattis.com/problems/carefulascent) | BSTA + Physics simulation | 558 | | 1.8 |
| carousel | [Kattis - carousel](https://open.kattis.com/problems/carousel) | single loop; keep best; skip a > m | 335 | | 2.8 |
| carpet | [Kattis - carpet](https://open.kattis.com/problems/carpet) | binary search the length of the side; use law of cosines to test | 64 | | 7.6 |
| carpool | [Kattis - carpool](https://open.kattis.com/problems/carpool) | Floyd-Warshall/APSP; iterative brute force subset and permutation; DP; also available at UVa 11288 - Carpool | 40 | | 6.4 |
| carrots | [Kattis - carrots](https://open.kattis.com/problems/carrots) | just print P | 15155 | | 1.3 |
| carvet | [Kattis - carvet](https://open.kattis.com/problems/carvet) | backtrack; similar to Kattis - solitaire; checkers jumping style | 120 | | 3.9 |
| catalan | [Kattis - catalan](https://open.kattis.com/problems/catalan) | basic Catalan Numbers | 521 | | 3.6 |
| catalansquare | [Kattis - catalansquare](https://open.kattis.com/problems/catalansquare) | Catalan Numbers++; follow the description | 507 | | 3.5 |
| catandmice | [Kattis - catandmice](https://open.kattis.com/problems/catandmice) | BSTA: the initial velocity of Cartesian Cat; DP TSP to verify if the cat can catch all mice in the shortest possible time | 141 | | 6.8 |
| catenyms | [Kattis - catenyms](https://open.kattis.com/problems/catenyms) | Euler graph property check; 26 vertices; directed non simple graph; printing the Euler tour in lexicographic order | 67 | | 7.1 |
| catering | [Kattis - catering](https://open.kattis.com/problems/catering) | LA 7152 - WorldFinals Marrakech15; MCMF modeling | 246 | | 3.9 |
| cats | [Kattis - cats](https://open.kattis.com/problems/cats) | standard MST | 456 | | 4.1 |
| catvsdog | [Kattis - catvsdog](https://open.kattis.com/problems/catvsdog) | LA 4288 - NorthwesternEurope08; MIS; also available at UVa 12168 - Cat vs. Dog | 199 | | 5.5 |
| caveexploration | [Kattis - caveexploration](https://open.kattis.com/problems/caveexploration) | find size of bi-connected components that contains vertex 0; identify the bridges | 306 | | 3.4 |
| cd | [Kattis - cd](https://open.kattis.com/problems/cd) | unordered\_set is faster than set here; or use modified merge as the input is sorted; also available at UVa 11849 - CD | 3176 | | 5.3 |
| ceiling | [Kattis - ceiling](https://open.kattis.com/problems/ceiling) | LA 7578 - WorldFinals Phuket16; BST insertion then tree equality check; also available at UVa 01738 - Ceiling Function | 1871 | | 1.9 |
| celebritysplit | [Kattis - celebritysplit](https://open.kattis.com/problems/celebritysplit) | SUBSET-SUM; n ≤ 24; ternary state (ignore, keep to self, give to ex-spouse); need to use meet-in-the-middle; hard | 45 | | 8.8 |
| centsavings | [Kattis - centsavings](https://open.kattis.com/problems/centsavings) | 1D RSQ DP for sum of prices from [i..j]; round up/down; s: (idx, d\_left); t: try all positioning of the next divider | 531 | | 4.6 |
| cetiri | [Kattis - cetiri](https://open.kattis.com/problems/cetiri) | sort 3 number helps; 3 cases | 1165 | | 1.9 |
| cetvrta | [Kattis - cetvrta](https://open.kattis.com/problems/cetvrta) | sort the x and y points, then you will know the 4th point | 4727 | | 1.3 |
| chanukah | [Kattis - chanukah](https://open.kattis.com/problems/chanukah) | simple formula involving sum of arithmetic progression | 1064 | | 1.5 |
| character | [Kattis - character](https://open.kattis.com/problems/character) | OEIS A000295 | 841 | | 2.4 |
| charlesincharge | [Kattis - charlesincharge](https://open.kattis.com/problems/charlesincharge) | BSTA: max edge that Charles can use; SSSP from 1 to $N$ passing through edges that do not exceed that; is it OK? | 149 | | 4.8 |
| chartingprogress | [Kattis - chartingprogress](https://open.kattis.com/problems/chartingprogress) | sort using modified comparison function (by column); transpose the input | 757 | | 2.2 |
| checkingforcorrectness | [Kattis - checkingforcorrect...](https://open.kattis.com/problems/checkingforcorrectness) | Java Big Integer; one subtask uses modPow | 244 | | 4.1 |
| cheese | [Kattis - cheese](https://open.kattis.com/problems/cheese) | binary search the answer; geometry formula; a bit of calculus if the cut intersect a sphere | 338 | | 3.0 |
| chess | [Kattis - chess](https://open.kattis.com/problems/chess) | bishop movements; either impossible, 0, 1, or 2 ways - one of this can be invalid; just use brute force | 856 | | 2.9 |
| chesstournament | [Kattis - chesstournament](https://open.kattis.com/problems/chesstournament) | use UFDS to contract vertices that are equals into super vertices; then check if the resulting directed graph is acyclic | 148 | | 6.1 |
| chewbacca | [Kattis - chewbacca](https://open.kattis.com/problems/chewbacca) | complete short k-ary tree; binary heap indexing; LCA | 186 | | 3.6 |
| chineseremainder | [Kattis - chineseremainder](https://open.kattis.com/problems/chineseremainder) | basic CRT; 2 linear congruences; Big Integer | 343 | | 5.4 |
| chopin | [Kattis - chopin](https://open.kattis.com/problems/chopin) | you can learn a bit of music with this problem | 823 | | 1.8 |
| chopwood | [Kattis - chopwood](https://open.kattis.com/problems/chopwood) | Prüfer sequence; use priority\_queue | 258 | | 3.5 |
| circuitmath | [Kattis - circuitmath](https://open.kattis.com/problems/circuitmath) | postfix calculator problem | 918 | | 2.4 |
| circular | [Kattis - circular](https://open.kattis.com/problems/circular) | WorldFinals Porto19; frequency counting; try all cutting positions; fast simulation | 263 | | 3.1 |
| citrusintern | [Kattis - citrusintern](https://open.kattis.com/problems/citrusintern) | modified MIN-WEIGHT-VERTEX-COVER on tree; some edges can be ignored | 169 | | 3.6 |
| city | [Kattis - city](https://open.kattis.com/problems/city) | s: (i, left\_building\_explode); t: use 2nd parameter properly | 94 | | 6.5 |
| classpicture | [Kattis - classpicture](https://open.kattis.com/problems/classpicture) | try all permutation; filter forbidden pairs; fast simulation | 157 | | 6.9 |
| classrooms | [Kattis - classrooms](https://open.kattis.com/problems/classrooms) | variant of interval covering; multiple rooms | 229 | | 5.9 |
| classy | [Kattis - classy](https://open.kattis.com/problems/classy) | sort using modified comparison function; a bit of string parsing/tokenization | 1633 | | 4.5 |
| climbingworm | [Kattis - climbingworm](https://open.kattis.com/problems/climbingworm) | simulation; similar with UVa 00573 - The Snail | 222 | | 2.4 |
| closestpair1 | [Kattis - closestpair1](https://open.kattis.com/problems/closestpair1) | classic closest pair problem - the easier one | 269 | | 5.7 |
| closestsums | [Kattis - closestsums](https://open.kattis.com/problems/closestsums) | sort and then do O(n^2) pairings; also available at UVa 10487 - Closest Sums | 1105 | | 2.9 |
| closingtheloop | [Kattis - closingtheloop](https://open.kattis.com/problems/closingtheloop) | sort first | 1415 | | 1.6 |
| coast | [Kattis - coast](https://open.kattis.com/problems/coast) | intelligent flood fill; just run once to avoid TLE as there are many queries | 1339 | | 3.2 |
| coconut | [Kattis - coconut](https://open.kattis.com/problems/coconut) | maintain a circular linked list of hand symbols; variant of Josephus problem; other solution exists | 636 | | 1.6 |
| codecleanups | [Kattis - codecleanups](https://open.kattis.com/problems/codecleanups) | a bit tricky | 515 | | 2.4 |
| coke | [Kattis - coke](https://open.kattis.com/problems/coke) | drop parameter n1; recover it from b (number of coke bought), n5, and n10; also available at UVa 10626 - Buying Coke | 304 | | 5.6 |
| cokolada | [Kattis - cokolada](https://open.kattis.com/problems/cokolada) | the answers involve powers of two and a simulation | 605 | | 2.2 |
| cold | [Kattis - cold](https://open.kattis.com/problems/cold) | linear pass; array not really needed | 12609 | | 1.3 |
| collapse | [Kattis - collapse](https://open.kattis.com/problems/collapse) | similar with Kattis - brexit | 77 | | 5.8 |
| collatz | [Kattis - collatz](https://open.kattis.com/problems/collatz) | similar to UVa 00694; just do as asked | 757 | | 3.7 |
| collidingtraffic | [Kattis - collidingtraffic](https://open.kattis.com/problems/collidingtraffic) | try all pairs of boats; 0.0 if one pair collide; or, use a quadratic equation; also available at UVa 11574 - Colliding Traffic | 48 | | 5.0 |
| color | [Kattis - color](https://open.kattis.com/problems/color) | sort the sock colors and greedily assign them to washing machines, not a bipartite matching problem | 980 | | 2.2 |
| coloring | [Kattis - coloring](https://open.kattis.com/problems/coloring) | GRAPH-COLORING; n ≤ 11; greedily set vertex 0 to have color 0 to reduce max N to 10; backtracking | 313 | | 4.8 |
| combinationlock | [Kattis - combinationlock](https://open.kattis.com/problems/combinationlock) | simple; do as asked; also available at UVa 10550 - Combination Lock | 633 | | 2.5 |
| commercials | [Kattis - commercials](https://open.kattis.com/problems/commercials) | transform each input by -P; Kadane's algorithm | 1570 | | 2.0 |
| committeeassignment | [Kattis - committeeassignmen...](https://open.kattis.com/problems/committeeassignment) | backtracking; pruning; add a member to existing committee or create a new committee; TLE with DP bitmask | 68 | | 7.4 |
| communication | [Kattis - communication](https://open.kattis.com/problems/communication) | try all possible bytes; apply the bitmask formula | 764 | | 2.0 |
| communicationssatellite | [Kattis - communicationssate...](https://open.kattis.com/problems/communicationssatellite) | standard MST; complete graph with n ≤ 2 000 | 227 | | 3.5 |
| companypicnic | [Kattis - companypicnic](https://open.kattis.com/problems/companypicnic) | s: (name, has\_been\_matched); DP weighted matching (both cardinality and weight) on Tree | 200 | | 5.0 |
| compass | [Kattis - compass](https://open.kattis.com/problems/compass) | your typical smartphone's compass function usually has this small feature | 1529 | | 2.0 |
| competitivearcadebasketball | [Kattis - competitivearcadeb...](https://open.kattis.com/problems/competitivearcadebasketball) | use unordered\_map | 209 | | 2.8 |
| completingthesquare | [Kattis - completingthesquar...](https://open.kattis.com/problems/completingthesquare) | Euclidean dist checks; then translate a point with a vector | 548 | | 1.9 |
| compositions | [Kattis - compositions](https://open.kattis.com/problems/compositions) | LA 7365 - Greater NY15; s: (N\_left); t: try all values, skip some numbers | 160 | | 2.3 |
| compoundwords | [Kattis - compoundwords](https://open.kattis.com/problems/compoundwords) | use set extensively; iterator | 1807 | | 1.7 |
| compromise | [Kattis - compromise](https://open.kattis.com/problems/compromise) | 2D array manipulation; take the majority bits of each column; output either 0 or 1 for ties | 363 | | 2.2 |
| conformity | [Kattis - conformity](https://open.kattis.com/problems/conformity) | use unordered\_map to count frequencies of the sorted permutations of 5 ids; also available at UVa 11286 - Conformity | 1100 | | 1.9 |
| congest | [Kattis - congest](https://open.kattis.com/problems/congest) | LA 6395 - World Finals StPetersburg13; compute SSSP from downtown to other vertices; repeated edge-disjoint path computations using Max Flow | 256 | | 3.7 |
| connectthedots | [Kattis - connectthedots](https://open.kattis.com/problems/connectthedots) | classic children game; output formatting | 213 | | 3.6 |
| conquestcampaign | [Kattis - conquestcampaign](https://open.kattis.com/problems/conquestcampaign) | multi-sources BFS | 353 | | 1.9 |
| consecutivesums | [Kattis - consecutivesums](https://open.kattis.com/problems/consecutivesums) | work with factor; sum of Arithmetic Progression series | 239 | | 5.2 |
| conservation | [Kattis - conservation](https://open.kattis.com/problems/conservation) | modified Kahn's algorithm; greedily process all steps in a certain lab before alternating to the other lab | 133 | | 4.2 |
| constrainedfreedomofchoice | [Kattis - constrainedfreedom...](https://open.kattis.com/problems/constrainedfreedomofchoice) | s: (row, col, last\_action); t: go up/right/down based on last\_action | 80 | | 5.3 |
| continuousmedian | [Kattis - continuousmedian](https://open.kattis.com/problems/continuousmedian) | dynamic selection problem; specifically the median values; pb\_ds helps | 140 | | 3.9 |
| control | [Kattis - control](https://open.kattis.com/problems/control) | LA 7480 - Singapore15; simulation of UFDS; size of set; number of disjoint sets | 424 | | 4.6 |
| conundrum | [Kattis - conundrum](https://open.kattis.com/problems/conundrum) | simple cipher | 5240 | | 1.4 |
| conversationlog | [Kattis - conversationlog](https://open.kattis.com/problems/conversationlog) | use combo DS: unordered\_map, set, plus (sorted) vector | 507 | | 2.8 |
| convex | [Kattis - convex](https://open.kattis.com/problems/convex) | must understand the concept of convex polygon; a bit of mathematical insights: GCD; sort | 132 | | 6.4 |
| convexhull | [Kattis - convexhull](https://open.kattis.com/problems/convexhull) | basic convex hull problem; be careful with duplicate points and collinear points | 644 | | 4.8 |
| convexhull2 | [Kattis - convexhull2](https://open.kattis.com/problems/convexhull2) | CH; collinear points | 107 | | 7.2 |
| convexpolygonarea | [Kattis - convexpolygonarea](https://open.kattis.com/problems/convexpolygonarea) | even more basic problem about area of polygon than Kattis - polygonarea | 703 | | 1.9 |
| conveyorbelts | [Kattis - conveyorbelts](https://open.kattis.com/problems/conveyorbelts) | max flow; blow up the vertices K times; reroute edges | 89 | | 3.7 |
| cookiecutter | [Kattis - cookiecutter](https://open.kattis.com/problems/cookiecutter) | polygon area; polygon scaling; polygon translation | 172 | | 2.4 |
| cookieselection | [Kattis - cookieselection](https://open.kattis.com/problems/cookieselection) | map large integers to up to 600K integers; use pb\_ds or Fenwick Tree and the select(median) operation of Fenwick Tree | 923 | | 4.3 |
| cookingwater | [Kattis - cookingwater](https://open.kattis.com/problems/cookingwater) | try all possible answers | 446 | | 2.0 |
| cool1 | [Kattis - cool1](https://open.kattis.com/problems/cool1) | the first part is a cycle-finding problem; state is small (8M); be careful of the definition of trail | 142 | | 7.1 |
| copsandrobbers | [Kattis - copsandrobbers](https://open.kattis.com/problems/copsandrobbers) | min cut; similar to Kattis - thekingofthenorth | 125 | | 3.7 |
| costumecontest | [Kattis - costumecontest](https://open.kattis.com/problems/costumecontest) | use unordered\_map to map frequency of each category; get the minimum one; print output lexicographically | 532 | | 2.0 |
| councilling | [Kattis - councilling](https://open.kattis.com/problems/councilling) | matching; max flow; print the assignment; also available at UVa 10511 - Councilling | 89 | | 7.1 |
| countcircuits | [Kattis - countcircuits](https://open.kattis.com/problems/countcircuits) | s: (id, cur\_x, cur\_y); t: skip or use this vector; use offset technique to avoid negative indices | 278 | | 5.8 |
| countingclauses | [Kattis - countingclauses](https://open.kattis.com/problems/countingclauses) | special case of 3-SAT; a bluffing task | 480 | | 1.7 |
| countingstars | [Kattis - countingstars](https://open.kattis.com/problems/countingstars) | basic flood fill problem; count CCs | 1494 | | 2.7 |
| countingtriangles | [Kattis - countingtriangles](https://open.kattis.com/problems/countingtriangles) | actually the constraints simplify this problem to line segment intersection tests | 258 | | 2.5 |
| cowcrane | [Kattis - cowcrane](https://open.kattis.com/problems/cowcrane) | reading comprehension; case analysis; eventually there are only 4 possible cases | 181 | | 3.9 |
| cpu | [Kattis - cpu](https://open.kattis.com/problems/cpu) | math (Sieve of Eratosthenes); brute force pair of primes; a bit of linear algebra; range queries/set data structure | 38 | | 4.4 |
| crackerbarrel | [Kattis - crackerbarrel](https://open.kattis.com/problems/crackerbarrel) | very similar to Kattis - peggamefortwo but without the 2 alternating players; backtrack/DP on special grid | 55 | | 4.0 |
| crackingrsa | [Kattis - crackingrsa](https://open.kattis.com/problems/crackingrsa) | a bit number theory; solvable with complete search | 258 | | 2.3 |
| crackingthecode | [Kattis - crackingthecode](https://open.kattis.com/problems/crackingthecode) | one corner case involving the 25th to 26th character determination | 48 | | 6.4 |
| cranes | [Kattis - cranes](https://open.kattis.com/problems/cranes) | circle-circle intersection; backtracking or brute force subsets with bitmask; also available at UVa 11515 - Cranes | 137 | | 3.8 |
| creditcard | [Kattis - creditcard](https://open.kattis.com/problems/creditcard) | real life issue; precision error issue if we do not convert double (with just 2 digits after decimal point) into long long | 123 | | 6.3 |
| crne | [Kattis - crne](https://open.kattis.com/problems/crne) | simulate cutting process on small numbers; get formula | 477 | | 2.5 |
| cropeasy | [Kattis - cropeasy](https://open.kattis.com/problems/cropeasy) | complete search 3 points/tree; check if the center is integer | 178 | | 3.0 |
| crosscountry | [Kattis - crosscountry](https://open.kattis.com/problems/crosscountry) | medium complete graph with N ≤ 1000; Bellman-Ford can still pass (or use Dijkstra's) | 217 | | 3.0 |
| crowdcontrol | [Kattis - crowdcontrol](https://open.kattis.com/problems/crowdcontrol) | maximin path problem; MST; DFS from train station to BAPC; block unused edges | 100 | | 3.8 |
| crusaders | [Kattis - crusaders](https://open.kattis.com/problems/crusaders) | another nice interactive problem about binary search | 34 | | 7.4 |
| crypto | [Kattis - crypto](https://open.kattis.com/problems/crypto) | assert(N <= 100000000) does NOT get RTE; so brute force can actually pass... | 270 | | 3.7 |
| cuchitunnels | [Kattis - cuchitunnels](https://open.kattis.com/problems/cuchitunnels) | greedy | 352 | | 3.1 |
| cudak | [Kattis - cudak](https://open.kattis.com/problems/cudak) | s: (prefix, digits\_left, sum\_left); t: try [0..9]; long long | 61 | | 6.4 |
| cudoviste | [Kattis - cudoviste](https://open.kattis.com/problems/cudoviste) | 4 nested loops; the inner loops is just 2x2; 5 possibilities of crushed cars; skip 2x2 area that contains building | 1194 | | 1.4 |
| cups | [Kattis - cups](https://open.kattis.com/problems/cups) | a bit of string parsing; sort | 2987 | | 1.5 |
| cursethedarkness | [Kattis - cursethedarkness](https://open.kattis.com/problems/cursethedarkness) | Euclidean dist | 596 | | 2.2 |
| curvyblocks | [Kattis - curvyblocks](https://open.kattis.com/problems/curvyblocks) | differentiate degree 3 to degree 2 polynomial; get roots of quadratic equation; the two blocks will touch at either roots | 89 | | 4.3 |
| cuttingbrownies | [Kattis - cuttingbrownies](https://open.kattis.com/problems/cuttingbrownies) | observe the pattern; involves logarithm | 166 | | 4.1 |
| cuttingcorners | [Kattis - cuttingcorners](https://open.kattis.com/problems/cuttingcorners) | simulation of angle checks | 95 | | 3.5 |
| cycleseasy | [Kattis - cycleseasy](https://open.kattis.com/problems/cycleseasy) | Count number of HAMILTONIAN-TOURs | 108 | | 4.1 |
| daceydice | [Kattis - daceydice](https://open.kattis.com/problems/daceydice) | reachability test of a state-space graph; s: (r, c, where\_is\_five) | 171 | | 3.5 |
| dancerecital | [Kattis - dancerecital](https://open.kattis.com/problems/dancerecital) | try all R! permutations; compare adjacent routines | 274 | | 4.2 |
| darkness | [Kattis - darkness](https://open.kattis.com/problems/darkness) | interesting min cut problem; each light source affects all other cells at x and y units away (the z is always H); cost is either 43 or 11 depending on the light level of adjacent cells | 28 | | 6.5 |
| dartscores | [Kattis - dartscores](https://open.kattis.com/problems/dartscores) | simple point in circle test; all integers | 445 | | 2.4 |
| dartscoring | [Kattis - dartscoring](https://open.kattis.com/problems/dartscoring) | CH; perimeter of CH | 90 | | 4.4 |
| dasblinkenlights | [Kattis - dasblinkenlights](https://open.kattis.com/problems/dasblinkenlights) | just check if the LCM of p and q ≤ s | 1745 | | 1.7 |
| dasort | [Kattis - dasort](https://open.kattis.com/problems/dasort) | greedy; sorting | 284 | | 2.9 |
| data | [Kattis - data](https://open.kattis.com/problems/data) | numDiffPF(V) for V up to N x 1000; Brute force combination/all subsets; DP Subset | 68 | | 5.9 |
| datum | [Kattis - datum](https://open.kattis.com/problems/datum) | Java GregorianCalendar, DAY\_OF\_WEEK | 3019 | | 1.4 |
| deadend | [Kattis - deadend](https://open.kattis.com/problems/deadend) | process each CC separately; if a CC is a tree, it is an easier special case; else, prune the leaves | 254 | | 3.4 |
| deadfraction | [Kattis - deadfraction](https://open.kattis.com/problems/deadfraction) | try every single possible repeating decimals; also available at UVa 10555 - Dead Fraction | 153 | | 4.9 |
| deathknight | [Kattis - deathknight](https://open.kattis.com/problems/deathknight) | trivial string matching; just find 'CD' in the input | 1970 | | 1.5 |
| deathstar | [Kattis - deathstar](https://open.kattis.com/problems/deathstar) | can be solved with bit manipulation | 415 | | 2.0 |
| deathtaxes | [Kattis - deathtaxes](https://open.kattis.com/problems/deathtaxes) | direct simulation; a bit of reading comprehension | 179 | | 3.3 |
| debugging | [Kattis - debugging](https://open.kattis.com/problems/debugging) | s: (n); t: divide the program into [2..n] blocks | 226 | | 6.0 |
| decisions | [Kattis - decisions](https://open.kattis.com/problems/decisions) | collapse a sub-tree into a super vertex if all f values on its leaves are equal; count size of min BDD tree recursively | 151 | | 3.1 |
| declaration | [Kattis - declaration](https://open.kattis.com/problems/declaration) | Shortest Common Supersequence problem; LCS variant; time critical; optimize code | 30 | | 7.3 |
| deduplicatingfiles | [Kattis - deduplicatingfiles](https://open.kattis.com/problems/deduplicatingfiles) | use vector to store the strings; unordered\_set to store unique strings; and complete search to compare the n^2 hash codes | 583 | | 4.4 |
| delimitersoup | [Kattis - delimitersoup](https://open.kattis.com/problems/delimitersoup) | bracket matching; stack | 382 | | 1.9 |
| delivery | [Kattis - delivery](https://open.kattis.com/problems/delivery) | greedy; sorting | 253 | | 3.3 |
| destinationunknown | [Kattis - destinationunknown](https://open.kattis.com/problems/destinationunknown) | use Dijkstra's twice; one normally; one with s: (point, has\_edge\_g\_h\_used); compare the results | 101 | | 5.6 |
| detaileddifferences | [Kattis - detaileddifference...](https://open.kattis.com/problems/detaileddifferences) | extremely simple string comparison problem | 4320 | | 1.4 |
| detour | [Kattis - detour](https://open.kattis.com/problems/detour) | SSSP from destination/Amsterdam; from all vertices, block outgoing edge that is part of the shortest paths to destination; graph traversal from Delft to Amsterdam | 167 | | 4.0 |
| dicebetting | [Kattis - dicebetting](https://open.kattis.com/problems/dicebetting) | s: (dice\_left, distinct\_numbers\_so\_far); each throw can increase distinct\_numbers\_so\_far or not | 261 | | 3.3 |
| dicecup | [Kattis - dicecup](https://open.kattis.com/problems/dicecup) | complete search; use map - order needed; pick the sum with the max frequency | 5454 | | 1.2 |
| dicegame | [Kattis - dicegame](https://open.kattis.com/problems/dicegame) | simple comparison of two expected values | 3410 | | 1.5 |
| dickandjane | [Kattis - dickandjane](https://open.kattis.com/problems/dickandjane) | need some mathematical insights; also available at UVa 10257 - Dick and Jane | 87 | | 5.8 |
| dictionaryattack | [Kattis - dictionaryattack](https://open.kattis.com/problems/dictionaryattack) | time limit is generous; you can generate all possible password with just 3 swaps; store in sets | 101 | | 7.0 |
| different | [Kattis - different](https://open.kattis.com/problems/different) | use abs function per test case | 8964 | | 2.3 |
| differentdistances | [Kattis - differentdistances](https://open.kattis.com/problems/differentdistances) | power | 1833 | | 1.6 |
| digicomp2 | [Kattis - digicomp2](https://open.kattis.com/problems/digicomp2) | toposort helps avoid TLE; do not simulate the process n times as n can be as big as 10^18 | 288 | | 5.9 |
| digitdivision | [Kattis - digitdivision](https://open.kattis.com/problems/digitdivision) | let p be the number of partitions (use linear pass modulo m to count this); the answer is then 2^(p-1)%(10^9+7) | 66 | | 5.0 |
| digits | [Kattis - digits](https://open.kattis.com/problems/digits) | direct simulation; also available at UVa 11687 - Digits | 214 | | 3.5 |
| digitsum | [Kattis - digitsum](https://open.kattis.com/problems/digitsum) | the sum of digits have fattern, find it; use a bit of DP to avoid re-computations | 517 | | 5.5 |
| dirtydriving | [Kattis - dirtydriving](https://open.kattis.com/problems/dirtydriving) | sort; find max - derive the formula; reading comprehension problem | 279 | | 2.1 |
| disgruntledjudge | [Kattis - disgruntledjudge](https://open.kattis.com/problems/disgruntledjudge) | brute force constants a and b between [0..10 000] and do O(n) checks; break early as soon as a solution is found; also available at UVa 12169 - Disgruntled Judge | 76 | | 3.3 |
| display | [Kattis - display](https://open.kattis.com/problems/display) | unordered\_map; map a digit -> enlarged 7x5 version | 635 | | 2.5 |
| distinctivecharacter | [Kattis - distinctivecharact...](https://open.kattis.com/problems/distinctivecharacter) | s: (bitmask); multi-sources BFS; find bitmask that has the furthest distance to any of the source | 272 | | 6.5 |
| divideby100 | [Kattis - divideby100](https://open.kattis.com/problems/divideby100) | big 1D character array processing; be careful | 557 | | 4.2 |
| divisible | [Kattis - divisible](https://open.kattis.com/problems/divisible) | divisibility; linear pass algorithm | 327 | | 4.3 |
| divisors | [Kattis - divisors](https://open.kattis.com/problems/divisors) | return numDiv(nCk); but do not compute nCk directly; work with its prime factors | 208 | | 5.2 |
| dobra | [Kattis - dobra](https://open.kattis.com/problems/dobra) | try all possible 3^n changes of '\_' (to a vowel, an 'L', or other consonant not 'L'); prune invalid states; count valid states | 44 | | 3.9 |
| doctorkattis | [Kattis - doctorkattis](https://open.kattis.com/problems/doctorkattis) | Max Priority Queue with frequent (increaseKey) updates; use map | 114 | | 4.7 |
| doggopher | [Kattis - doggopher](https://open.kattis.com/problems/doggopher) | complete search; Euclidean distance dist; also available at UVa 10310 - Dog and Gopher | 119 | | 2.5 |
| dominoes2 | [Kattis - dominoes2](https://open.kattis.com/problems/dominoes2) | unlike UVa 11504, we treat SCCs as CCs; also available at UVa 11518 - Dominos 2 | 599 | | 3.3 |
| dominos | [Kattis - dominos](https://open.kattis.com/problems/dominos) | count the number of SCCs without incoming edge from a vertex outside that SCC; also available at UVa 11504 - Dominos | 248 | | 6.2 |
| doodling | [Kattis - doodling](https://open.kattis.com/problems/doodling) | need to observe pattern; involving LCM/GCD | 30 | | 4.9 |
| doorman | [Kattis - doorman](https://open.kattis.com/problems/doorman) | find the required formula | 1116 | | 2.3 |
| doubleplusgood | [Kattis - doubleplusgood](https://open.kattis.com/problems/doubleplusgood) | only up to 2^17 possible combinations; use to\_string and stoll | 228 | | 2.8 |
| doublets | [Kattis - doublets](https://open.kattis.com/problems/doublets) | s: (string); BFS; use trie to quickly identify neighbor that is one Hamming distance away; also available at UVa 10150 - Doublets | 35 | | 8.7 |
| downfall | [Kattis - downfall](https://open.kattis.com/problems/downfall) | vector of integers and UFDS simulation; modify merge by min id | 31 | | 5.2 |
| downtime | [Kattis - downtime](https://open.kattis.com/problems/downtime) | 1D array; use Fenwick Tree-like operation for Range Update Point Query | 1068 | | 3.2 |
| dream | [Kattis - dream](https://open.kattis.com/problems/dream) | stack simulation; reading comprehension problem, need other fast DS for mapping strings to indices | 219 | | 6.4 |
| dreamer | [Kattis - dreamer](https://open.kattis.com/problems/dreamer) | try all 8! permutations of digits; check if the date is valid; output earliest valid date | 406 | | 2.0 |
| drinkingsong | [Kattis - drinkingsong](https://open.kattis.com/problems/drinkingsong) | just one loop; but be careful of with the grammar | 336 | | 2.4 |
| drinkresponsibly | [Kattis - drinkresponsibly](https://open.kattis.com/problems/drinkresponsibly) | s: (cur\_drink, money\_left, u\_left); be careful with precision errors; print solution | 98 | | 4.2 |
| driver | [Kattis - driver](https://open.kattis.com/problems/driver) | greedy | 198 | | 3.8 |
| driversdilemma | [Kattis - driversdilemma](https://open.kattis.com/problems/driversdilemma) | only 6 different cases; note that starting fuel is C/2 | 200 | | 2.0 |
| drivinglanes | [Kattis - drivinglanes](https://open.kattis.com/problems/drivinglanes) | s: (st, ln); t: try all other lanes; be careful of corner cases | 105 | | 3.7 |
| drivingrange | [Kattis - drivingrange](https://open.kattis.com/problems/drivingrange) | find weight of the last edge added to MST by Kruskal's; also available at UVa 11857 - Driving Range | 336 | | 3.5 |
| drmmessages | [Kattis - drmmessages](https://open.kattis.com/problems/drmmessages) | simple decrypt; follow instruction | 1949 | | 1.6 |
| droppingdirections | [Kattis - droppingdirections](https://open.kattis.com/problems/droppingdirections) | modified graph: a vertex is (origin intersection id, intersection id); modified DFS from vertices leading to goal; count how many remaining 'components' left | 87 | | 3.5 |
| drunkvigenere | [Kattis - drunkvigenere](https://open.kattis.com/problems/drunkvigenere) | simple decrypt; reverse the given instruction | 189 | | 1.5 |
| dst | [Kattis - dst](https://open.kattis.com/problems/dst) | straightforward; modulo | 611 | | 2.1 |
| dungeon | [Kattis - dungeon](https://open.kattis.com/problems/dungeon) | 3D BFS; also available at UVa 00532 - Dungeon Master | 288 | | 3.6 |
| dunglish | [Kattis - dunglish](https://open.kattis.com/problems/dunglish) | simple combinatorics aided with a fast data structure | 351 | | 2.4 |
| dutyscheduler | [Kattis - dutyscheduler](https://open.kattis.com/problems/dutyscheduler) | try all possible (small range of answers); assignment problem; matching with capacity; max flow | 94 | | 3.8 |
| dvaput | [Kattis - dvaput](https://open.kattis.com/problems/dvaput) | easy Longest Repeated Substring problem | 306 | | 5.7 |
| dvds | [Kattis - dvds](https://open.kattis.com/problems/dvds) | greedy | 731 | | 2.9 |
| dvoniz | [Kattis - dvoniz](https://open.kattis.com/problems/dvoniz) | involving 1D RSQ DP; binary search the answer | 47 | | 7.1 |
| dyslectionary | [Kattis - dyslectionary](https://open.kattis.com/problems/dyslectionary) | sort the reverse of original string; output formatting | 775 | | 3.4 |
| earlywinter | [Kattis - earlywinter](https://open.kattis.com/problems/earlywinter) | linear pass | 543 | | 1.9 |
| easiest | [Kattis - easiest](https://open.kattis.com/problems/easiest) | complete search; sum of digit | 3991 | | 1.6 |
| eastereggs | [Kattis - eastereggs](https://open.kattis.com/problems/eastereggs) | BSTA; MAX-INDEPENDENT-SET on Bipartite Graph; V-MCBM | 82 | | 5.2 |
| eatingeverything | [Kattis - eatingeverything](https://open.kattis.com/problems/eatingeverything) | pizza world is a DAG; s: (pizza\_stall); t: eat a (full) pizza here and stop; skip this stall; eat a pizza here and take 50% for the rest | 59 | | 3.7 |
| eatingout | [Kattis - eatingout](https://open.kattis.com/problems/eatingout) | there is a one liner formula for this problem | 480 | | 3.1 |
| ecoins | [Kattis - ecoins](https://open.kattis.com/problems/ecoins) | s: (conventional-value, infotechnological-value); BFS; also available at UVa 10306 - e-Coins | 169 | | 4.6 |
| eenymeeny | [Kattis - eenymeeny](https://open.kattis.com/problems/eenymeeny) | Josephus problem; small n; just simulate | 492 | | 1.7 |
| egypt | [Kattis - egypt](https://open.kattis.com/problems/egypt) | Pythagorean theorem/triple; also available at UVa 11854 - Egypt | 862 | | 1.9 |
| eko | [Kattis - eko](https://open.kattis.com/problems/eko) | sort the tree heights; BSTA + binary search for the highest non-cut tree + 1D Range Sum Query | 123 | | 4.7 |
| election | [Kattis - election](https://open.kattis.com/problems/election) | compute the answers with help of binomial coefficients | 213 | | 6.2 |
| election2 | [Kattis - election2](https://open.kattis.com/problems/election2) | frequency counting; be careful of tie breaker | 166 | | 2.4 |
| elementarymath | [Kattis - elementarymath](https://open.kattis.com/problems/elementarymath) | left set: (a, b); right set: possible scores; possible if MCBM = n; use long long | 365 | | 5.1 |
| elevatortrouble | [Kattis - elevatortrouble](https://open.kattis.com/problems/elevatortrouble) | s: (cur\_level); only 1M floors; go up/down; BFS | 362 | | 3.1 |
| eligibility | [Kattis - eligibility](https://open.kattis.com/problems/eligibility) | 3 cases | 1741 | | 1.6 |
| emergency | [Kattis - emergency](https://open.kattis.com/problems/emergency) | the problem is posed as an SSSP problem on special graph; but turns out a simple formula solves the problem; Big Integer | 319 | | 3.7 |
| empleh | [Kattis - empleh](https://open.kattis.com/problems/empleh) | the reverse problem of Kattis - helpme | 245 | | 1.8 |
| emptyingbaltic | [Kattis - emptyingbaltic](https://open.kattis.com/problems/emptyingbaltic) | Dijkstra's variant; grow spanning tree from drain/source | 287 | | 5.4 |
| encodedmessage | [Kattis - encodedmessage](https://open.kattis.com/problems/encodedmessage) | simple 2D grid cipher | 2316 | | 1.4 |
| engaging | [Kattis - engaging](https://open.kattis.com/problems/engaging) | LA 8437 - HoChiMinhCity17; Hungarian; print solution | 135 | | 5.8 |
| engineeringenglish | [Kattis - engineeringenglish](https://open.kattis.com/problems/engineeringenglish) | use unordered\_set to remember duplicated words; transform to lowercase | 1627 | | 2.2 |
| enlarginghashtables | [Kattis - enlarginghashtable...](https://open.kattis.com/problems/enlarginghashtables) | use sieve up to 40 000; prime test numbers greater than 2n; check primality of n itself | 448 | | 3.4 |
| enteringthetime | [Kattis - enteringthetime](https://open.kattis.com/problems/enteringthetime) | s: (h1, h2, m1, m2); try adjusting each digit by +1 or -1 | 126 | | 5.1 |
| entertainmentbox | [Kattis - entertainmentbox](https://open.kattis.com/problems/entertainmentbox) | sort; greedy simulation; Priority Queue with update key (we can use multiset) | 274 | | 6.0 |
| enviousexponents | [Kattis - enviousexponents](https://open.kattis.com/problems/enviousexponents) | mathematical insights; brute force number of bits used; greedily set k bits on | 166 | | 4.6 |
| epigdanceoff | [Kattis - epigdanceoff](https://open.kattis.com/problems/epigdanceoff) | count number of CCs on 2D grid; simpler solution exists: count the number of blank columns plus one | 505 | | 1.9 |
| equalsumseasy | [Kattis - equalsumseasy](https://open.kattis.com/problems/equalsumseasy) | PARTITION; generate all possible subsets with bitmask; use set to record which sums have been computed | 474 | | 2.3 |
| equivalences | [Kattis - equivalences](https://open.kattis.com/problems/equivalences) | contract input directed graph into SCCs; count SCCs that have in-/out-degrees = 0; report the max | 281 | | 5.4 |
| erase | [Kattis - erase](https://open.kattis.com/problems/erase) | if N is odd, the second line has to be the inverse of the first; if N is even, both lines have to be the same | 2166 | | 1.6 |
| erdosnumbers | [Kattis - erdosnumbers](https://open.kattis.com/problems/erdosnumbers) | use unordered\_map as Adjacency List of author names; BFS from 'PAUL\_ERDOS' | 159 | | 4.4 |
| errands | [Kattis - errands](https://open.kattis.com/problems/errands) | map location names to integer indices; DP TSP | 51 | | 7.0 |
| erraticants | [Kattis - erraticants](https://open.kattis.com/problems/erraticants) | simulate; move twice per single move to differentiate the path; revisit the path using BFS | 340 | | 5.1 |
| escapeplan | [Kattis - escapeplan](https://open.kattis.com/problems/escapeplan) | left set: robots; right set: holes; 3 version of similar bipartite graphs; MCBM | 98 | | 5.7 |
| esej | [Kattis - esej](https://open.kattis.com/problems/esej) | use unordered\_set to prevent duplicate | 509 | | 3.3 |
| espressobucks | [Kattis - espressobucks](https://open.kattis.com/problems/espressobucks) | easy brute force construction; small nxm; not about Min-Vertex-Cover | 159 | | 2.4 |
| estimatingtheareaofacircle | [Kattis - estimatingtheareao...](https://open.kattis.com/problems/estimatingtheareaofacircle) | PI estimation experiment | 2084 | | 1.6 |
| euclideantsp | [Kattis - euclideantsp](https://open.kattis.com/problems/euclideantsp) | that complex formula described in problem description is unimodal; c ranges from ≥ 0.1 to ≤ 500.0; ternary search; precision error can be an issue | 288 | | 2.3 |
| euclidsgame | [Kattis - euclidsgame](https://open.kattis.com/problems/euclidsgame) | minimax; backtracking; also available at UVa 10368 - Euclid's Game | 199 | | 4.8 |
| eulerianpath | [Kattis - eulerianpath](https://open.kattis.com/problems/eulerianpath) | Euler graph property check; directed graph; printing the Euler tour | 219 | | 5.6 |
| eulersnumber | [Kattis - eulersnumber](https://open.kattis.com/problems/eulersnumber) | simulate the computation of the approximation (involving factorial) using double data type; the answer will converge; sufficient for the required precision | 963 | | 1.9 |
| europeantrip | [Kattis - europeantrip](https://open.kattis.com/problems/europeantrip) | STEINER-TREE with 3 terminal vertices and up to 1 Steiner point; we can use two ternary searches | 297 | | 3.3 |
| eventplanning | [Kattis - eventplanning](https://open.kattis.com/problems/eventplanning) | just simulate; 2D loop | 458 | | 2.0 |
| evenup | [Kattis - evenup](https://open.kattis.com/problems/evenup) | use stack to solve this problem | 1273 | | 2.7 |
| everywhere | [Kattis - everywhere](https://open.kattis.com/problems/everywhere) | use unordered\_set | 7015 | | 1.4 |
| evilstraw | [Kattis - evilstraw](https://open.kattis.com/problems/evilstraw) | greedily match leftmost char s[0]/rightmost char s[n-1] with rightmost/leftmost matching s[i], respectively | 93 | | 3.3 |
| exactchange2 | [Kattis - exactchange2](https://open.kattis.com/problems/exactchange2) | a variation to the Coin-Change problem; also available at UVa 11517 - Exact Change | 708 | | 5.4 |
| exactlyelectrical | [Kattis - exactlyelectrical](https://open.kattis.com/problems/exactlyelectrical) | Manhattan distance; waste energy at the end by moving 1 cell around target | 469 | | 2.0 |
| exam | [Kattis - exam](https://open.kattis.com/problems/exam) | s: (pos, correct\_left); t: either your friend is wrong or your friend is right, process accordingly; easier solution exists | 891 | | 1.9 |
| excavatorexpedition | [Kattis - excavatorexpeditio...](https://open.kattis.com/problems/excavatorexpedition) | s: (pos); t: try all directed edge; +1/-1 weight; LONGEST-PATH on DAG problem; be careful of negative final answer | 70 | | 5.4 |
| exchangerates | [Kattis - exchangerates](https://open.kattis.com/problems/exchangerates) | maintain the best CAD and USD each day; also available at UVa 11285 - Exchange Rates | 87 | | 4.5 |
| excursion | [Kattis - excursion](https://open.kattis.com/problems/excursion) | inversion index; requires O(n log n) merge sort | 387 | | 4.3 |
| exofficio | [Kattis - exofficio](https://open.kattis.com/problems/exofficio) | we can use BFS spanning tree from center of the grid; be careful of corner cases | 41 | | 7.5 |
| expandingrods | [Kattis - expandingrods](https://open.kattis.com/problems/expandingrods) | bisection method; also available at UVa 10668 - Expanding Rods | 36 | | 5.3 |
| factovisors | [Kattis - factovisors](https://open.kattis.com/problems/factovisors) | factorize m; see if it has support in n!; Legendre's formula; also available at UVa 10139 - Factovisors | 373 | | 6.4 |
| factstone | [Kattis - factstone](https://open.kattis.com/problems/factstone) | use logarithm; power; also available at UVa 10916 - Factstone Benchmark | 200 | | 3.6 |
| fairdivision | [Kattis - fairdivision](https://open.kattis.com/problems/fairdivision) | greedy; sorting | 74 | | 4.4 |
| faktor | [Kattis - faktor](https://open.kattis.com/problems/faktor) | just print (I-1)\*A+1 | 8022 | | 1.2 |
| falling | [Kattis - falling](https://open.kattis.com/problems/falling) | rework the formula; complete search up to sqrt(D) | 588 | | 3.1 |
| fallingapart | [Kattis - fallingapart](https://open.kattis.com/problems/fallingapart) | greedy; sorting | 1011 | | 1.6 |
| falsesecurity | [Kattis - falsesecurity](https://open.kattis.com/problems/falsesecurity) | a bit tedious decoder problem | 948 | | 1.6 |
| fantasydraft | [Kattis - fantasydraft](https://open.kattis.com/problems/fantasydraft) | use map to keep ordering; simulate; need to erase | 111 | | 4.0 |
| farey | [Kattis - farey](https://open.kattis.com/problems/farey) | pre-calculate EulerPhi(N); do prefix sum (1D RSQ) of EulerPhi(N) from 1 to each N; the answer is related to this value | 257 | | 3.6 |
| fastfood | [Kattis - fastfood](https://open.kattis.com/problems/fastfood) | eventually just one pass due to the constraints | 330 | | 2.2 |
| faultyrobot | [Kattis - faultyrobot](https://open.kattis.com/problems/faultyrobot) | interesting graph traversal variant | 182 | | 4.5 |
| favourable | [Kattis - favourable](https://open.kattis.com/problems/favourable) | s: (cur\_page); t: jump to one of the 3 sections | 304 | | 4.5 |
| fbiuniversal | [Kattis - fbiuniversal](https://open.kattis.com/problems/fbiuniversal) | a bit of base number conversion; base 27 to base 10, if valid | 369 | | 2.2 |
| fencebowling | [Kattis - fencebowling](https://open.kattis.com/problems/fencebowling) | BSTA (the angle Beta) + trigonometry formulas | 64 | | 2.7 |
| fenwick | [Kattis - fenwick](https://open.kattis.com/problems/fenwick) | basic Fenwick Tree; use long long | 695 | | 4.5 |
| ferryloading3 | [Kattis - ferryloading3](https://open.kattis.com/problems/ferryloading3) | simulation with queue; also available at UVa 10901 - Ferry Loading III | 368 | | 3.6 |
| ferryloading4 | [Kattis - ferryloading4](https://open.kattis.com/problems/ferryloading4) | simulation with queue; also available at UVa 11034 - Ferry Loading IV | 703 | | 3.6 |
| fiat | [Kattis - fiat](https://open.kattis.com/problems/fiat) | N-th Catalan Number; use Fermat's little theorem | 75 | | 6.7 |
| fibtour | [Kattis - fibtour](https://open.kattis.com/problems/fibtour) | only ~90 Fibonacci numbers not more than 10^18; LONGEST-PATH on DAG problem; special case for first two Fibonacci numbers 1 &rarrow; 1 | 105 | | 6.4 |
| fiftyshades | [Kattis - fiftyshades](https://open.kattis.com/problems/fiftyshades) | convert input to lower case; search occurrences of word 'pink' or 'rose' | 310 | | 1.4 |
| filip | [Kattis - filip](https://open.kattis.com/problems/filip) | create a 'reverse string' function; then if-else check | 6345 | | 1.3 |
| financialplanning | [Kattis - financialplanning](https://open.kattis.com/problems/financialplanning) | BSTA + observation | 108 | | 3.5 |
| findinglines | [Kattis - findinglines](https://open.kattis.com/problems/findinglines) | randomly pick two points; there is a good chance that 20% or more points are on that line defined by those two points | 209 | | 6.3 |
| findpoly | [Kattis - findpoly](https://open.kattis.com/problems/findpoly) | worded like a geometry problem; but actually just a simple graph DS+traversal problem | 58 | | 3.4 |
| fire2 | [Kattis - fire2](https://open.kattis.com/problems/fire2) | very similar to UVa 11624 | 395 | | 4.2 |
| fire3 | [Kattis - fire3](https://open.kattis.com/problems/fire3) | multi-sources BFS; also available at UVa 11624 - Fire! | 289 | | 5.4 |
| firefly | [Kattis - firefly](https://open.kattis.com/problems/firefly) | sort stalactites vs stalagmites separately; brute force height; binary search the obstacles hit | 323 | | 4.0 |
| firestation | [Kattis - firestation](https://open.kattis.com/problems/firestation) | Dijkstra's from fire stations to all intersections; need pruning to pass the time limit; also available at UVa 10278 - Fire Station | 67 | | 6.5 |
| firetrucksarered | [Kattis - firetrucksarered](https://open.kattis.com/problems/firetrucksarered) | output any spanning tree that connects n people | 162 | | 3.4 |
| fishmongers | [Kattis - fishmongers](https://open.kattis.com/problems/fishmongers) | sort; greedy bipartite matching | 160 | | 3.6 |
| fizzbuzz | [Kattis - fizzbuzz](https://open.kattis.com/problems/fizzbuzz) | actually just about easy divisibility properties | 10274 | | 1.3 |
| flagquiz | [Kattis - flagquiz](https://open.kattis.com/problems/flagquiz) | array of array of strings; be careful; duplicates may exists | 167 | | 3.7 |
| fleaonachessboard | [Kattis - fleaonachessboard](https://open.kattis.com/problems/fleaonachessboard) | just simulate the jumps; also available at UVa 10620 - A Flea on a Chessboard | 77 | | 5.7 |
| flexible | [Kattis - flexible](https://open.kattis.com/problems/flexible) | try all possible answers | 2354 | | 1.7 |
| flight | [Kattis - flight](https://open.kattis.com/problems/flight) | cut the worst edge along the tree diameter; link two centers; also available at UVa 11695 - Flight Planning | 46 | | 6.3 |
| flipfive | [Kattis - flipfive](https://open.kattis.com/problems/flipfive) | s: (bitmask); only 2^9 = 512 grid configurations; BFS | 621 | | 2.7 |
| flippingcards | [Kattis - flippingcards](https://open.kattis.com/problems/flippingcards) | left set: n card numbers; right set: 2\*n picture numbers; possible if MCBM = n; need fast algorithm | 169 | | 7.0 |
| flippingpatties | [Kattis - flippingpatties](https://open.kattis.com/problems/flippingpatties) | use 1D int array of size 43 201; at each time t, we need one cook (hand) at time t-2d (to start), t-d (to flip), and t (to serve); divide by two; find max | 116 | | 2.4 |
| floodingfields | [Kattis - floodingfields](https://open.kattis.com/problems/floodingfields) | similar with UVa 11380; must be very careful | 48 | | 5.5 |
| floodit | [Kattis - floodit](https://open.kattis.com/problems/floodit) | multiple calls of flood fill tests | 74 | | 2.9 |
| flowergarden | [Kattis - flowergarden](https://open.kattis.com/problems/flowergarden) | Euclidean dist; small prime check; use isProbablePrime; simulation; faster solutions exist | 317 | | 4.4 |
| flowers | [Kattis - flowers](https://open.kattis.com/problems/flowers) | the key part of this problem is integration | 63 | | 4.4 |
| flowerytrails | [Kattis - flowerytrails](https://open.kattis.com/problems/flowerytrails) | Dijkstra's; record predecessor graph as there can be multiple shortest paths; also available at UVa 12878 - Flowery Trails | 305 | | 3.9 |
| flowfree | [Kattis - flowfree](https://open.kattis.com/problems/flowfree) | brute force combination 3^10 or 4^8; then LONGEST-PATH problem on non DAG between two end points of the same color | 109 | | 4.4 |
| flowlayout | [Kattis - flowlayout](https://open.kattis.com/problems/flowlayout) | simulate the process; output the final answers | 965 | | 2.0 |
| flowshop | [Kattis - flowshop](https://open.kattis.com/problems/flowshop) | interesting 2D array manipulation | 392 | | 2.5 |
| flyingsafely | [Kattis - flyingsafely](https://open.kattis.com/problems/flyingsafely) | trivial solution exists | 1421 | | 1.7 |
| foldedmap | [Kattis - foldedmap](https://open.kattis.com/problems/foldedmap) | 2D range sum; brute force the position of starting tile | 43 | | 4.9 |
| font | [Kattis - font](https://open.kattis.com/problems/font) | count number of possible SET-COVERs; use 2^N backtracking; but use bitmask to represent small set of covered letters | 199 | | 4.2 |
| foolingaround | [Kattis - foolingaround](https://open.kattis.com/problems/foolingaround) | there are only 379 different values of N where Bob wins; pre-calculateable | 117 | | 5.8 |
| foosball | [Kattis - foosball](https://open.kattis.com/problems/foosball) | queue simulation; tedious | 186 | | 3.7 |
| forestforthetrees | [Kattis - forestforthetrees](https://open.kattis.com/problems/forestforthetrees) | gcd; BSTA+geometry in-rectangle tests | 141 | | 4.1 |
| forests | [Kattis - forests](https://open.kattis.com/problems/forests) | merge two disjoint sets if they are consistent; also available at UVa 10227 - Forests | 127 | | 3.0 |
| fractalarea | [Kattis - fractalarea](https://open.kattis.com/problems/fractalarea) | area of progressively smaller circles | 224 | | 3.1 |
| fraction | [Kattis - fraction](https://open.kattis.com/problems/fraction) | continued fraction to normal fraction and vice versa | 154 | | 3.8 |
| fractionallotion | [Kattis - fractionallotion](https://open.kattis.com/problems/fractionallotion) | brute force x > n; compute y; stop when y < x | 349 | | 2.9 |
| freckles | [Kattis - freckles](https://open.kattis.com/problems/freckles) | straightforward MST problem; also available at UVa 10034 - Freckles | 412 | | 4.6 |
| freefood | [Kattis - freefood](https://open.kattis.com/problems/freefood) | only 365 days in a year | 1965 | | 1.5 |
| freeweights | [Kattis - freeweights](https://open.kattis.com/problems/freeweights) | BSTA + simulation; Mathematical observation | 356 | | 4.5 |
| friday | [Kattis - friday](https://open.kattis.com/problems/friday) | the answer depends on the start day of the month | 1059 | | 1.9 |
| fridge | [Kattis - fridge](https://open.kattis.com/problems/fridge) | greedy; sorting | 429 | | 3.1 |
| froggie | [Kattis - froggie](https://open.kattis.com/problems/froggie) | just a simulation; but many corner cases; S can be 0 | 296 | | 6.8 |
| froshweek | [Kattis - froshweek](https://open.kattis.com/problems/froshweek) | requires O(n log n) merge sort; 64-bit integer; also available at UVa 11858 - Frosh Week | 694 | | 5.6 |
| froshweek2 | [Kattis - froshweek2](https://open.kattis.com/problems/froshweek2) | greedy; sort first; similar to Dragon of Loowater; greedy matching | 489 | | 2.3 |
| frozenrose | [Kattis - frozenrose](https://open.kattis.com/problems/frozenrose) | tree traversal; is it better to close the valve that goes in to a vertex u or close subset of valve(s) in subtree of u | 56 | | 3.5 |
| fruitbaskets | [Kattis - fruitbaskets](https://open.kattis.com/problems/fruitbaskets) | interesting backtracking problem; compute the small numbers < 200; output all minus this value computed via backtracking | 493 | | 4.1 |
| fulltank | [Kattis - fulltank](https://open.kattis.com/problems/fulltank) | model the graph carefully; state: (location, fuel), source s = (s, 0), sink t = (e, any), only enqueue fuel+1; also available at UVa 11367 - Full Tank? | 192 | | 4.8 |
| functionalfun | [Kattis - functionalfun](https://open.kattis.com/problems/functionalfun) | just follow the description; 5 cases; tedious parsing problem; requires a kind of mapper | 487 | | 1.9 |
| fundamentalneighbors | [Kattis - fundamentalneighbo...](https://open.kattis.com/problems/fundamentalneighbors) | reverse prime power notation | 237 | | 4.5 |
| funhouse | [Kattis - funhouse](https://open.kattis.com/problems/funhouse) | 2D array manipulation; note the direction update | 700 | | 2.0 |
| gamenight | [Kattis - gamenight](https://open.kattis.com/problems/gamenight) | Counting Sort is a subproblem; count frequency of A/B/Cs; complete search AA..ABB..BCC..C or AA..ACC..CBB..B | 70 | | 2.8 |
| gamerank | [Kattis - gamerank](https://open.kattis.com/problems/gamerank) | simulate the ranking update process | 732 | | 3.9 |
| gcds | [Kattis - gcds](https://open.kattis.com/problems/gcds) | complete search; use set for speedup | 205 | | 4.9 |
| gcpc | [Kattis - gcpc](https://open.kattis.com/problems/gcpc) | dynamic rank problem; pb\_ds helps | 876 | | 5.3 |
| gearchanging | [Kattis - gearchanging](https://open.kattis.com/problems/gearchanging) | generate all O(N\*M) possible gear ratios; sort; check consecutive ratios (it is ok to have duplicates) | 161 | | 3.2 |
| gears2 | [Kattis - gears2](https://open.kattis.com/problems/gears2) | graph reachability test; cycle with equal ratio is actually OK; math fraction | 95 | | 3.7 |
| genealogical | [Kattis - genealogical](https://open.kattis.com/problems/genealogical) | iterative parser; need to be careful when trimming the tokens; do not print new line as the last line; otherwise this is just a tree traversal problem | 77 | | 3.5 |
| generalchineseremainder | [Kattis - generalchineserema...](https://open.kattis.com/problems/generalchineseremainder) | general CRT; 2 linear congruences | 362 | | 3.7 |
| geneticsearch | [Kattis - geneticsearch](https://open.kattis.com/problems/geneticsearch) | multiple string matchings | 346 | | 2.1 |
| genius | [Kattis - genius](https://open.kattis.com/problems/genius) | generate X sequentially as asked; compute probability of X winning; bottom-up DP; sum the probability of having at least K correct guesses | 51 | | 2.8 |
| george | [Kattis - george](https://open.kattis.com/problems/george) | not easy, rating deceptive: Dijkstra's but with a few constraints; some roads are blocked at certain timings; similar with Kattis - shortestpath2 | 205 | | 2.0 |
| geppetto | [Kattis - geppetto](https://open.kattis.com/problems/geppetto) | try all 2^N subsets of ingredients | 305 | | 3.3 |
| gerrymandering | [Kattis - gerrymandering](https://open.kattis.com/problems/gerrymandering) | just a reading comprehension problem; do as asked | 1187 | | 1.4 |
| getshorty | [Kattis - getshorty](https://open.kattis.com/problems/getshorty) | log(f) when f in [0..1] is negative; log(f1 \* f2 \* ... \* fn) = log(f1) + log(f2) + ... + log(fn); longest path; use max Dijkstra's | 1572 | | 3.4 |
| gettingthrough | [Kattis - gettingthrough](https://open.kattis.com/problems/gettingthrough) | BSTA+graph connectivity; Union-Find; similar to UVa 00295 | 51 | | 7.2 |
| gettowork | [Kattis - gettowork](https://open.kattis.com/problems/gettowork) | greedy; sorting | 255 | | 2.2 |
| glitchbot | [Kattis - glitchbot](https://open.kattis.com/problems/glitchbot) | time waster; O(n^2) simulation; do not output more than one possible answer | 1036 | | 2.0 |
| globalwarming | [Kattis - globalwarming](https://open.kattis.com/problems/globalwarming) | the biggest clique has at most 22 vertices; matching in (small) general graph (component) | 100 | | 6.1 |
| glyphrecognition | [Kattis - glyphrecognition](https://open.kattis.com/problems/glyphrecognition) | brute force k, BSTA inner and outer radius of k-gon; point in polygon tests | 202 | | 2.7 |
| gnollhypothesis | [Kattis - gnollhypothesis](https://open.kattis.com/problems/gnollhypothesis) | linearity of expectation; try all possible d consecutive non-chosen monsters behind monster i (wrap around); nCk | 135 | | 3.3 |
| goatrope | [Kattis - goatrope](https://open.kattis.com/problems/goatrope) | distance of point to line segments of a rectangle; we can use case analysis (only 8 possibilities) | 854 | | 1.6 |
| goblingardenguards | [Kattis - goblingardenguards](https://open.kattis.com/problems/goblingardenguards) | 3 nested loops; use 2D Boolean array to avoid over counting | 345 | | 6.1 |
| goingtoseed | [Kattis - goingtoseed](https://open.kattis.com/problems/goingtoseed) | divide to search into four regions; extension of binary/ternary search concept | 37 | | 3.2 |
| gold | [Kattis - gold](https://open.kattis.com/problems/gold) | flood fill with extra blocking constraint; also available at UVa 11561 - Getting Gold | 735 | | 2.2 |
| goldbach2 | [Kattis - goldbach2](https://open.kattis.com/problems/goldbach2) | simple brute force problem; use isProbablePrime; faster solutions exist | 1219 | | 2.7 |
| golombrulers | [Kattis - golombrulers](https://open.kattis.com/problems/golombrulers) | 2D nested loops; additional 1D loops for checking | 297 | | 3.2 |
| goodcoalition | [Kattis - goodcoalition](https://open.kattis.com/problems/goodcoalition) | DP probability; like KNAPSACK | 276 | | 3.4 |
| goodmorning | [Kattis - goodmorning](https://open.kattis.com/problems/goodmorning) | we can use backtracking to generate all possible (small) numbers that can be pressed according to the constraints | 347 | | 2.7 |
| gopher2 | [Kattis - gopher2](https://open.kattis.com/problems/gopher2) | MCBM; also available at UVa 10080 - Gopher II | 337 | | 4.3 |
| grandopening | [Kattis - grandopening](https://open.kattis.com/problems/grandopening) | false alarm case is trivial; model the movement as a directed graph; check if Eulerian path exists | 89 | | 5.9 |
| grandpabernie | [Kattis - grandpabernie](https://open.kattis.com/problems/grandpabernie) | use unordered\_map plus (sorted) vector | 1065 | | 3.2 |
| granica | [Kattis - granica](https://open.kattis.com/problems/granica) | CRT; GCD of all N differences of 2 numbers | 95 | | 6.2 |
| grapevine | [Kattis - grapevine](https://open.kattis.com/problems/grapevine) | BFS variant; like Kahn's algorithm, only propagate from a person once his/her skepticism level is cleared; be careful with 'day' (BFS layer) | 84 | | 6.4 |
| grass | [Kattis - grass](https://open.kattis.com/problems/grass) | interval covering; also available at UVa 10382 - Watering Grass | 330 | | 5.3 |
| grasshopper | [Kattis - grasshopper](https://open.kattis.com/problems/grasshopper) | BFS on implicit Knight jump graph | 136 | | 4.0 |
| grassseed | [Kattis - grassseed](https://open.kattis.com/problems/grassseed) | one pass; area of rectangle | 4980 | | 1.3 |
| gravamen | [Kattis - gravamen](https://open.kattis.com/problems/gravamen) | BSTA + max flow | 45 | | 6.1 |
| greatswercporto | [Kattis - greatswercporto](https://open.kattis.com/problems/greatswercporto) | use backtracking with pruning; testing up to 10! possible permutations possibly TLE | 120 | | 4.1 |
| greedilyincreasing | [Kattis - greedilyincreasing](https://open.kattis.com/problems/greedilyincreasing) | just 1D array manipulation; this is not the DP-LIS problem | 1151 | | 1.9 |
| greedypolygons | [Kattis - greedypolygons](https://open.kattis.com/problems/greedypolygons) | the answer is the area of n smaller isosceles triangles + one full circle + a few rectangles | 302 | | 1.5 |
| greetingcard | [Kattis - greetingcard](https://open.kattis.com/problems/greetingcard) | use unordered\_set; good question; major hint: only 12 neighbors | 607 | | 4.9 |
| grid | [Kattis - grid](https://open.kattis.com/problems/grid) | modified BFS with step size multiplier | 1026 | | 2.8 |
| gridgame | [Kattis - gridgame](https://open.kattis.com/problems/gridgame) | BSTA + MCBM | 199 | | 5.0 |
| gridmst | [Kattis - gridmst](https://open.kattis.com/problems/gridmst) | Singapore15 preliminary; rectilinear MST problem; small 2D grid; multi-sources BFS to construct short edges; Kruskal's to get the final answer | 245 | | 7.4 |
| grille | [Kattis - grille](https://open.kattis.com/problems/grille) | involving 2D array with rotation | 361 | | 3.8 |
| growlinggears | [Kattis - growlinggears](https://open.kattis.com/problems/growlinggears) | physics of parabola; derivation; try all gears | 496 | | 2.4 |
| gruesomecave | [Kattis - gruesomecave](https://open.kattis.com/problems/gruesomecave) | need to understand the meaning of 'risk' of an empty cell; SSSP from E to D using least risky path; Dijkstra's | 87 | | 3.6 |
| guardianofdecency | [Kattis - guardianofdecency](https://open.kattis.com/problems/guardianofdecency) | LA 3415 - NorthwesternEurope05; MIS; also available at UVa 12083 - Guardian of Decency | 45 | | 6.3 |
| guess | [Kattis - guess](https://open.kattis.com/problems/guess) | interactive problem; binary search | 1682 | | 2.7 |
| guessinggame | [Kattis - guessinggame](https://open.kattis.com/problems/guessinggame) | use a 1D flag array; also available at UVa 10530 - Guessing Game | 684 | | 2.7 |
| guessthedatastructure | [Kattis - guessthedatastruct...](https://open.kattis.com/problems/guessthedatastructure) | stack, queue, and priority\_queue; also available at UVa 11995 - I Can Guess ... | 2148 | | 2.5 |
| guessthenumbers | [Kattis - guessthenumbers](https://open.kattis.com/problems/guessthenumbers) | brute force permute up to 5!; recursive string parsing (simple BNF); also available at UVa 12392 - Guess the Numbers | 56 | | 8.6 |
| haiku | [Kattis - haiku](https://open.kattis.com/problems/haiku) | s: (pos, target); t: try all syllables | 77 | | 5.3 |
| hailstone | [Kattis - hailstone](https://open.kattis.com/problems/hailstone) | similar to Kattis - collatz; just do as asked; no need to write recursive solution | 224 | | 3.2 |
| halfacookie | [Kattis - halfacookie](https://open.kattis.com/problems/halfacookie) | simple point rotation (without rotation matrix); circle; chord; segment | 626 | | 1.7 |
| hangingout | [Kattis - hangingout](https://open.kattis.com/problems/hangingout) | simple loop | 2218 | | 1.3 |
| hangman | [Kattis - hangman](https://open.kattis.com/problems/hangman) | find specific character in the given string and replace all occurrences; repeat | 795 | | 1.6 |
| happyprime | [Kattis - happyprime](https://open.kattis.com/problems/happyprime) | simple cycle-finding; TLE otherwise; small prime check | 1151 | | 2.5 |
| harddrive | [Kattis - harddrive](https://open.kattis.com/problems/harddrive) | greedy construction; set first bit to 1 if c is odd; then repeat '010' to maximize flips | 341 | | 3.1 |
| hardware | [Kattis - hardware](https://open.kattis.com/problems/hardware) | parsing is tedious; count the frequency of digits | 244 | | 2.0 |
| hardwoodspecies | [Kattis - hardwoodspecies](https://open.kattis.com/problems/hardwoodspecies) | use map; sorted output; also available at UVa 10226 - Hardwood Species | 378 | | 2.7 |
| harshadnumbers | [Kattis - harshadnumbers](https://open.kattis.com/problems/harshadnumbers) | sum of digits; brute force | 1715 | | 1.4 |
| hauntedgraveyard | [Kattis - hauntedgraveyard](https://open.kattis.com/problems/hauntedgraveyard) | Bellman-Ford; negative cycle check needed | 64 | | 8.4 |
| haypoints | [Kattis - haypoints](https://open.kattis.com/problems/haypoints) | use unordered\_map to deal with Hay Points dictionary; also available at UVa 10295 - Hay Points | 1055 | | 2.0 |
| heartrate | [Kattis - heartrate](https://open.kattis.com/problems/heartrate) | real life problem | 3205 | | 1.3 |
| height | [Kattis - height](https://open.kattis.com/problems/height) | insertion sort simulation | 899 | | 2.0 |
| heirsdilemma | [Kattis - heirsdilemma](https://open.kattis.com/problems/heirsdilemma) | try all possible answers; small range; avoid division by zero (this digit is not used) | 821 | | 1.6 |
| heliocentric | [Kattis - heliocentric](https://open.kattis.com/problems/heliocentric) | CRT or brute force | 1030 | | 1.8 |
| hello | [Kattis - hello](https://open.kattis.com/problems/hello) | just print "Hello World!" | 39217 | | 1.2 |
| help2 | [Kattis - help2](https://open.kattis.com/problems/help2) | match placeholder in one pattern with word in the other pattern; two similar placeholders in different patterns are considered 'different' | 170 | | 6.6 |
| helpaphd | [Kattis - helpaphd](https://open.kattis.com/problems/helpaphd) | 2 cases | 2044 | | 1.6 |
| helpfulcurrents | [Kattis - helpfulcurrents](https://open.kattis.com/problems/helpfulcurrents) | problem description ensures a DAG; counting path modulo 1000003; output "begin repairs" if Lysias's castle is unreachable | 51 | | 5.3 |
| helpme | [Kattis - helpme](https://open.kattis.com/problems/helpme) | convert the given chess board into chess notation | 302 | | 2.4 |
| heritage | [Kattis - heritage](https://open.kattis.com/problems/heritage) | s: (cur\_pos); t: try all N words in dictionary; final answer modulo prime | 348 | | 5.2 |
| herman | [Kattis - herman](https://open.kattis.com/problems/herman) | simple; area of circle; normal vs Manhattan/taxicab | 2124 | | 1.5 |
| hidden | [Kattis - hidden](https://open.kattis.com/problems/hidden) | just a careful 1D array manipulation; we can also use regex | 1100 | | 2.3 |
| hiddenwords | [Kattis - hiddenwords](https://open.kattis.com/problems/hiddenwords) | 2D grid; backtracking, a bit of memoization | 72 | | 6.8 |
| hidingchickens | [Kattis - hidingchickens](https://open.kattis.com/problems/hidingchickens) | weighted MCM; small complete weighted graph; make fox goes back to the killing spot first after hiding one or two chickens | 89 | | 5.7 |
| hidingplaces | [Kattis - hidingplaces](https://open.kattis.com/problems/hidingplaces) | SSSP from (r, c); find cells with max distance; print | 607 | | 1.9 |
| hillnumbers | [Kattis - hillnumbers](https://open.kattis.com/problems/hillnumbers) | digit DP; s: (prev\_digit, pos, is\_rising, is\_lower); try digit by digit | 84 | | 6.7 |
| hindex | [Kattis - hindex](https://open.kattis.com/problems/hindex) | BSTA + another binary search | 460 | | 3.3 |
| hissingmicrophone | [Kattis - hissingmicrophone](https://open.kattis.com/problems/hissingmicrophone) | simple loop | 7690 | | 1.3 |
| hittingtargets | [Kattis - hittingtargets](https://open.kattis.com/problems/hittingtargets) | simple inside rectangle and circle tests | 1026 | | 1.7 |
| hnumbers | [Kattis - hnumbers](https://open.kattis.com/problems/hnumbers) | need 1D Range Sum Query; also available at UVa 11105 - Semi-prime H-numbers | 75 | | 5.3 |
| holeynqueensbatman | [Kattis - holeynqueensbatman](https://open.kattis.com/problems/holeynqueensbatman) | similar with UVa 11195 | 527 | | 2.2 |
| honey | [Kattis - honey](https://open.kattis.com/problems/honey) | OEIS A002898 | 415 | | 2.4 |
| honeyheist | [Kattis - honeyheist](https://open.kattis.com/problems/honeyheist) | transform the hexagonal grid input into 2D grid first; then run SSSP on unweighted graph; BFS | 135 | | 3.8 |
| hoppers | [Kattis - hoppers](https://open.kattis.com/problems/hoppers) | the answer is number of CC-1 if there is at least one bipartite component in the graph; or number of CC otherwise | 234 | | 3.9 |
| hopscotch50 | [Kattis - hopscotch50](https://open.kattis.com/problems/hopscotch50) | MSSP from all 1s; implicit weighted graph; stop at first cell with value k | 200 | | 2.3 |
| horror | [Kattis - horror](https://open.kattis.com/problems/horror) | SSSP from all sources = horror movies; report lowest ID with the highest unweighted SSSP distance | 500 | | 3.3 |
| horrorfilmnight | [Kattis - horrorfilmnight](https://open.kattis.com/problems/horrorfilmnight) | greedy | 207 | | 3.4 |
| hothike | [Kattis - hothike](https://open.kattis.com/problems/hothike) | one pass; using array helps a bit | 835 | | 1.7 |
| houselawn | [Kattis - houselawn](https://open.kattis.com/problems/houselawn) | just do ask asked; use long long | 313 | | 3.4 |
| houseofcards | [Kattis - houseofcards](https://open.kattis.com/problems/houseofcards) | number of cards for certain height h is h \* (3\*h + 1) / 2; use Python to handle Big Integer | 432 | | 3.4 |
| howl | [Kattis - howl](https://open.kattis.com/problems/howl) | simply extend the input by one correct character; case analysis exercise | 288 | | 1.8 |
| howmanydigits | [Kattis - howmanydigits](https://open.kattis.com/problems/howmanydigits) | good problem; number of digits in factorial; similar as Kattis - inversefactorial | 1071 | | 3.7 |
| htoo | [Kattis - htoo](https://open.kattis.com/problems/htoo) | BSTA + simulation; use DAT | 200 | | 2.4 |
| humancannonball | [Kattis - humancannonball](https://open.kattis.com/problems/humancannonball) | build the travel time graph with Euclidean distance computations; use Floyd-Warshall | 757 | | 2.2 |
| humancannonball2 | [Kattis - humancannonball2](https://open.kattis.com/problems/humancannonball2) | trigonometry; simple Physics | 2399 | | 1.4 |
| hurricanedanger | [Kattis - hurricanedanger](https://open.kattis.com/problems/hurricanedanger) | distance from point to line (not vector); be careful of precision error; work with integers | 114 | | 5.9 |
| hydrasheads | [Kattis - hydrasheads](https://open.kattis.com/problems/hydrasheads) | s: (cur\_H, cur\_T); BFS; but easier solution exists | 551 | | 1.7 |
| hypercube | [Kattis - hypercube](https://open.kattis.com/problems/hypercube) | given a gray code; we can binary search its index: upper half/first digit 0 and bottom half/first digit 1 | 376 | | 3.0 |
| iboard | [Kattis - iboard](https://open.kattis.com/problems/iboard) | simulation; LSB to MSB; all ASCII values are 7-bits; we may need to add leading zeroes | 363 | | 2.3 |
| icpcawards | [Kattis - icpcawards](https://open.kattis.com/problems/icpcawards) | use unordered\_set; print first 12 distinct Universities (and their first teams) | 2167 | | 1.4 |
| icpcteamselection | [Kattis - icpcteamselection](https://open.kattis.com/problems/icpcteamselection) | greedy; sorting | 586 | | 3.0 |
| iforaneye | [Kattis - iforaneye](https://open.kattis.com/problems/iforaneye) | use unordered\_map to map the various rules mentioned in the problem description; tedious | 143 | | 5.0 |
| ignore | [Kattis - ignore](https://open.kattis.com/problems/ignore) | actually a base 7 conversion problem as only 7 digits are meaningful when rotated | 268 | | 3.2 |
| iks | [Kattis - iks](https://open.kattis.com/problems/iks) | sieve of Eratosthenes; prime factorize each number; spread the factors around to maximize final GCD/minimize total operations | 115 | | 3.0 |
| illiteracy | [Kattis - illiteracy](https://open.kattis.com/problems/illiteracy) | s: (string); 6 different transition rules; BFS | 126 | | 2.9 |
| imagedecoding | [Kattis - imagedecoding](https://open.kattis.com/problems/imagedecoding) | simple Run-Length Encoding | 321 | | 3.4 |
| imageprocessing | [Kattis - imageprocessing](https://open.kattis.com/problems/imageprocessing) | interesting 2D array manipulation | 344 | | 2.1 |
| imperfectgps | [Kattis - imperfectgps](https://open.kattis.com/problems/imperfectgps) | Euclidean dist; simulation | 487 | | 4.2 |
| importspaghetti | [Kattis - importspaghetti](https://open.kattis.com/problems/importspaghetti) | smallest cycle; print path by breaking the self-loop into i - other vertex j - i | 292 | | 5.1 |
| includescoring | [Kattis - includescoring](https://open.kattis.com/problems/includescoring) | sort; custom comparison function, tedious | 342 | | 3.7 |
| incognito | [Kattis - incognito](https://open.kattis.com/problems/incognito) | count frequencies; combinatorics; minus one | 791 | | 2.7 |
| increasingsubsequence | [Kattis - increasingsubseque...](https://open.kattis.com/problems/increasingsubsequence) | LIS; n ≤ 200$; print lexicographically smallest solution, 99% similar to 'longincsubseq' | 352 | | 4.1 |
| industrialspy | [Kattis - industrialspy](https://open.kattis.com/problems/industrialspy) | brute force recursive bitmask with prime check; also available at UVa 12218 - An Industrial Spy | 556 | | 3.3 |
| infiniteslides | [Kattis - infiniteslides](https://open.kattis.com/problems/infiniteslides) | 3D Euclidian distance (parameterized by time t); ternary search best t that minimizes 3D distance | 63 | | 3.1 |
| inflagrantedelicto | [Kattis - inflagrantedelicto](https://open.kattis.com/problems/inflagrantedelicto) | k\_p is always 2 (read the problem description); k\_r is the LCS of the two permutations plus one; O(n log k) solution | 55 | | 6.0 |
| inflation | [Kattis - inflation](https://open.kattis.com/problems/inflation) | sort; greedy matching | 711 | | 1.8 |
| ingestion | [Kattis - ingestion](https://open.kattis.com/problems/ingestion) | s: (hour, consecutive\_eating, has\_refrain); t: eat at this hour, refrain eating for one or two hours; floating point | 260 | | 5.7 |
| insert | [Kattis - insert](https://open.kattis.com/problems/insert) | simulation of BST insertion; then C(l+r, r) for each vertex where l/r are the sizes of the left/right subtree of that vertex, respectively; Big Integer | 259 | | 2.0 |
| installingapps | [Kattis - installingapps](https://open.kattis.com/problems/installingapps) | sort the apps greedily by si-di (need observation); DP KNAPSACK; print solution | 160 | | 6.9 |
| integerdivision | [Kattis - integerdivision](https://open.kattis.com/problems/integerdivision) | count frequencies of each remainder of [0..d-1]; add C(freq, 2) per such remainder | 242 | | 3.3 |
| integerlists | [Kattis - integerlists](https://open.kattis.com/problems/integerlists) | use deque for fast deletion from front (normal) & back (reversed list); use stack to reverse the final list if it is reversed at the end | 882 | | 4.8 |
| intercept | [Kattis - intercept](https://open.kattis.com/problems/intercept) | Articulation Points in SSSP Spanning DAG; clever modification of Dijkstra's | 112 | | 6.6 |
| interpreter | [Kattis - interpreter](https://open.kattis.com/problems/interpreter) | need careful implementation; just follow the instruction | 224 | | 3.7 |
| intervalcover | [Kattis - intervalcover](https://open.kattis.com/problems/intervalcover) | classic interval covering; be very careful with floating point errors | 268 | | 5.6 |
| invasion | [Kattis - invasion](https://open.kattis.com/problems/invasion) | SSSP with multiple and successive sources; multiple calls of Dijkstra's (gets lighter each time if pruned properly) | 46 | | 4.3 |
| inversefactorial | [Kattis - inversefactorial](https://open.kattis.com/problems/inversefactorial) | good problem; number of digits in factorial | 1059 | | 5.3 |
| inverteddeck | [Kattis - inverteddeck](https://open.kattis.com/problems/inverteddeck) | can we sort the array with just one contiguous swap?; compress duplicates; use sentinel so that we only check /\/ pattern | 203 | | 3.7 |
| irepeatmyself | [Kattis - irepeatmyself](https://open.kattis.com/problems/irepeatmyself) | string period; complete search | 380 | | 2.4 |
| isahasa | [Kattis - isahasa](https://open.kattis.com/problems/isahasa) | map strings to integers; the real n is ≤ 500; Warshall's transitive closure algorithm 2x; first on 'is' relationships, then on 'has' relationships | 171 | | 7.2 |
| isithalloween | [Kattis - isithalloween](https://open.kattis.com/problems/isithalloween) | if-else; 2 cases | 3761 | | 1.3 |
| island | [Kattis - island](https://open.kattis.com/problems/island) | super tedious flood fill; involving one directional flood fill involving bridges 'B's; bridges may connect islands in cyclic fashion | 113 | | 6.2 |
| islandhopping | [Kattis - islandhopping](https://open.kattis.com/problems/islandhopping) | MST on small complete graph | 440 | | 3.0 |
| islands | [Kattis - islands](https://open.kattis.com/problems/islands) | try all possible subsets; prune the non-contiguous ones (only 55 valid bitmasks between [0..1023]); check the 'island' property | 443 | | 2.6 |
| islands3 | [Kattis - islands3](https://open.kattis.com/problems/islands3) | optimistic flood fill; assume all Cs are Ls | 936 | | 2.1 |
| itcanbearranged | [Kattis - itcanbearranged](https://open.kattis.com/problems/itcanbearranged) | MIN-PATH-COVER; on DAG; weighted; Max Flow | 50 | | 5.1 |
| itsasecret | [Kattis - itsasecret](https://open.kattis.com/problems/itsasecret) | playfair cipher; 2D array; quite tedious | 81 | | 5.9 |
| ivana | [Kattis - ivana](https://open.kattis.com/problems/ivana) | brute force all possible first move (break cycle into a chain); DP; s: (l, r), maximize difference between two consecutive optimal plays | 55 | | 5.3 |
| iwannabe | [Kattis - iwannabe](https://open.kattis.com/problems/iwannabe) | sort Pokenoms based on each stat; pick top K ids and put in an unordered\_set; report final size of unordered\_set | 739 | | 2.5 |
| jabuke | [Kattis - jabuke](https://open.kattis.com/problems/jabuke) | area of triangle; point in triangle; use easier method to see if area of three sub triangles equals to area of the original triangle | 614 | | 1.9 |
| jabuke2 | [Kattis - jabuke2](https://open.kattis.com/problems/jabuke2) | s: (r, c); multiple call of BFS; but gets shorter each time; use 'no-memset' strategy | 40 | | 6.6 |
| jackpot | [Kattis - jackpot](https://open.kattis.com/problems/jackpot) | similar to Kattis - smallestmultiple; use Java BigInteger or other faster solutions | 379 | | 3.2 |
| jailbreak | [Kattis - jailbreak](https://open.kattis.com/problems/jailbreak) | STEINER-TREE; on grid; 3 terminal vertices: 'outside' and 2 prisoners; BFS; get the best Steiner point that connects them | 130 | | 4.8 |
| janitortroubles | [Kattis - janitortroubles](https://open.kattis.com/problems/janitortroubles) | Brahmagupta's formula | 745 | | 1.5 |
| jewelrybox | [Kattis - jewelrybox](https://open.kattis.com/problems/jewelrybox) | the objective function is unimodal; ternary search | 775 | | 1.6 |
| jobexpenses | [Kattis - jobexpenses](https://open.kattis.com/problems/jobexpenses) | simple loop | 1427 | | 1.4 |
| joggingtrails | [Kattis - joggingtrails](https://open.kattis.com/problems/joggingtrails) | basic Chinese Postman Problem; also available at UVa 10296 - Jogging Trails | 75 | | 5.0 |
| joinstrings | [Kattis - joinstrings](https://open.kattis.com/problems/joinstrings) | all '+' operations must be O(1) | 959 | | 4.1 |
| jointattack | [Kattis - jointattack](https://open.kattis.com/problems/jointattack) | fraction; flip the fraction after each step; gcd | 182 | | 2.6 |
| jollyjumpers | [Kattis - jollyjumpers](https://open.kattis.com/problems/jollyjumpers) | 1D Boolean flags to check [1..n-1]; also available at UVa 10038 - Jolly Jumpers | 413 | | 3.4 |
| joylessgame | [Kattis - joylessgame](https://open.kattis.com/problems/joylessgame) | game theory | 384 | | 4.3 |
| judging | [Kattis - judging](https://open.kattis.com/problems/judging) | sort DOM judge and Kattis outputs; then do the O(n) merge procedure of mergesort to count common outputs | 1183 | | 2.5 |
| judgingmoose | [Kattis - judgingmoose](https://open.kattis.com/problems/judgingmoose) | if-else if-else; 3 cases | 4516 | | 1.4 |
| jugglingpatterns | [Kattis - jugglingpatterns](https://open.kattis.com/problems/jugglingpatterns) | PQ simulation; reading comprehension | 48 | | 6.3 |
| jughard | [Kattis - jughard](https://open.kattis.com/problems/jughard) | somewhat Linear Diophantine Equation | 132 | | 3.3 |
| jumpingyoshi | [Kattis - jumpingyoshi](https://open.kattis.com/problems/jumpingyoshi) | s: (u); there are up to 1m vertices but only 1m edges; build edges on the fly using a kind of 'meet in the middle' technique | 48 | | 4.7 |
| jupiter | [Kattis - jupiter](https://open.kattis.com/problems/jupiter) | good modeling problem; a good exercise for those who wants to master max flow modeling | 150 | | 5.8 |
| jurassicjigsaw | [Kattis - jurassicjigsaw](https://open.kattis.com/problems/jurassicjigsaw) | just a reading comprehension problem; afterwards it is just a basic MST problem | 110 | | 2.2 |
| juryjeopardy | [Kattis - juryjeopardy](https://open.kattis.com/problems/juryjeopardy) | tedious problem | 309 | | 2.3 |
| justaminute | [Kattis - justaminute](https://open.kattis.com/problems/justaminute) | linear pass; total seconds/(total minutes\*60) | 1512 | | 1.7 |
| justforsidekicks | [Kattis - justforsidekicks](https://open.kattis.com/problems/justforsidekicks) | use six Fenwick Trees, one for each gem type | 103 | | 4.9 |
| kafkaesque | [Kattis - kafkaesque](https://open.kattis.com/problems/kafkaesque) | 2D nested loops; simple | 293 | | 1.7 |
| kaleidoscopicpalindromes | [Kattis - kaleidoscopicpalin...](https://open.kattis.com/problems/kaleidoscopicpalindromes) | test all; when you try enlarging k, the answers are actually 'small' | 233 | | 3.2 |
| karte | [Kattis - karte](https://open.kattis.com/problems/karte) | simple | 1600 | | 1.7 |
| kastenlauf | [Kattis - kastenlauf](https://open.kattis.com/problems/kastenlauf) | n ≤ 100; Warshall's transitive closure problem | 713 | | 3.8 |
| kattissquest | [Kattis - kattissquest](https://open.kattis.com/problems/kattissquest) | use map of priority queues; other solutions exist | 834 | | 3.1 |
| keepitcool | [Kattis - keepitcool](https://open.kattis.com/problems/keepitcool) | greedy; sorting | 290 | | 2.4 |
| kemija08 | [Kattis - kemija08](https://open.kattis.com/problems/kemija08) | simple vowel checks | 3070 | | 1.4 |
| keyboard | [Kattis - keyboard](https://open.kattis.com/problems/keyboard) | LA 7155 - WorldFinals Marrakech15; s: (row, col, char\_typed); also available at UVa 01714 - Keyboarding | 258 | | 5.0 |
| keyboardconcert | [Kattis - keyboardconcert](https://open.kattis.com/problems/keyboardconcert) | s: (pos, cur); at tune[pos], playing instrument cur; t: try staying or switch; better solution exists | 100 | | 4.5 |
| keypad | [Kattis - keypad](https://open.kattis.com/problems/keypad) | 2D array manipulation | 200 | | 3.3 |
| keytocrypto | [Kattis - keytocrypto](https://open.kattis.com/problems/keytocrypto) | simple decrypt | 1029 | | 1.7 |
| keywords | [Kattis - keywords](https://open.kattis.com/problems/keywords) | pre-process the strings; put inside unordered\_set; report final size | 349 | | 2.3 |
| kinarow | [Kattis - kinarow](https://open.kattis.com/problems/kinarow) | brute the top left point of each possible x or o row, then straight-line (horizontal, vertical) or two diagonals 2D string matching | 107 | | 4.6 |
| kingpinescape | [Kattis - kingpinescape](https://open.kattis.com/problems/kingpinescape) | DFS from headquarter (may also be a leaf); find all L leaves; add ceil(L/2.0) edges to connect 2 leaves (correctly) to prevent any bridge; make the initial tree biconnected | 54 | | 6.5 |
| kitchen | [Kattis - kitchen](https://open.kattis.com/problems/kitchen) | s: (volume\_of\_the\_n\_cups); t: try all possible pourings; use Dijkstra's | 152 | | 3.5 |
| kitchencombinatorics | [Kattis - kitchencombinatori...](https://open.kattis.com/problems/kitchencombinatorics) | use fast data structures to help; combinatorics; intermediate result may overflow | 198 | | 5.0 |
| kitten | [Kattis - kitten](https://open.kattis.com/problems/kitten) | simple rooted tree traversal; from a vertex back to root | 1278 | | 1.7 |
| kleptography | [Kattis - kleptography](https://open.kattis.com/problems/kleptography) | cipher | 701 | | 1.5 |
| kletva | [Kattis - kletva](https://open.kattis.com/problems/kletva) | heavy 1D array manipulation; 4 symmetries (left-right; top-down); keep the canonical form; output number of unique keys | 45 | | 7.4 |
| knapsack | [Kattis - knapsack](https://open.kattis.com/problems/knapsack) | basic DP KNAPSACK; print the solution | 687 | | 4.8 |
| knightjump | [Kattis - knightjump](https://open.kattis.com/problems/knightjump) | unweighted SSSP from the cell that contains 'K' to (1, 1) using Knight jump movements; avoid '#' cells | 292 | | 2.5 |
| knightsearch | [Kattis - knightsearch](https://open.kattis.com/problems/knightsearch) | 2D grid; backtracking or DP | 425 | | 3.2 |
| knightsfen | [Kattis - knightsfen](https://open.kattis.com/problems/knightsfen) | Depth Limited Search (up to 11 moves); also available at UVa 10422 - Knights in FEN | 312 | | 3.2 |
| knigsoftheforest | [Kattis - knigsoftheforest](https://open.kattis.com/problems/knigsoftheforest) | PQ simulation after sorting the entries by year | 184 | | 3.6 |
| kolone | [Kattis - kolone](https://open.kattis.com/problems/kolone) | simulate the requirement; be careful of corner cases | 316 | | 2.6 |
| kornislav | [Kattis - kornislav](https://open.kattis.com/problems/kornislav) | sort the 4 edges; and think which edges should be taken | 2741 | | 1.4 |
| krizaljka | [Kattis - krizaljka](https://open.kattis.com/problems/krizaljka) | simple 2D character array formatting | 483 | | 1.8 |
| kutevi | [Kattis - kutevi](https://open.kattis.com/problems/kutevi) | s: (360 integer degrees) | 170 | | 2.6 |
| ladder | [Kattis - ladder](https://open.kattis.com/problems/ladder) | simple trigonometry problem | 6141 | | 1.4 |
| ladice | [Kattis - ladice](https://open.kattis.com/problems/ladice) | size of set; decrement one per usage | 615 | | 2.8 |
| landline | [Kattis - landline](https://open.kattis.com/problems/landline) | MST with special leaf vertices; get (M)ST of secure buildings; connect unsecure buildings (new leaf) to (M)ST of secure buildings using the least weight edge | 168 | | 5.7 |
| landlocked | [Kattis - landlocked](https://open.kattis.com/problems/landlocked) | 0/1-weighted SSSP; 0-weight for same country; 1-weight for different country; multi-sources; BFS+deque; 8 directions | 42 | | 4.6 |
| landscaping | [Kattis - landscaping](https://open.kattis.com/problems/landscaping) | min cut; hard to spot the required modeling | 70 | | 6.0 |
| largesttriangle | [Kattis - largesttriangle](https://open.kattis.com/problems/largesttriangle) | CH to remove irrelevant points; O(N^2) rotating caliper-like algorithm | 160 | | 6.8 |
| lastfactorialdigit | [Kattis - lastfactorialdigit](https://open.kattis.com/problems/lastfactorialdigit) | very easy due to small range of N; pre-calculateable | 4942 | | 1.3 |
| lava | [Kattis - lava](https://open.kattis.com/problems/lava) | BFS; interesting output; very real life situation | 79 | | 4.5 |
| lawnmower | [Kattis - lawnmower](https://open.kattis.com/problems/lawnmower) | sort and check if Guido covers all land (end-to-end and side-to-side); also available at UVa 12269 - Land Mower | 448 | | 2.1 |
| leftandright | [Kattis - leftandright](https://open.kattis.com/problems/leftandright) | greedy construction; start with Le = Ri = 1; an 'L' advances Ri; an 'R' prints indices from Ri down to Le and sets Le = Ri = Ri+1 | 775 | | 3.6 |
| leftbeehind | [Kattis - leftbeehind](https://open.kattis.com/problems/leftbeehind) | 4 cases | 2014 | | 1.6 |
| lektira | [Kattis - lektira](https://open.kattis.com/problems/lektira) | 2 nested loops to try all 2 cutting points plus 1 more loop to actually do the reversing of sub words | 376 | | 3.2 |
| lemonadetrade | [Kattis - lemonadetrade](https://open.kattis.com/problems/lemonadetrade) | use logarithm transformation technique; linear pass | 82 | | 5.3 |
| licensetolaunch | [Kattis - licensetolaunch](https://open.kattis.com/problems/licensetolaunch) | easy linear pass | 1969 | | 1.4 |
| lifeforms | [Kattis - lifeforms](https://open.kattis.com/problems/lifeforms) | Longest Common Substring of > 1/2 of the strings; also available at UVa 11107 - Life Forms | 64 | | 7.3 |
| liga | [Kattis - liga](https://open.kattis.com/problems/liga) | 2D nested loops; interesting logic game; each team is independent; if number played and number loss both not defined, assume number loss is zero | 71 | | 6.1 |
| limbo1 | [Kattis - limbo1](https://open.kattis.com/problems/limbo1) | if we go L only, we have 1,2,4,7,11,16; then add R | 127 | | 3.5 |
| limbo2 | [Kattis - limbo2](https://open.kattis.com/problems/limbo2) | the expansion alternates right/down; filling order alternates down/right; size doubles each time | 44 | | 3.5 |
| lindenmayorsystem | [Kattis - lindenmayorsystem](https://open.kattis.com/problems/lindenmayorsystem) | DAT; map char to string; simulation; max answer ≤ 30\*5^5; we can also use regex | 302 | | 2.5 |
| lineup | [Kattis - lineup](https://open.kattis.com/problems/lineup) | sort ascending/descending and compare | 3703 | | 1.6 |
| linije | [Kattis - linije](https://open.kattis.com/problems/linije) | game theory; check conditions on how Mirko can win and when Slavko can win; involves MCBM | 39 | | 7.9 |
| lipschitzconstant | [Kattis - lipschitzconstant](https://open.kattis.com/problems/lipschitzconstant) | sort; brute force; math observation | 253 | | 4.6 |
| listgame | [Kattis - listgame](https://open.kattis.com/problems/listgame) | simply return numPF(X) | 1938 | | 3.1 |
| ljutnja | [Kattis - ljutnja](https://open.kattis.com/problems/ljutnja) | sort the wishes of N kids first; then BSTA+greedy | 174 | | 5.0 |
| lockedtreasure | [Kattis - lockedtreasure](https://open.kattis.com/problems/lockedtreasure) | the answer is nCm-1 | 321 | | 2.8 |
| logland | [Kattis - logland](https://open.kattis.com/problems/logland) | greedy | 47 | | 5.8 |
| logo | [Kattis - logo](https://open.kattis.com/problems/logo) | Euclidean dist; also available at UVa 11505 - Logo | 426 | | 3.2 |
| logo2 | [Kattis - logo2](https://open.kattis.com/problems/logo2) | n vectors that sum to 0; given n-1 vectors, find the unknown vector; also available at UVa 11519 - Logo 2 | 114 | | 5.6 |
| longincsubseq | [Kattis - longincsubseq](https://open.kattis.com/problems/longincsubseq) | standard O(n log k) LIS; print any solution | 579 | | 5.7 |
| longswaps | [Kattis - longswaps](https://open.kattis.com/problems/longswaps) | observation: if k ≤ n/2, output 'Yes'; otherwise the middle chars at s[n-k..k-1] cannot move; sort s and compare the middle chars with original s | 172 | | 3.3 |
| loopycabdrivers | [Kattis - loopycabdrivers](https://open.kattis.com/problems/loopycabdrivers) | print all SCCs that have size ≥ 2; tricky output ordering | 55 | | 5.5 |
| loorolls | [Kattis - loorolls](https://open.kattis.com/problems/loorolls) | Nick replaces his regular roll immediately; but he does NOT do that immediately with his backup rolls k = 2, 3, ... | 258 | | 1.9 |
| loowater | [Kattis - loowater](https://open.kattis.com/problems/loowater) | sort; greedy matching; also available at UVa 11292 - The Dragon of Loowater | 710 | | 3.0 |
| lost | [Kattis - lost](https://open.kattis.com/problems/lost) | interesting twist of BFS/SSSP spanning tree | 168 | | 4.1 |
| lostinthewoods | [Kattis - lostinthewoods](https://open.kattis.com/problems/lostinthewoods) | simulate random walks of various lengths and distribute the probabilities per iteration; the answer will converge eventually | 77 | | 3.1 |
| lostlineup | [Kattis - lostlineup](https://open.kattis.com/problems/lostlineup) | simple 1D array manipulation | 550 | | 1.5 |
| lostmap | [Kattis - lostmap](https://open.kattis.com/problems/lostmap) | actually just a standard MST problem | 782 | | 2.1 |
| low | [Kattis - low](https://open.kattis.com/problems/low) | LA 6398 - WorldFinals StPetersburg13; BSTA+greedy; also available at UVa 01577 - Low Power | 451 | | 5.1 |
| loworderzeros | [Kattis - loworderzeros](https://open.kattis.com/problems/loworderzeros) | last non zero digit of factorial; classic | 288 | | 4.2 |
| ls | [Kattis - ls](https://open.kattis.com/problems/ls) | Edit Distance variant | 176 | | 5.2 |
| luhnchecksum | [Kattis - luhnchecksum](https://open.kattis.com/problems/luhnchecksum) | very similar (~95%) to UVa 11743 | 836 | | 1.6 |
| lumbercraft | [Kattis - lumbercraft](https://open.kattis.com/problems/lumbercraft) | time waster; 2D grid simulation | 69 | | 5.0 |
| magical3 | [Kattis - magical3](https://open.kattis.com/problems/magical3) | divisibility test of n-3; a few corner cases | 348 | | 6.1 |
| magicallights | [Kattis - magicallights](https://open.kattis.com/problems/magicallights) | LA 7487 - Singapore15; flatten the tree with DFS; use Fenwick Tree for Range Odd Query; use long long | 309 | | 5.4 |
| mailbox | [Kattis - mailbox](https://open.kattis.com/problems/mailbox) | s: (lo, hi, mailbox\_left); try all; also available at UVa 00882 - The Mailbox Manufacturers Problem | 386 | | 2.1 |
| mali | [Kattis - mali](https://open.kattis.com/problems/mali) | Counting Sort two arrays; greedy matching largest+smallest at that point | 97 | | 5.1 |
| mallmania | [Kattis - mallmania](https://open.kattis.com/problems/mallmania) | multi-sources BFS from m1; get minimum at border of m2; also available at UVa 11101 - Mall Mania | 48 | | 4.9 |
| managingpackaging | [Kattis - managingpackaging](https://open.kattis.com/problems/managingpackaging) | if the graph is cyclic, output 'cannot be ordered'; otherwise, find the lexicographically smallest topological order | 128 | | 5.9 |
| mancala | [Kattis - mancala](https://open.kattis.com/problems/mancala) | we can generate all possible winnable Mancala boards from smaller Mancala boards | 320 | | 1.7 |
| mandelbrot | [Kattis - mandelbrot](https://open.kattis.com/problems/mandelbrot) | the modulus operation in complex number is like Euclidean dist; simulate as asked | 616 | | 3.0 |
| maptiles2 | [Kattis - maptiles2](https://open.kattis.com/problems/maptiles2) | simple conversion between two grid indexing systems | 1338 | | 1.6 |
| marblestree | [Kattis - marblestree](https://open.kattis.com/problems/marblestree) | greedy; also available at UVa 10672 - Marbles on a tree | 258 | | 3.0 |
| marchofpenguins | [Kattis - marchofpenguins](https://open.kattis.com/problems/marchofpenguins) | max flow modeling; vertex capacities; also see UVa 11380; also available at UVa 12125 - March of the Penguins | 68 | | 3.8 |
| marko | [Kattis - marko](https://open.kattis.com/problems/marko) | frequency counting with unordered\_map | 495 | | 1.9 |
| marswindow | [Kattis - marswindow](https://open.kattis.com/problems/marswindow) | simple advancing of year and month by 26 months or 2 years+2 months each; direct formula exists | 830 | | 2.0 |
| marypartitions | [Kattis - marypartitions](https://open.kattis.com/problems/marypartitions) | 3 ≤ m, so we will only use a few power values; counting paths on DAG | 245 | | 3.5 |
| mastermind | [Kattis - mastermind](https://open.kattis.com/problems/mastermind) | 1D array manipulation to count r and s | 446 | | 2.4 |
| mathhomework | [Kattis - mathhomework](https://open.kattis.com/problems/mathhomework) | 3 nested loops | 257 | | 2.1 |
| mathworksheet | [Kattis - mathworksheet](https://open.kattis.com/problems/mathworksheet) | print the width of each token appropriately | 142 | | 5.5 |
| matrix | [Kattis - matrix](https://open.kattis.com/problems/matrix) | use simple linear algebra; one special case when c = 0 | 784 | | 3.1 |
| maxflow | [Kattis - maxflow](https://open.kattis.com/problems/maxflow) | standard max flow problem for practice; print edges used in the max flow | 531 | | 6.3 |
| maximizingwinnings | [Kattis - maximizingwinnings](https://open.kattis.com/problems/maximizingwinnings) | separate the maximizing and minimizing problem; s: (cur\_room, turns\_left); t: go to other room or stay | 193 | | 3.9 |
| maximizingyourpay | [Kattis - maximizingyourpay](https://open.kattis.com/problems/maximizingyourpay) | Max-Traveling-Salesman-Problem; can go back to vertex 0 early; use DP bitmask | 60 | | 6.4 |
| maximumrent | [Kattis - maximumrent](https://open.kattis.com/problems/maximumrent) | basic Linear Programming problem with integer output; we can use simplex algorithm or another simpler solution | 241 | | 3.1 |
| mazemakers | [Kattis - mazemakers](https://open.kattis.com/problems/mazemakers) | long problem statement to describe a custom 2D grid graph; just a graph traversal: check if all cells are visited and the graph is a tree | 171 | | 2.8 |
| mazemovement | [Kattis - mazemovement](https://open.kattis.com/problems/mazemovement) | use gcd for all pairs of vertices to construct the flow graph; then it is just a standard max flow problem | 135 | | 4.4 |
| measurement | [Kattis - measurement](https://open.kattis.com/problems/measurement) | going down: multiply; going up: divide | 641 | | 2.0 |
| medals | [Kattis - medals](https://open.kattis.com/problems/medals) | not an easy problem; require analysis to realize that the search space is small; also available at UVa 10997 - Medals | 69 | | 5.9 |
| megainversions | [Kattis - megainversions](https://open.kattis.com/problems/megainversions) | a bit of combinatorics; use Fenwick Tree to compute smaller/larger numbers quickly | 333 | | 5.0 |
| memorymatch | [Kattis - memorymatch](https://open.kattis.com/problems/memorymatch) | interesting simulation game; many corner cases | 161 | | 4.0 |
| meowfactor | [Kattis - meowfactor](https://open.kattis.com/problems/meowfactor) | divisibility test of 9^ans; small range of ans | 310 | | 3.5 |
| messages | [Kattis - messages](https://open.kattis.com/problems/messages) | simple string matching; sort; like greedy interval covering | 134 | | 5.2 |
| metaprogramming | [Kattis - metaprogramming](https://open.kattis.com/problems/metaprogramming) | use unordered\_map; somewhat similar with Kattis - addingwords | 820 | | 2.4 |
| mia | [Kattis - mia](https://open.kattis.com/problems/mia) | just if-else check | 1136 | | 2.1 |
| milestones | [Kattis - milestones](https://open.kattis.com/problems/milestones) | brute force all possibilities, use floating point fraction as both numerator and denominator are very high | 137 | | 2.8 |
| millionairemadness | [Kattis - millionairemadness](https://open.kattis.com/problems/millionairemadness) | MiniMax path problem | 649 | | 2.4 |
| mincostmaxflow | [Kattis - mincostmaxflow](https://open.kattis.com/problems/mincostmaxflow) | very basic MCMF problem; good starting point | 232 | | 5.3 |
| mincut | [Kattis - mincut](https://open.kattis.com/problems/mincut) | standard min cut problem for practice; print vertices reachable from source s after max flow | 293 | | 4.1 |
| minibattleship | [Kattis - minibattleship](https://open.kattis.com/problems/minibattleship) | try all possible bitmasks of nxn bits that are consistent; try installing ships via backtracking; prune as much as possible | 140 | | 2.9 |
| minimumscalar | [Kattis - minimumscalar](https://open.kattis.com/problems/minimumscalar) | greedy; sorting | 1202 | | 2.3 |
| ministryofmagic | [Kattis - ministryofmagic](https://open.kattis.com/problems/ministryofmagic) | simulate directly, use of queue and set (PQ with update key/increase key; use STL set) | 63 | | 6.0 |
| minorsetback | [Kattis - minorsetback](https://open.kattis.com/problems/minorsetback) | use unordered\_map of string to another unordered\_map of int to string; need a bit of music theory to solve the problem; tedious | 147 | | 3.6 |
| minspantree | [Kattis - minspantree](https://open.kattis.com/problems/minspantree) | very standard MST problem; check if a spanning tree is formed; also output the edges in any spanning tree in lexicographic order | 862 | | 4.0 |
| mirror | [Kattis - mirror](https://open.kattis.com/problems/mirror) | simple 2D character array formatting | 1757 | | 1.7 |
| misa | [Kattis - misa](https://open.kattis.com/problems/misa) | 4 nested loops; grid; check to 8 directions | 502 | | 2.2 |
| missinggnomes | [Kattis - missinggnomes](https://open.kattis.com/problems/missinggnomes) | use set to keep ordered list of missing gnomes | 659 | | 2.6 |
| missingnumbers | [Kattis - missingnumbers](https://open.kattis.com/problems/missingnumbers) | two linear loops; use a small array of Booleans | 1622 | | 1.7 |
| mixedbasearithmetic | [Kattis - mixedbasearithmeti...](https://open.kattis.com/problems/mixedbasearithmetic) | mix of base 10 and two versions of base 26 | 54 | | 5.9 |
| mixedfractions | [Kattis - mixedfractions](https://open.kattis.com/problems/mixedfractions) | convert fraction to mixed fraction | 5154 | | 1.5 |
| mjehuric | [Kattis - mjehuric](https://open.kattis.com/problems/mjehuric) | a direct simulation of a bubble sort algorithm | 1349 | | 1.6 |
| mnist10class | [Kattis - mnist10class](https://open.kattis.com/problems/mnist10class) | partial scoring problem - neural network | 258 | | 8.3 |
| mnist2class | [Kattis - mnist2class](https://open.kattis.com/problems/mnist2class) | partial scoring problem - neural network | 242 | | 8.0 |
| mobilization | [Kattis - mobilization](https://open.kattis.com/problems/mobilization) | brute force with small budget first; identify top 2 troop types; re-simulate with full budget | 73 | | 3.5 |
| modulararithmetic | [Kattis - modulararithmetic](https://open.kattis.com/problems/modulararithmetic) | the division operation requires modular inverse; use Extended Euclidean algorithm | 333 | | 2.9 |
| modulo | [Kattis - modulo](https://open.kattis.com/problems/modulo) | very simple problem | 5658 | | 1.4 |
| modulodatastructures | [Kattis - modulodatastructur...](https://open.kattis.com/problems/modulodatastructures) | basic problem that can be solved with Square Root Decomposition technique | 277 | | 4.6 |
| molekule | [Kattis - molekule](https://open.kattis.com/problems/molekule) | undirected tree is also Bipartite/bi-colorable; bi-color it with 0 and 1; direct all edges from 0 to 1 (or vice versa) | 175 | | 3.5 |
| moneymatters | [Kattis - moneymatters](https://open.kattis.com/problems/moneymatters) | see if the sum of vertex weights of each CC = 0 | 990 | | 3.1 |
| monk | [Kattis - monk](https://open.kattis.com/problems/monk) | BSTA + simulation; cool | 86 | | 3.3 |
| monopoly | [Kattis - monopoly](https://open.kattis.com/problems/monopoly) | K, b, r are all irrelevant; vertex value is either +ve (salary) or -ve (tax); LONGEST-PATH on DAG (u < v); exclude source value | 69 | | 3.0 |
| monumentmaker | [Kattis - monumentmaker](https://open.kattis.com/problems/monumentmaker) | cipher; need a bit work; trimming tokens | 76 | | 4.8 |
| more10 | [Kattis - more10](https://open.kattis.com/problems/more10) | UFDS; a bit of string processing; tedious | 70 | | 8.0 |
| mortgage | [Kattis - mortgage](https://open.kattis.com/problems/mortgage) | geometric progression; divergent but finite; special case when r = 1.0 (no interest) | 51 | | 7.9 |
| moscowdream | [Kattis - moscowdream](https://open.kattis.com/problems/moscowdream) | if-else; 2 cases; check n ≥ 3 | 443 | | 1.7 |
| mosquito | [Kattis - mosquito](https://open.kattis.com/problems/mosquito) | direct simulation | 822 | | 1.9 |
| mountainbiking | [Kattis - mountainbiking](https://open.kattis.com/problems/mountainbiking) | up to 4 line segments; simple trigonometry; simple Physics/Kinematic equation | 216 | | 2.8 |
| moviecollection | [Kattis - moviecollection](https://open.kattis.com/problems/moviecollection) | LA 5902 - NorthWesternEurope11; not a stack but a dynamic RSQ problem; also available at UVa 01513 - Movie collection | 547 | | 5.5 |
| movingday | [Kattis - movingday](https://open.kattis.com/problems/movingday) | output volume of the largest cuboid - V | 261 | | 2.1 |
| mravi | [Kattis - mravi](https://open.kattis.com/problems/mravi) | reverse edge directions to change the input tree into a DAG; find longest path from leaf that contains ant to root | 197 | | 2.7 |
| mububa | [Kattis - mububa](https://open.kattis.com/problems/mububa) | LA 7484 - Singapore15; BSTA; use the correct DP state | 267 | | 7.0 |
| muddyhike | [Kattis - muddyhike](https://open.kattis.com/problems/muddyhike) | MiniMax path problem | 209 | | 3.9 |
| multigram | [Kattis - multigram](https://open.kattis.com/problems/multigram) | brute force lengths that is divisor of the original length of the string; test | 221 | | 2.8 |
| multiplication | [Kattis - multiplication](https://open.kattis.com/problems/multiplication) | tedious time waster output formatting problem | 162 | | 2.2 |
| musicalchairs | [Kattis - musicalchairs](https://open.kattis.com/problems/musicalchairs) | Josephus variant; brute force | 139 | | 4.0 |
| musicalnotation | [Kattis - musicalnotation](https://open.kattis.com/problems/musicalnotation) | simple but tedious | 421 | | 2.0 |
| musicalscales | [Kattis - musicalscales](https://open.kattis.com/problems/musicalscales) | music lesson; use array(s) to help simplify the code | 674 | | 1.6 |
| musicyourway | [Kattis - musicyourway](https://open.kattis.com/problems/musicyourway) | stable\_sort; custom comparison function | 404 | | 2.4 |
| names | [Kattis - names](https://open.kattis.com/problems/names) | add a letter or change a letter; complete search | 368 | | 4.0 |
| namethatpermutation | [Kattis - namethatpermutatio...](https://open.kattis.com/problems/namethatpermutation) | permutation number; involving factorial | 154 | | 4.8 |
| narrowartgallery | [Kattis - narrowartgallery](https://open.kattis.com/problems/narrowartgallery) | interesting DP; s: (row, state\_of\_prev\_row, k\_left) | 1417 | | 2.8 |
| nastyhacks | [Kattis - nastyhacks](https://open.kattis.com/problems/nastyhacks) | 3 cases | 6308 | | 1.3 |
| natjecanje | [Kattis - natjecanje](https://open.kattis.com/problems/natjecanje) | 4 options for each team with kayak: do nothing, pass to left (if damaged), keep to self (if damaged), pass to right (if damaged) | 701 | | 2.5 |
| natrij | [Kattis - natrij](https://open.kattis.com/problems/natrij) | convert hh:mm:ss to seconds; make sure the second time is larger than the first time; corner case: 24:00:00 | 1136 | | 2.6 |
| naturereserve | [Kattis - naturereserve](https://open.kattis.com/problems/naturereserve) | Prim's algorithm from multiple sources | 180 | | 4.6 |
| neighborhoodwatch | [Kattis - neighborhoodwatch](https://open.kattis.com/problems/neighborhoodwatch) | sum of AP; inclusion-exclusion | 319 | | 3.1 |
| nesteddolls | [Kattis - nesteddolls](https://open.kattis.com/problems/nesteddolls) | sort in one dimension; LIS in the other; also available at UVa 11368 - Nested Dolls | 115 | | 7.1 |
| newfiber | [Kattis - newfiber](https://open.kattis.com/problems/newfiber) | to maximize number of equal degree in the resulting tree, greedily pick vertex with smallest degree first; corner case when n=2, m=1 | 321 | | 3.1 |
| nikola | [Kattis - nikola](https://open.kattis.com/problems/nikola) | s: (pos, last\_jump); t: jump forward or backward | 295 | | 3.6 |
| nimionese | [Kattis - nimionese](https://open.kattis.com/problems/nimionese) | adhoc; simulate the requirement | 184 | | 2.2 |
| nine | [Kattis - nine](https://open.kattis.com/problems/nine) | find the required formula | 681 | | 3.2 |
| nineknights | [Kattis - nineknights](https://open.kattis.com/problems/nineknights) | 2D array checks; 8 directions | 881 | | 1.9 |
| ninepacks | [Kattis - ninepacks](https://open.kattis.com/problems/ninepacks) | brute force all possible sums; use DP SUBSET-SUM on each hotdog and bun packs; clever problem | 499 | | 4.4 |
| nizovi | [Kattis - nizovi](https://open.kattis.com/problems/nizovi) | formatting with indentation; not that trivial but sample input/output helps | 199 | | 3.8 |
| nodup | [Kattis - nodup](https://open.kattis.com/problems/nodup) | use unordered\_set; string | 3564 | | 1.3 |
| nonprimefactors | [Kattis - nonprimefactors](https://open.kattis.com/problems/nonprimefactors) | numDiv(i) - numDiffPF(i) ∀i in the range; the I/O files are large so Buffered I/O speed is needed | 389 | | 5.6 |
| notamused | [Kattis - notamused](https://open.kattis.com/problems/notamused) | use map; sorted output | 601 | | 2.0 |
| npuzzle | [Kattis - npuzzle](https://open.kattis.com/problems/npuzzle) | 4 nested loops; easy | 683 | | 2.2 |
| ntnuorienteering | [Kattis - ntnuorienteering](https://open.kattis.com/problems/ntnuorienteering) | get APSP info between campuses; sort lectures by increasing start time; DP O(L^2); try all possible starting lectures | 123 | | 4.5 |
| numberfun | [Kattis - numberfun](https://open.kattis.com/problems/numberfun) | 2 cases (out of 6 combinations; addition/multiplication are commutative); remember integer division | 3436 | | 1.4 |
| numbertree | [Kattis - numbertree](https://open.kattis.com/problems/numbertree) | not a direct priority queue problem, but the indexing strategy is similar to binary heap indexing | 1760 | | 2.1 |
| oceancurrents | [Kattis - oceancurrents](https://open.kattis.com/problems/oceancurrents) | 0/1-weighted SSSP; BFS+deque; also available at UVa 11573 - Ocean Currents | 118 | | 5.4 |
| oddbinom | [Kattis - oddbinom](https://open.kattis.com/problems/oddbinom) | OEIS A006046 | 245 | | 3.5 |
| oddgnome | [Kattis - oddgnome](https://open.kattis.com/problems/oddgnome) | linear pass | 2388 | | 1.6 |
| oddities | [Kattis - oddities](https://open.kattis.com/problems/oddities) | 2 cases | 11523 | | 1.3 |
| oddmanout | [Kattis - oddmanout](https://open.kattis.com/problems/oddmanout) | use unordered\_set to find and eliminate pairs | 4450 | | 1.5 |
| odds | [Kattis - odds](https://open.kattis.com/problems/odds) | complete search; simple probability | 142 | | 2.5 |
| officespace | [Kattis - officespace](https://open.kattis.com/problems/officespace) | rectangles; small numbers; 2D Boolean arrays | 143 | | 5.5 |
| oktalni | [Kattis - oktalni](https://open.kattis.com/problems/oktalni) | convert each 3-bits of binary strings to octal; Big Integer | 634 | | 1.8 |
| okvir | [Kattis - okvir](https://open.kattis.com/problems/okvir) | simple 2D output formatting problem | 399 | | 2.0 |
| okviri | [Kattis - okviri](https://open.kattis.com/problems/okviri) | use 2D array to simplify the process | 447 | | 1.9 |
| olderbrother | [Kattis - olderbrother](https://open.kattis.com/problems/olderbrother) | just check if q = p^k | 420 | | 3.4 |
| onechicken | [Kattis - onechicken](https://open.kattis.com/problems/onechicken) | if-else if-else; 4 cases (piece vs pieces) | 3014 | | 1.6 |
| ones | [Kattis - ones](https://open.kattis.com/problems/ones) | no factor of 2 and 5 implies that there is no trailing zero; also available at UVa 10127 - Ones | 567 | | 4.6 |
| ontrack | [Kattis - ontrack](https://open.kattis.com/problems/ontrack) | DFS on Tree; the input is a tree, we can try all possible junctions as the critical junction | 156 | | 4.1 |
| opensource | [Kattis - opensource](https://open.kattis.com/problems/opensource) | use map and set to check previous strings; order needed; also available at UVa 11239 - Open Source | 291 | | 3.3 |
| orchard | [Kattis - orchard](https://open.kattis.com/problems/orchard) | DP probability; s: (current R, G, B, Y, S\_left); t: Raven's move, fruit basket, or one up to four fruits; a bit tedious | 82 | | 2.7 |
| orders | [Kattis - orders](https://open.kattis.com/problems/orders) | interesting KNAPSACK variant; print the solution | 713 | | 4.5 |
| ornaments | [Kattis - ornaments](https://open.kattis.com/problems/ornaments) | arch length plus two times tangent lengths | 236 | | 2.2 |
| ostgotska | [Kattis - ostgotska](https://open.kattis.com/problems/ostgotska) | find substring 'ae' and count its frequency | 657 | | 1.7 |
| otpor | [Kattis - otpor](https://open.kattis.com/problems/otpor) | parallel vs series evaluation; write a recursive parser; or use linear pass with stack | 94 | | 4.3 |
| outofsorts | [Kattis - outofsorts](https://open.kattis.com/problems/outofsorts) | do O(log n) binary searches on unsorted array n times | 107 | | 3.7 |
| ovalwatch | [Kattis - ovalwatch](https://open.kattis.com/problems/ovalwatch) | greedy construction; sort the legs from top to down; create solution following that 'topological' order | 96 | | 3.6 |
| owlandfox | [Kattis - owlandfox](https://open.kattis.com/problems/owlandfox) | try all answers; complete search | 743 | | 1.8 |
| pachinkoprobability | [Kattis - pachinkoprobabilit...](https://open.kattis.com/problems/pachinkoprobability) | s: (pos); DAG modeling; long long | 113 | | 5.8 |
| pachydermpeanutpacking | [Kattis - pachydermpeanutpac...](https://open.kattis.com/problems/pachydermpeanutpacking) | time waster; simple one loop simulation | 322 | | 1.9 |
| pagelayout | [Kattis - pagelayout](https://open.kattis.com/problems/pagelayout) | a bit of geometry; O(2^n imes n^2 iterative bitmask will TLE; need to use recursive backtracking with pruning | 84 | | 5.1 |
| paintball | [Kattis - paintball](https://open.kattis.com/problems/paintball) | very similar with bookclub | 335 | | 4.3 |
| paintings | [Kattis - paintings](https://open.kattis.com/problems/paintings) | try all possible paintings based on Catherine's preference; skip hideous color pairs | 162 | | 3.6 |
| pairingsocks | [Kattis - pairingsocks](https://open.kattis.com/problems/pairingsocks) | simulation using two stacks; just do as asked | 556 | | 3.0 |
| palindromesubstring | [Kattis - palindromesubstrin...](https://open.kattis.com/problems/palindromesubstring) | try all pairs of O(n^2) substrings with at least 2 characters; keep the ones that are palindrome (use DP) in a sorted set | 298 | | 4.2 |
| palindromicpassword | [Kattis - palindromicpasswor...](https://open.kattis.com/problems/palindromicpassword) | there are not more than 900 3-digits number; generate all and store them in a (sorted) set; find ceil and floor of input number; one of this is the answer | 431 | | 3.3 |
| pandachess | [Kattis - pandachess](https://open.kattis.com/problems/pandachess) | LCS of 2 permutations → LIS; O(n log k) solution; also see UVa 10635 | 267 | | 6.0 |
| parallelanalysis | [Kattis - parallelanalysis](https://open.kattis.com/problems/parallelanalysis) | reading comprehension; use unordered\_map to map memory address to last time it is written | 61 | | 3.4 |
| parket | [Kattis - parket](https://open.kattis.com/problems/parket) | just factorize (R+B) | 172 | | 2.6 |
| parking | [Kattis - parking](https://open.kattis.com/problems/parking) | a possible real life application; simple loops and if-statements are enough to solve this problem | 1523 | | 1.6 |
| parking2 | [Kattis - parking2](https://open.kattis.com/problems/parking2) | try all possible parking spaces; pick the best | 2049 | | 1.4 |
| parsinghex | [Kattis - parsinghex](https://open.kattis.com/problems/parsinghex) | a bit of string parsing; hexadecimal to decimal | 529 | | 2.9 |
| particlecollision | [Kattis - particlecollision](https://open.kattis.com/problems/particlecollision) | translate point w.r.t. vector (parameterized by time t); Pythagorean; roots of quadratic equation; case analysis | 81 | | 3.1 |
| pascal | [Kattis - pascal](https://open.kattis.com/problems/pascal) | find lowest prime factor of N; special case: N = 1 | 351 | | 3.8 |
| passingsecrets | [Kattis - passingsecrets](https://open.kattis.com/problems/passingsecrets) | harder form of Dijkstra's; print path | 36 | | 4.9 |
| password | [Kattis - password](https://open.kattis.com/problems/password) | expected value; the given probabilities already sum to 1.0 | 980 | | 2.2 |
| pathtracing | [Kattis - pathtracing](https://open.kattis.com/problems/pathtracing) | just simulate and draw the path; tedious | 675 | | 3.1 |
| patuljci | [Kattis - patuljci](https://open.kattis.com/problems/patuljci) | 3 nested loops; n = 9 | 1123 | | 1.8 |
| pauleigon | [Kattis - pauleigon](https://open.kattis.com/problems/pauleigon) | easy to derive | 1614 | | 1.8 |
| pearwise | [Kattis - pearwise](https://open.kattis.com/problems/pearwise) | clever problem wording; can be reduced into basic graph traversal | 159 | | 3.7 |
| peasoup | [Kattis - peasoup](https://open.kattis.com/problems/peasoup) | one linear pass | 771 | | 2.4 |
| pebblesolitaire | [Kattis - pebblesolitaire](https://open.kattis.com/problems/pebblesolitaire) | s: (bitmask); simulation; pick the smallest answer | 480 | | 2.2 |
| pebblesolitaire2 | [Kattis - pebblesolitaire2](https://open.kattis.com/problems/pebblesolitaire2) | backtracking suffices for Kattis - pebblesolitair; but this version needs extra memoization | 400 | | 3.6 |
| peg | [Kattis - peg](https://open.kattis.com/problems/peg) | 2D nested loops; try all possible moves | 931 | | 1.8 |
| peggamefortwo | [Kattis - peggamefortwo](https://open.kattis.com/problems/peggamefortwo) | game theory; minimax; 2 alternating players; backtracking/DP on special grid; harder version of Kattis - crackerbarrel | 206 | | 3.1 |
| peragrams | [Kattis - peragrams](https://open.kattis.com/problems/peragrams) | only one odd frequency character can be in the center of palindrome once; the rest need to have even frequency | 1692 | | 1.7 |
| perfectpowers | [Kattis - perfectpowers](https://open.kattis.com/problems/perfectpowers) | GCD of all prime powers; note if x is negative; also available at UVa 10622 - Perfect P-th Power | 590 | | 5.3 |
| perica | [Kattis - perica](https://open.kattis.com/problems/perica) | sorting + binomial coefficient; take i-th largest element and use its binomial coefficient to get the number of times it will appear in current array, 'remove' and repeat summing up all values | 120 | | 5.9 |
| periodicstrings | [Kattis - periodicstrings](https://open.kattis.com/problems/periodicstrings) | brute force; skip non divisor | 299 | | 3.0 |
| perket | [Kattis - perket](https://open.kattis.com/problems/perket) | try all 2^N subsets of ingredients | 511 | | 2.2 |
| permcode | [Kattis - permcode](https://open.kattis.com/problems/permcode) | reading comprehension problem | 166 | | 2.2 |
| permutationdescent | [Kattis - permutationdescent](https://open.kattis.com/problems/permutationdescent) | derive the required formula; use memoization | 291 | | 1.8 |
| permutationencryption | [Kattis - permutationencrypt...](https://open.kattis.com/problems/permutationencryption) | be careful of newline | 1163 | | 2.5 |
| permutedarithmeticsequence | [Kattis - permutedarithmetic...](https://open.kattis.com/problems/permutedarithmeticsequence) | sort differences of adjacent items | 1262 | | 2.0 |
| persistent | [Kattis - persistent](https://open.kattis.com/problems/persistent) | similar to UVa 00993; also available at UVa 10527 - Persistent Numbers | 161 | | 3.8 |
| pervasiveheartmonitor | [Kattis - pervasiveheartmoni...](https://open.kattis.com/problems/pervasiveheartmonitor) | simple parsing; then finding average | 950 | | 1.7 |
| pet | [Kattis - pet](https://open.kattis.com/problems/pet) | very simple 2D nested loops problem | 7932 | | 1.4 |
| phonelist | [Kattis - phonelist](https://open.kattis.com/problems/phonelist) | sort the numbers; see if num i is a prefix of num i+1 | 1955 | | 4.3 |
| piano | [Kattis - piano](https://open.kattis.com/problems/piano) | good modeling problem; afterwards it is just a standard max flow problem | 230 | | 4.1 |
| pianolessons | [Kattis - pianolessons](https://open.kattis.com/problems/pianolessons) | straightforward MCBM | 151 | | 4.5 |
| pickupsticks | [Kattis - pickupsticks](https://open.kattis.com/problems/pickupsticks) | cycle check + toposort if DAG; also available at item UVa 11686 - Pick up sticks | 373 | | 4.7 |
| pieceofcake2 | [Kattis - pieceofcake2](https://open.kattis.com/problems/pieceofcake2) | max of 4 rectangle areas; times thickness to get the volume | 2078 | | 1.3 |
| piglatin | [Kattis - piglatin](https://open.kattis.com/problems/piglatin) | simple; check the vowels that include 'y' and process it | 916 | | 2.1 |
| pikemaneasy | [Kattis - pikemaneasy](https://open.kattis.com/problems/pikemaneasy) | greedy; sorting | 473 | | 3.5 |
| pikemanhard | [Kattis - pikemanhard](https://open.kattis.com/problems/pikemanhard) | cycle finding with fast data structure; sorting; greedy | 138 | | 8.3 |
| piperotation | [Kattis - piperotation](https://open.kattis.com/problems/piperotation) | use 1D Boolean array to check if cell (r, c) needs to be connected from the top (r-1) or left (c-1) and pass information accordingly | 50 | | 2.6 |
| pivot | [Kattis - pivot](https://open.kattis.com/problems/pivot) | static range min/max query problem; special condition allows this problem to be solvable in O(n) using help of 1D arrays | 1723 | | 3.2 |
| pizza | [Kattis - pizza](https://open.kattis.com/problems/pizza) | gradient descent | 252 | | 4.5 |
| pizza2 | [Kattis - pizza2](https://open.kattis.com/problems/pizza2) | simple; involving circle; the formula is very easy to derive | 3316 | | 1.7 |
| pizzahawaii | [Kattis - pizzahawaii](https://open.kattis.com/problems/pizzahawaii) | use Python to help with (unordered) set intersection and difference operations | 335 | | 2.6 |
| planetaris | [Kattis - planetaris](https://open.kattis.com/problems/planetaris) | greedy; sorting | 143 | | 2.8 |
| planina | [Kattis - planina](https://open.kattis.com/problems/planina) | just print (2^N+1)^2; OEIS A028400 | 5965 | | 1.3 |
| plantingtrees | [Kattis - plantingtrees](https://open.kattis.com/problems/plantingtrees) | greedy; sorting | 3462 | | 2.0 |
| platforme | [Kattis - platforme](https://open.kattis.com/problems/platforme) | line segment intersection tests; N ≤ 100; complete search | 210 | | 2.7 |
| playfair | [Kattis - playfair](https://open.kattis.com/problems/playfair) | follow the description; a bit tedious; also available at UVa 11697 - Playfair Cipher | 156 | | 2.5 |
| playground | [Kattis - playground](https://open.kattis.com/problems/playground) | greedy | 60 | | 4.7 |
| playingtheslots | [Kattis - playingtheslots](https://open.kattis.com/problems/playingtheslots) | similar with UVa 01111 | 75 | | 3.0 |
| plot | [Kattis - plot](https://open.kattis.com/problems/plot) | analyze the given pseudocode; the required pattern involves Binomial Coefficients | 210 | | 2.5 |
| plowking | [Kattis - plowking](https://open.kattis.com/problems/plowking) | greedy construction; reverse MST problem | 92 | | 3.2 |
| pointinpolygon | [Kattis - pointinpolygon](https://open.kattis.com/problems/pointinpolygon) | in/out and on polygon | 311 | | 5.5 |
| pokemongogo | [Kattis - pokemongogo](https://open.kattis.com/problems/pokemongogo) | DP TSP variant; there can be more than one Pokemon in the same location | 154 | | 5.0 |
| pokerhand | [Kattis - pokerhand](https://open.kattis.com/problems/pokerhand) | frequency count; report max | 2173 | | 1.4 |
| polish | [Kattis - polish](https://open.kattis.com/problems/polish) | recursive parser | 224 | | 3.3 |
| pollygone | [Kattis - pollygone](https://open.kattis.com/problems/pollygone) | DP probability; bottom up; s: (probability); t: what can each opened box do to the probabilities computed so far | 94 | | 5.0 |
| polygonarea | [Kattis - polygonarea](https://open.kattis.com/problems/polygonarea) | basic polygon area computation; determine CCW/CW order by checking if the signed area is positive/negative, respectively; also see Kattis - convexpolygonarea | 967 | | 2.8 |
| polymul1 | [Kattis - polymul1](https://open.kattis.com/problems/polymul1) | basic polynomial multiplication problem | 646 | | 2.0 |
| polymul2 | [Kattis - polymul2](https://open.kattis.com/problems/polymul2) | basic polynomial multiplication problem that needs an O(n log n) algorithm; also see Kattis - polymul1 | 227 | | 6.8 |
| poplava | [Kattis - poplava](https://open.kattis.com/problems/poplava) | actually there is a rather simple construction algorithm to achieve the required requirement | 105 | | 3.4 |
| porpoises | [Kattis - porpoises](https://open.kattis.com/problems/porpoises) | Fibonacci; matrix power; modulo | 268 | | 2.9 |
| posterize | [Kattis - posterize](https://open.kattis.com/problems/posterize) | s: (prev\_value; k\_left); t: pick one of the 256 values to be included in the k selected distinct red values | 411 | | 3.0 |
| pot | [Kattis - pot](https://open.kattis.com/problems/pot) | the power is always the last digit | 8562 | | 1.3 |
| powereggs | [Kattis - powereggs](https://open.kattis.com/problems/powereggs) | Egg dropping puzzle; similar to UVa 10934 | 92 | | 5.2 |
| powers | [Kattis - powers](https://open.kattis.com/problems/powers) | when a is even, the answer is (a/2)^b, otherwise the answer is 0 | 180 | | 5.4 |
| powerstrings | [Kattis - powerstrings](https://open.kattis.com/problems/powerstrings) | find s in s+s; similar with UVa 00455; also available at UVa 10298 - Power Strings | 451 | | 5.2 |
| prerequisites | [Kattis - prerequisites](https://open.kattis.com/problems/prerequisites) | process the requirements as the input is read; also available at UVa 10919 - Prerequisites? | 284 | | 1.9 |
| presidentialelections | [Kattis - presidentialelecti...](https://open.kattis.com/problems/presidentialelections) | pre-process the input to discard non winnable states; be careful of negative total voters; then standard DP KNAPSACK | 116 | | 5.7 |
| prettygoodcuberoot | [Kattis - prettygoodcuberoot](https://open.kattis.com/problems/prettygoodcuberoot) | bisection method; find cube root of a very large integer; use Big Integer | 143 | | 5.8 |
| primalrepresentation | [Kattis - primalrepresentati...](https://open.kattis.com/problems/primalrepresentation) | factorization problem; use sieve to avoid TLE; use long long; 231-1 is a prime | 258 | | 5.4 |
| primaryarithmetic | [Kattis - primaryarithmetic](https://open.kattis.com/problems/primaryarithmetic) | not a Big Integer problem but a simulation of basic addition | 399 | | 2.7 |
| primematrix | [Kattis - primematrix](https://open.kattis.com/problems/primematrix) | Notice that we can just find 1 row answer for 2 ≤ n ≤ 50; then store the results; we can use this to generate the n x n version by shifting one index from previous row | 140 | | 4.2 |
| primepath | [Kattis - primepath](https://open.kattis.com/problems/primepath) | BFS; involving prime numbers; also available at UVa 12101 - Prime Path | 469 | | 2.2 |
| primereduction | [Kattis - primereduction](https://open.kattis.com/problems/primereduction) | factorization problem | 465 | | 3.9 |
| primes2 | [Kattis - primes2](https://open.kattis.com/problems/primes2) | convert input to either base 2/8/10/16; skip those that cause NumberFormatException error; use isProbablePrime test and gcd | 289 | | 4.7 |
| primesieve | [Kattis - primesieve](https://open.kattis.com/problems/primesieve) | use sieve up to 10^8; it is fast enough | 865 | | 4.5 |
| princeandprincess | [Kattis - princeandprincess](https://open.kattis.com/problems/princeandprincess) | find LCS of two permutations; also available at UVa 10635 - Prince and Princess | 140 | | 6.7 |
| princesspeach | [Kattis - princesspeach](https://open.kattis.com/problems/princesspeach) | DAT; linear pass | 839 | | 2.1 |
| prinova | [Kattis - prinova](https://open.kattis.com/problems/prinova) | sort first, then try all possible answers, which are the values in betweens two even boy 'names' and values around A, A+1, B-1 and B | 96 | | 4.2 |
| printingcosts | [Kattis - printingcosts](https://open.kattis.com/problems/printingcosts) | clear time waster; the hard part is in parsing the costs of each character in the problem description | 705 | | 2.2 |
| pripreme | [Kattis - pripreme](https://open.kattis.com/problems/pripreme) | greedy | 259 | | 2.7 |
| problemclassification | [Kattis - problemclassificat...](https://open.kattis.com/problems/problemclassification) | mapper; frequency counting | 345 | | 3.1 |
| program | [Kattis - program](https://open.kattis.com/problems/program) | somewhat like Sieve of Eratosthenes initially and 1D RSQ DP speedup at the end | 89 | | 7.7 |
| programmingteamselection | [Kattis - programmingteamsel...](https://open.kattis.com/problems/programmingteamselection) | PARTITION-INTO-TRIANGLES; prune if #students % 3 != 0; generate up to m/3 teams; backtracking with memo | 64 | | 7.2 |
| programmingtutors | [Kattis - programmingtutors](https://open.kattis.com/problems/programmingtutors) | +perfect MCBM | 161 | | 3.7 |
| progressivescramble | [Kattis - progressivescrambl...](https://open.kattis.com/problems/progressivescramble) | the encode part is trivial; the decode part requires a bit of thinking | 977 | | 2.1 |
| promotions | [Kattis - promotions](https://open.kattis.com/problems/promotions) | modified DFS; special graph; DAG; also available at UVa 13015 - Promotions | 129 | | 5.5 |
| proofs | [Kattis - proofs](https://open.kattis.com/problems/proofs) | parsing; use unordered\_set to store past conclusions; a few corner cases | 48 | | 2.4 |
| protectingthecollection | [Kattis - protectingthecolle...](https://open.kattis.com/problems/protectingthecollection) | s: (r, c, dir, has\_installed\_a\_mirror); t: just proceed or install '/' or '\' mirror at a '.' | 55 | | 6.2 |
| provincesandgold | [Kattis - provincesandgold](https://open.kattis.com/problems/provincesandgold) | if-else if-else; 6 cases | 1779 | | 1.4 |
| prozor | [Kattis - prozor](https://open.kattis.com/problems/prozor) | 2D range sum with fix range; output formatting | 558 | | 1.6 |
| prsteni | [Kattis - prsteni](https://open.kattis.com/problems/prsteni) | GCD of first circle radius with subsequent circle radiuses | 993 | | 1.6 |
| prva | [Kattis - prva](https://open.kattis.com/problems/prva) | 2D array manipulation; check vertically and horizontally | 756 | | 1.7 |
| pseudoprime | [Kattis - pseudoprime](https://open.kattis.com/problems/pseudoprime) | yes if !isPrime(p) && a.modPow(p, p) = a; Big Integer; also available at UVa 11287 - Pseudoprime Numbers | 347 | | 3.5 |
| ptice | [Kattis - ptice](https://open.kattis.com/problems/ptice) | just a simple simulation | 2100 | | 1.5 |
| pubs | [Kattis - pubs](https://open.kattis.com/problems/pubs) | isolated vertex has no solution; this is actually not a bipartite graph check; we can do alternate labeling of vertices using DFS/BFS like a typical bipartite graph checker | 216 | | 3.5 |
| putovanje | [Kattis - putovanje](https://open.kattis.com/problems/putovanje) | clever problem with hint that masks possible brute force solution; just use 2D nested loops | 413 | | 2.5 |
| pyro | [Kattis - pyro](https://open.kattis.com/problems/pyro) | brute force with bitmask and fast set data structure | 143 | | 5.4 |
| qaly | [Kattis - qaly](https://open.kattis.com/problems/qaly) | trivial loop | 5955 | | 1.2 |
| qanat | [Kattis - qanat](https://open.kattis.com/problems/qanat) | the low rating is misleading; this is a difficult math problem that requires (two) ternary searches; other solution exists | 173 | | 2.2 |
| quadrant | [Kattis - quadrant](https://open.kattis.com/problems/quadrant) | if-else if-else; 4 cases | 13625 | | 1.3 |
| quantumsuperposition | [Kattis - quantumsuperpositi...](https://open.kattis.com/problems/quantumsuperposition) | s: (id, u, step); id is either DAG 1 or DAG 2, u is current vertex, step is the number of step used; t: try all neighbors of u in the appropriate DAG | 172 | | 6.0 |
| queens | [Kattis - queens](https://open.kattis.com/problems/queens) | simple N queens verifier program; use several 1D Boolean arrays to help do this check in O(N) | 725 | | 3.3 |
| queenspatio | [Kattis - queenspatio](https://open.kattis.com/problems/queenspatio) | compute ring by ring; involving Trigonometry | 71 | | 2.9 |
| quickbrownfox | [Kattis - quickbrownfox](https://open.kattis.com/problems/quickbrownfox) | pangram; frequency counting of 26 alphabets | 4433 | | 1.6 |
| quickestimate | [Kattis - quickestimate](https://open.kattis.com/problems/quickestimate) | just use strlen | 4219 | | 1.4 |
| quiteaproblem | [Kattis - quiteaproblem](https://open.kattis.com/problems/quiteaproblem) | trivial string matching per line | 1212 | | 2.1 |
| r2 | [Kattis - r2](https://open.kattis.com/problems/r2) | just print 2\*S-R1 | 14929 | | 1.2 |
| race | [Kattis - race](https://open.kattis.com/problems/race) | try all possible subset of locations; run DP TSP variant from start to ending to see if the plan is doable; keep the best | 65 | | 7.5 |
| racingalphabet | [Kattis - racingalphabet](https://open.kattis.com/problems/racingalphabet) | circle; arc; simulation | 992 | | 1.5 |
| rafting | [Kattis - rafting](https://open.kattis.com/problems/rafting) | distance of points of one polygon to line segments of the other polygon; do this test for both inner to outer and outer to inner polygons | 301 | | 3.4 |
| raggedright | [Kattis - raggedright](https://open.kattis.com/problems/raggedright) | just simulate the requirement | 1708 | | 1.8 |
| ragingriver | [Kattis - ragingriver](https://open.kattis.com/problems/ragingriver) | MCMF; unit capacity and unit cost | 96 | | 7.1 |
| raidteams | [Kattis - raidteams](https://open.kattis.com/problems/raidteams) | use more than one PQs that can support erase operation | 75 | | 3.5 |
| railroad2 | [Kattis - railroad2](https://open.kattis.com/problems/railroad2) | x-shaped level junctions have even degrees - ignore X; y-shaped switches have degree 3 - Y has to be even | 2188 | | 1.4 |
| rainbowroadrace | [Kattis - rainbowroadrace](https://open.kattis.com/problems/rainbowroadrace) | s: (pos, bitmask\_of\_7\_colors); use Dijkstra's | 101 | | 2.9 |
| ratings | [Kattis - ratings](https://open.kattis.com/problems/ratings) | s: (id, sum\_left, tie\_status); t: try all possible rating scores; the tie\_status parameter is important | 165 | | 3.6 |
| rationalarithmetic | [Kattis - rationalarithmetic](https://open.kattis.com/problems/rationalarithmetic) | fraction; use GCD to simplify output | 661 | | 3.3 |
| rationalratio | [Kattis - rationalratio](https://open.kattis.com/problems/rationalratio) | express repeating decimal as reduced fraction; use Python fractions | 216 | | 5.5 |
| rationalsequence | [Kattis - rationalsequence](https://open.kattis.com/problems/rationalsequence) | pattern finding; tree traversal on a special tree | 458 | | 4.6 |
| rationalsequence2 | [Kattis - rationalsequence2](https://open.kattis.com/problems/rationalsequence2) | the L/R pattern can be easily derived and indexing strategy is similar to binary heap indexing | 1388 | | 1.5 |
| rationalsequence3 | [Kattis - rationalsequence3](https://open.kattis.com/problems/rationalsequence3) | the reverse problem of rationalsequence2 | 587 | | 1.8 |
| rats | [Kattis - rats](https://open.kattis.com/problems/rats) | string processing plus cycle-finding; unordered\_set | 92 | | 6.3 |
| reachableroads | [Kattis - reachableroads](https://open.kattis.com/problems/reachableroads) | report number of CC-1 | 892 | | 2.1 |
| reactivity | [Kattis - reactivity](https://open.kattis.com/problems/reactivity) | verify if a HAMILTONIAN-PATH exists in the DAG; find one topological sort of the DAG; verify if it is the only one in linear time | 280 | | 4.0 |
| recenice | [Kattis - recenice](https://open.kattis.com/problems/recenice) | use unordered\_map to prepare pronunciation of [1..999]; precalculate the answer afterwards using another unordered\_map | 225 | | 3.1 |
| recipes | [Kattis - recipes](https://open.kattis.com/problems/recipes) | real life problem for a cook; just simulate the requirements | 731 | | 1.8 |
| reconnaissance | [Kattis - reconnaissance](https://open.kattis.com/problems/reconnaissance) | the objective function is unimodal; ternary search | 101 | | 3.8 |
| recount | [Kattis - recount](https://open.kattis.com/problems/recount) | use map; frequency counting | 1163 | | 2.0 |
| rectanglesurrounding | [Kattis - rectanglesurroundi...](https://open.kattis.com/problems/rectanglesurrounding) | rectangles; small; 2D Boolean arrays | 187 | | 3.8 |
| rectangularspiral | [Kattis - rectangularspiral](https://open.kattis.com/problems/rectangularspiral) | the first 3 minimal moves always 1R, 2U, 3D that will bring us to coordinate (-2, 2); case analysis | 96 | | 3.3 |
| redistribution | [Kattis - redistribution](https://open.kattis.com/problems/redistribution) | greedy; sorting | 537 | | 2.0 |
| redrover | [Kattis - redrover](https://open.kattis.com/problems/redrover) | brute force each substring; string matching | 429 | | 1.9 |
| reducedidnumbers | [Kattis - reducedidnumbers](https://open.kattis.com/problems/reducedidnumbers) | brute force the answer with fast unordered\_set data structure | 168 | | 3.2 |
| reduction | [Kattis - reduction](https://open.kattis.com/problems/reduction) | 2 nested loops; with sorting; also available at UVa 10670 - Work Reduction | 119 | | 5.8 |
| register | [Kattis - register](https://open.kattis.com/problems/register) | clever problem with hint that masks possible brute force solution; just use 2D nested loops | 583 | | 2.1 |
| relatives | [Kattis - relatives](https://open.kattis.com/problems/relatives) | EulerPhi(N); also available at UVa 10299 - Relatives | 231 | | 3.8 |
| relocation | [Kattis - relocation](https://open.kattis.com/problems/relocation) | just use DAT | 1112 | | 1.5 |
| repeatedsubstrings | [Kattis - repeatedsubstrings](https://open.kattis.com/problems/repeatedsubstrings) | simple LRS application | 119 | | 5.8 |
| repeatingdecimal | [Kattis - repeatingdecimal](https://open.kattis.com/problems/repeatingdecimal) | simulate the process until we have printed c digits; append trailing zeroes if necessary | 397 | | 3.6 |
| researchproductivityindex | [Kattis - researchproductivi...](https://open.kattis.com/problems/researchproductivityindex) | sort papers by decreasing probability; brute force k and greedily submit k best papers; DP probability; keep max | 358 | | 3.2 |
| reseto | [Kattis - reseto](https://open.kattis.com/problems/reseto) | sieve of Eratosthenes until the k-th crossing | 460 | | 2.7 |
| restaurant | [Kattis - restaurant](https://open.kattis.com/problems/restaurant) | simulation with stack-based concept; drop plates at stack 2 (LIFO); use move 2-$gt;1 to reverse order; take from stack 1 (FIFO) | 364 | | 4.5 |
| reversebinary | [Kattis - reversebinary](https://open.kattis.com/problems/reversebinary) | decimal to binary; reverse it; binary to decimal | 7144 | | 1.5 |
| reverserot | [Kattis - reverserot](https://open.kattis.com/problems/reverserot) | simple cipher | 2641 | | 1.7 |
| reversingroads | [Kattis - reversingroads](https://open.kattis.com/problems/reversingroads) | small graph; if #SCC = 1, print 'valid'; otherwise try reversing one of the m directed edges one by one until we either have #SCC = 1, or print 'invalid' otherwise | 274 | | 4.4 |
| rhyming | [Kattis - rhyming](https://open.kattis.com/problems/rhyming) | compare suffix of a common word with the list of other given words | 296 | | 2.5 |
| ricochetrobots | [Kattis - ricochetrobots](https://open.kattis.com/problems/ricochetrobots) | s: ((r, c) positions of the 4 robots; each robot can move to any of the 4 directions with variable lengths | 89 | | 3.2 |
| ridofcoins | [Kattis - ridofcoins](https://open.kattis.com/problems/ridofcoins) | not the minimizing COIN-CHANGE problem; but the maximizing one; greedy pruning; complete search on much smaller instance | 94 | | 7.9 |
| rijeci | [Kattis - rijeci](https://open.kattis.com/problems/rijeci) | simple simulation with a single loop; Fibonacci | 2478 | | 1.5 |
| rimski | [Kattis - rimski](https://open.kattis.com/problems/rimski) | to Roman/to Decimal conversion problem; use next permutation to be sure | 118 | | 4.5 |
| rings2 | [Kattis - rings2](https://open.kattis.com/problems/rings2) | more challenging 2D array manipulation; special output formatting style | 385 | | 3.8 |
| risk | [Kattis - risk](https://open.kattis.com/problems/risk) | BSTA: smallest edge at the bordering regions; construct flow graph according to valid movement of troops in one turn; run max flow | 86 | | 6.7 |
| roberthood | [Kattis - roberthood](https://open.kattis.com/problems/roberthood) | the classic furthest pair problem; use convex hull and then rotating caliper | 376 | | 4.6 |
| robotmaze | [Kattis - robotmaze](https://open.kattis.com/problems/robotmaze) | s: (r, c, dir, steps); be careful of corner cases | 87 | | 5.7 |
| robotopia | [Kattis - robotopia](https://open.kattis.com/problems/robotopia) | 2 linear equations; 2 unknowns; small range | 582 | | 6.2 |
| robotprotection | [Kattis - robotprotection](https://open.kattis.com/problems/robotprotection) | simply find the area of convex hull | 236 | | 2.4 |
| robotsonagrid | [Kattis - robotsonagrid](https://open.kattis.com/problems/robotsonagrid) | counting paths in grid (implicit DAG); DP | 147 | | 4.3 |
| robotturtles | [Kattis - robotturtles](https://open.kattis.com/problems/robotturtles) | s: (r, c, dir, bitmask\_ice\_castles); print solution; very tedious | 114 | | 4.5 |
| rockband | [Kattis - rockband](https://open.kattis.com/problems/rockband) | interesting usage of 1D array to simplify the solution; a bit of sorting to arrange the output | 194 | | 3.9 |
| rockclimbing | [Kattis - rockclimbing](https://open.kattis.com/problems/rockclimbing) | BSTA + BFS | 60 | | 5.6 |
| rockpaperscissors | [Kattis - rockpaperscissors](https://open.kattis.com/problems/rockpaperscissors) | count wins and losses; output win average; also available at UVa 10903 - Rock-Paper-Scissors ... | 820 | | 3.7 |
| rockscissorspaper | [Kattis - rockscissorspaper](https://open.kattis.com/problems/rockscissorspaper) | 2D arrays manipulation; also available at UVa 10443 - Rock, Scissors, Paper | 153 | | 4.8 |
| rollcall | [Kattis - rollcall](https://open.kattis.com/problems/rollcall) | use unordered\_map to count frequency; sort | 530 | | 2.4 |
| rollercoasterfun | [Kattis - rollercoasterfun](https://open.kattis.com/problems/rollercoasterfun) | s: (T); split DPs when b = 0 and when b != 0 | 101 | | 7.7 |
| romanholidays | [Kattis - romanholidays](https://open.kattis.com/problems/romanholidays) | generate and sort the first 1K Roman strings; ''M'' is at index 945; append prefix 'M' for numbers larger than 1K | 92 | | 3.6 |
| romans | [Kattis - romans](https://open.kattis.com/problems/romans) | just print round(X \* 1087.7626) | 2088 | | 1.4 |
| roompainting | [Kattis - roompainting](https://open.kattis.com/problems/roompainting) | sort the cans at shop (can be used more than once); use lower\_bound for what Joe needs at shop | 416 | | 3.8 |
| rootedsubtrees | [Kattis - rootedsubtrees](https://open.kattis.com/problems/rootedsubtrees) | let d be the number of vertices that are strictly between r and p, inclusive (computed using LCA); derive formula w.r.t d | 106 | | 3.2 |
| rot | [Kattis - rot](https://open.kattis.com/problems/rot) | rotate 2D array by 90 degrees (easier) and 45 degrees (more challenging) | 107 | | 2.8 |
| rotatecut | [Kattis - rotatecut](https://open.kattis.com/problems/rotatecut) | simulation; use formula; stop after we have <4 letters | 266 | | 3.0 |
| roundedbuttons | [Kattis - roundedbuttons](https://open.kattis.com/problems/roundedbuttons) | in-rectangle/in-square test; in-4-circles tests | 176 | | 2.9 |
| runlengthencodingrun | [Kattis - runlengthencodingr...](https://open.kattis.com/problems/runlengthencodingrun) | encode and decode | 1929 | | 1.7 |
| runningmom | [Kattis - runningmom](https://open.kattis.com/problems/runningmom) | find a cycle in a directed graph | 591 | | 3.8 |
| runningsteps | [Kattis - runningsteps](https://open.kattis.com/problems/runningsteps) | LA 7360 - Greater NY15; s: (leg, l2, r2, l1, r1); t: left/right leg 1/2 steps; use unordered\_map as memo table; use pruning | 168 | | 2.6 |
| sabor | [Kattis - sabor](https://open.kattis.com/problems/sabor) | ad hoc; hard simulation; analyze that the simulation terminates | 53 | | 5.2 |
| safe | [Kattis - safe](https://open.kattis.com/problems/safe) | s: (convert 3x3 grid into a base 4 integer); BFS | 181 | | 3.0 |
| safehouses | [Kattis - safehouses](https://open.kattis.com/problems/safehouses) | 4 nested loops | 261 | | 3.1 |
| safepassage | [Kattis - safepassage](https://open.kattis.com/problems/safepassage) | SSSP; implicit DAG; s: (cloak\_pos, bitmask); try all ways to go back and forth between gate and dorm; report minimum | 387 | | 4.9 |
| sanic | [Kattis - sanic](https://open.kattis.com/problems/sanic) | rolling a small circle inside a bigger circle; 'offset-by-one' | 115 | | 2.4 |
| santaklas | [Kattis - santaklas](https://open.kattis.com/problems/santaklas) | another simple trigonometry problem: sine | 422 | | 2.5 |
| satisfiability | [Kattis - satisfiability](https://open.kattis.com/problems/satisfiability) | SAT(isfiability); n ≤ 20; try all possible subsets | 244 | | 3.8 |
| savingdaylight | [Kattis - savingdaylight](https://open.kattis.com/problems/savingdaylight) | convert hh:mm to minute; compute difference of ending and starting; then convert minute to hh:mm again | 986 | | 2.1 |
| savingforretirement | [Kattis - savingforretiremen...](https://open.kattis.com/problems/savingforretirement) | try all possible answers; small constraint | 1248 | | 1.7 |
| savinguniverse | [Kattis - savinguniverse](https://open.kattis.com/problems/savinguniverse) | s: (cur\_SE; Q\_pos); t: stay in this search engine or switch to one other; unweighted SSSP on DAG | 122 | | 4.7 |
| saxophone | [Kattis - saxophone](https://open.kattis.com/problems/saxophone) | about musical instruments; also available at UVa 10415 - Eb Alto Saxophone Player | 268 | | 2.4 |
| scenes | [Kattis - scenes](https://open.kattis.com/problems/scenes) | s: (pos, ribbon\_left); t: try all possible heights; ignore the flat scenes first and subtract those cases at the end | 407 | | 3.6 |
| schoolspirit | [Kattis - schoolspirit](https://open.kattis.com/problems/schoolspirit) | compute group score using power of 0.8 as described; simulation | 371 | | 1.5 |
| scrollingsign | [Kattis - scrollingsign](https://open.kattis.com/problems/scrollingsign) | modified string matching; complete search; also available at UVa 11576 - Scrolling Sign | 238 | | 3.1 |
| secretchamber | [Kattis - secretchamber](https://open.kattis.com/problems/secretchamber) | LA 8047 - WorldFinals RapidCity17; Warshall's transitive closure; also available at UVa 01757 - Secret Chamber ... | 1187 | | 2.2 |
| secretmessage | [Kattis - secretmessage](https://open.kattis.com/problems/secretmessage) | just do as asked; use 2D grid | 2866 | | 1.7 |
| secretsanta | [Kattis - secretsanta](https://open.kattis.com/problems/secretsanta) | simple probability; derangement vs factorial; the answer for larger N converges | 321 | | 2.7 |
| securedoors | [Kattis - securedoors](https://open.kattis.com/problems/securedoors) | use unordered\_set to keep track of the people | 2108 | | 1.8 |
| securitybadge | [Kattis - securitybadge](https://open.kattis.com/problems/securitybadge) | reachability test; clever idea to compress ids | 87 | | 6.6 |
| segmentdistance | [Kattis - segmentdistance](https://open.kattis.com/problems/segmentdistance) | if the two line segment intersects, output 0.00; otherwise, compute distance of all 4 end points to the other line segment; be careful of degenerate cases | 227 | | 4.1 |
| selfsimilarstrings | [Kattis - selfsimilarstrings](https://open.kattis.com/problems/selfsimilarstrings) | complete search as the string is short; frequency counting; use unordered\_map; repetition | 181 | | 3.5 |
| sellingspatulas | [Kattis - sellingspatulas](https://open.kattis.com/problems/sellingspatulas) | -8 per time slot initially; read sale data; 1D range sum; complete search | 84 | | 8.2 |
| semafori | [Kattis - semafori](https://open.kattis.com/problems/semafori) | simple simulation | 724 | | 2.0 |
| sequence | [Kattis - sequence](https://open.kattis.com/problems/sequence) | this is NOT an LIS problem; the longest possible answer is a LIS that consists of powers of twos | 310 | | 3.6 |
| sequentialmanufacturing | [Kattis - sequentialmanufact...](https://open.kattis.com/problems/sequentialmanufacturing) | we can control the input; the answer involves max element | 51 | | 2.9 |
| server | [Kattis - server](https://open.kattis.com/problems/server) | one first come first serve pass; we can use queue although overkill | 3331 | | 1.9 |
| set | [Kattis - set](https://open.kattis.com/problems/set) | 4 nested loops; easy | 364 | | 1.8 |
| seti | [Kattis - seti](https://open.kattis.com/problems/seti) | n equations and n unknowns; but there are division under modulo, so use Gaussian elimination with modular multiplicative inverse | 34 | | 3.6 |
| setstack | [Kattis - setstack](https://open.kattis.com/problems/setstack) | simulation of stack operations with vector but also with help of efficient map and set | 161 | | 5.9 |
| sevenwonders | [Kattis - sevenwonders](https://open.kattis.com/problems/sevenwonders) | one pass | 4776 | | 1.4 |
| sgcoin | [Kattis - sgcoin](https://open.kattis.com/problems/sgcoin) | we can either brute force short string message; precompute all possible hash values; or come up with O(1) solution | 271 | | 2.4 |
| shatteredcake | [Kattis - shatteredcake](https://open.kattis.com/problems/shatteredcake) | sum the area of the pieces and relate it with L\*W | 957 | | 1.6 |
| sheldon | [Kattis - sheldon](https://open.kattis.com/problems/sheldon) | brute force; try all possibilities of Sheldon Numbers; convert binary string to ULL; put into sorted set | 129 | | 4.8 |
| shiritori | [Kattis - shiritori](https://open.kattis.com/problems/shiritori) | linear pass; use unordered\_set to keep track of words that have been called | 295 | | 2.9 |
| shopaholic | [Kattis - shopaholic](https://open.kattis.com/problems/shopaholic) | greedy; sorting | 959 | | 2.4 |
| shopping | [Kattis - shopping](https://open.kattis.com/problems/shopping) | SSSP from up to 10 stores; compute APSP information for TSP; then use DP (or brute force), n ≤ 10 | 27 | | 6.0 |
| shoppingmalls | [Kattis - shoppingmalls](https://open.kattis.com/problems/shoppingmalls) | special graph construction; multiple queries; Dijkstra's and print path | 79 | | 4.5 |
| shortestpath1 | [Kattis - shortestpath1](https://open.kattis.com/problems/shortestpath1) | very standard Dijkstra's problem | 1470 | | 3.5 |
| shortestpath2 | [Kattis - shortestpath2](https://open.kattis.com/problems/shortestpath2) | Dijkstra's with modification; edges only available periodically; be careful with P = 0 case | 423 | | 3.9 |
| shortestpath3 | [Kattis - shortestpath3](https://open.kattis.com/problems/shortestpath3) | Bellman-Ford; do DFS/BFS from vertices that are part of any negative cycle | 524 | | 5.1 |
| shortestpath4 | [Kattis - shortestpath4](https://open.kattis.com/problems/shortestpath4) | s: (u, vtx\_left); t: neighbors of u | 76 | | 3.0 |
| shortsell | [Kattis - shortsell](https://open.kattis.com/problems/shortsell) | similar to Kadane's algorithm; linear pass; prefix sum | 104 | | 4.1 |
| showroom | [Kattis - showroom](https://open.kattis.com/problems/showroom) | 0/1-weighted SSSP; solvable with BFS and deque; 0-weight for passing a door, 1-weight for passing a car | 256 | | 4.4 |
| shuffling | [Kattis - shuffling](https://open.kattis.com/problems/shuffling) | simulate card shuffling operation | 218 | | 2.8 |
| sibice | [Kattis - sibice](https://open.kattis.com/problems/sibice) | Euclidean dist | 7006 | | 1.3 |
| sidewayssorting | [Kattis - sidewayssorting](https://open.kattis.com/problems/sidewayssorting) | stable\_sort or sort multi-fields of columns of a 2D array; ignore case | 857 | | 2.0 |
| signals | [Kattis - signals](https://open.kattis.com/problems/signals) | LCS of 2 permutations → LIS; O(n log k) solution; also see UVa 10635 | 40 | | 3.1 |
| silueta | [Kattis - silueta](https://open.kattis.com/problems/silueta) | 2D grid processing initially; modified DFS to count perimeter of polygon in grid | 37 | | 5.3 |
| sim | [Kattis - sim](https://open.kattis.com/problems/sim) | use list and its iterator | 99 | | 2.0 |
| simon | [Kattis - simon](https://open.kattis.com/problems/simon) | trivial string matching/string comparison | 2203 | | 2.4 |
| simonsays | [Kattis - simonsays](https://open.kattis.com/problems/simonsays) | trivial string matching/string comparison | 5511 | | 1.5 |
| simpleaddition | [Kattis - simpleaddition](https://open.kattis.com/problems/simpleaddition) | that A+B on BigInteger question | 1913 | | 1.9 |
| simplepolygon | [Kattis - simplepolygon](https://open.kattis.com/problems/simplepolygon) | center of polygon; Graham's scan like angular sorting | 155 | | 5.5 |
| simplicity | [Kattis - simplicity](https://open.kattis.com/problems/simplicity) | greedy | 694 | | 2.5 |
| sixdegrees | [Kattis - sixdegrees](https://open.kattis.com/problems/sixdegrees) | map strings to integers; BFS from all sources; prune at depth 6; compare size of unreachable vertices with the size of all vertices | 83 | | 5.3 |
| sjecista | [Kattis - sjecista](https://open.kattis.com/problems/sjecista) | number of intersections of diagonals in a convex polygon | 581 | | 1.9 |
| skener | [Kattis - skener](https://open.kattis.com/problems/skener) | enlarging 2D character array | 2067 | | 1.5 |
| skijumping | [Kattis - skijumping](https://open.kattis.com/problems/skijumping) | BSTA + heavy math/Physics; involving derivation | 56 | | 3.4 |
| skocimis | [Kattis - skocimis](https://open.kattis.com/problems/skocimis) | greedy | 2156 | | 1.6 |
| skyline | [Kattis - skyline](https://open.kattis.com/problems/skyline) | cool area subtraction problem from back to front; solvable with java.awt.geom.\* library package; Shoelace's formula | 25 | | 4.8 |
| slalom2 | [Kattis - slalom2](https://open.kattis.com/problems/slalom2) | BSTA + Physics simulation; also available at UVa 11627 - Slalom | 43 | | 5.4 |
| slatkisi | [Kattis - slatkisi](https://open.kattis.com/problems/slatkisi) | power of 10; division; rounding | 331 | | 2.3 |
| slikar | [Kattis - slikar](https://open.kattis.com/problems/slikar) | very similar to Kattis - fire2 and UVa 11624 | 204 | | 3.4 |
| slowleak | [Kattis - slowleak](https://open.kattis.com/problems/slowleak) | APSP; FW twice | 279 | | 5.6 |
| smallestmultiple | [Kattis - smallestmultiple](https://open.kattis.com/problems/smallestmultiple) | simple LCMs of all numbers; use Java BigInteger to be safe | 335 | | 3.5 |
| smallschedule | [Kattis - smallschedule](https://open.kattis.com/problems/smallschedule) | BSTA + greedy or math | 302 | | 3.1 |
| smartphone | [Kattis - smartphone](https://open.kattis.com/problems/smartphone) | compare prefix so far with the target string and the 3 suggestions; output 1 of 4 options with shortest number of keypresses | 354 | | 2.6 |
| snappereasy | [Kattis - snappereasy](https://open.kattis.com/problems/snappereasy) | see Kattis - snapperhard | 424 | | 2.7 |
| snapperhard | [Kattis - snapperhard](https://open.kattis.com/problems/snapperhard) | bit manipulation; find the pattern; the easier version is also available at Kattis - snappereasy | 501 | | 2.3 |
| snowflakes | [Kattis - snowflakes](https://open.kattis.com/problems/snowflakes) | use unordered\_map to record the occurrence index of a certain snowflake size; use this to determine the answer in linear time; also available at UVa 11572 | 404 | | 4.4 |
| socialadvertising | [Kattis - socialadvertising](https://open.kattis.com/problems/socialadvertising) | MIN-DOMINATING-SET/MIN-SET-COVER; n ≤ 20; use compact Adjacency Matrix technique | 59 | | 5.1 |
| socialrunning | [Kattis - socialrunning](https://open.kattis.com/problems/socialrunning) | try all possible starting runner; first and last runners will run alone at first and last segment, respectively | 138 | | 1.8 |
| sodaslurper | [Kattis - sodaslurper](https://open.kattis.com/problems/sodaslurper) | similar to UVa 10346; also available at UVa 11689 - Soda Surpler | 1920 | | 1.6 |
| softpasswords | [Kattis - softpasswords](https://open.kattis.com/problems/softpasswords) | custom string comparison; follow the requirements | 350 | | 2.1 |
| sok | [Kattis - sok](https://open.kattis.com/problems/sok) | case analysis | 750 | | 1.7 |
| solitaire | [Kattis - solitaire](https://open.kattis.com/problems/solitaire) | backtrack; similar to Kattis - crackerbarrel and Kattis - peggamefortwo; but on simpler grid graph and there is no need to use DP/minimax | 169 | | 3.4 |
| somesum | [Kattis - somesum](https://open.kattis.com/problems/somesum) | use complete search to get the answer | 575 | | 1.8 |
| sort | [Kattis - sort](https://open.kattis.com/problems/sort) | Counting Sort variant | 318 | | 2.3 |
| sortofsorting | [Kattis - sortofsorting](https://open.kattis.com/problems/sortofsorting) | stable\_sort or sort multi-fields | 2667 | | 2.2 |
| soylent | [Kattis - soylent](https://open.kattis.com/problems/soylent) | ceiling function | 3008 | | 1.7 |
| soyoulikeyourfoodhot | [Kattis - soyoulikeyourfoodh...](https://open.kattis.com/problems/soyoulikeyourfoodhot) | Linear Diophantine Equation; still solvable with brute force | 103 | | 5.2 |
| sparklesseven | [Kattis - sparklesseven](https://open.kattis.com/problems/sparklesseven) | seven nested loops with fast DS | 36 | | 3.4 |
| spavanac | [Kattis - spavanac](https://open.kattis.com/problems/spavanac) | convert hh:mm to minute, reduce by 45 minutes, then convert minute to hh:mm again | 8877 | | 1.4 |
| speed | [Kattis - speed](https://open.kattis.com/problems/speed) | LA 8043 - WorldFinals RapidCity17; BSTA + Physics; also available at UVa 01753 - Need for Speed | 955 | | 3.2 |
| speedlimit | [Kattis - speedlimit](https://open.kattis.com/problems/speedlimit) | standard simulation problem | 7164 | | 1.4 |
| speedyescape | [Kattis - speedyescape](https://open.kattis.com/problems/speedyescape) | compute shortest paths information using Floyd-Warshall; then use DP; also available at UVa 11693 - Speedy Escape | 112 | | 5.5 |
| spiderman | [Kattis - spiderman](https://open.kattis.com/problems/spiderman) | simple DP; go up or down; print solution | 1010 | | 3.9 |
| spiral | [Kattis - spiral](https://open.kattis.com/problems/spiral) | generate the 2D 100x100 spiraling grid first; involving small primes; BFS | 148 | | 3.5 |
| splat | [Kattis - splat](https://open.kattis.com/problems/splat) | bruce force N points; bottom to top; point in circle tests | 353 | | 2.1 |
| sprocketscience | [Kattis - sprocketscience](https://open.kattis.com/problems/sprocketscience) | complete search with bitmask; math/LCM; sorting/comparison of vectors | 28 | | 6.0 |
| squaredeal | [Kattis - squaredeal](https://open.kattis.com/problems/squaredeal) | try all 3! permutations of rectangles and try all 2^3 combinations of rectangle orientations; test figure 1.a and 1.b conditions | 232 | | 4.6 |
| squarepegs | [Kattis - squarepegs](https://open.kattis.com/problems/squarepegs) | convert square to circular; sort; greedy matching | 265 | | 3.1 |
| squawk | [Kattis - squawk](https://open.kattis.com/problems/squawk) | count the number of paths of length L in an undirected graph after t steps that are reachable from source s | 409 | | 3.5 |
| srednji | [Kattis - srednji](https://open.kattis.com/problems/srednji) | go left and right of B; use fast data structure like map to help determine the result fast | 164 | | 4.1 |
| sretan | [Kattis - sretan](https://open.kattis.com/problems/sretan) | the pattern is like Gray code; find the pattern via Divide and Conquer | 110 | | 4.1 |
| standings | [Kattis - standings](https://open.kattis.com/problems/standings) | greedy; sorting | 329 | | 4.1 |
| stararrangements | [Kattis - stararrangements](https://open.kattis.com/problems/stararrangements) | one loop | 1637 | | 1.4 |
| statistics | [Kattis - statistics](https://open.kattis.com/problems/statistics) | one pass; array not needed | 2942 | | 1.7 |
| stickysituation | [Kattis - stickysituation](https://open.kattis.com/problems/stickysituation) | see if 3 sides form a triangle; see UVa 11579 | 675 | | 2.7 |
| stirlingsapproximation | [Kattis - stirlingsapproxima...](https://open.kattis.com/problems/stirlingsapproximation) | O(n) pass; use log transformation to help beat TLE | 157 | | 4.5 |
| stockbroker | [Kattis - stockbroker](https://open.kattis.com/problems/stockbroker) | greedy | 578 | | 3.4 |
| stockprices | [Kattis - stockprices](https://open.kattis.com/problems/stockprices) | PQ simulation; both max and min PQ | 109 | | 3.7 |
| stringfactoring | [Kattis - stringfactoring](https://open.kattis.com/problems/stringfactoring) | s: the min weight of substring [i..j]; also available at UVa 11022 - String Factoring | 57 | | 5.1 |
| stringmatching | [Kattis - stringmatching](https://open.kattis.com/problems/stringmatching) | try Rabin-Karp or KMP | 719 | | 4.5 |
| stringmultimatching | [Kattis - stringmultimatchin...](https://open.kattis.com/problems/stringmultimatching) | Suffix Array; multiple calls of String Matching | 185 | | 6.8 |
| subexpression | [Kattis - subexpression](https://open.kattis.com/problems/subexpression) | recursive parsing; use DP; similar to https://visualgo.net/en/recursion tree versus DAG | 44 | | 5.9 |
| substrings | [Kattis - substrings](https://open.kattis.com/problems/substrings) | Suffix Array; clever usage of LCP information; interesting problem | 194 | | 6.5 |
| subway2 | [Kattis - subway2](https://open.kattis.com/problems/subway2) | use basic geometry skill to build the weighted graph; then run Dijkstra's; also available at UVa 10389 - Subway | 70 | | 5.9 |
| subwayplanning | [Kattis - subwayplanning](https://open.kattis.com/problems/subwayplanning) | not easy, rating deceptive: prune points with distance ≤ d to (0, 0); compute min/max possible angles for the rest using trigonometry; sort; brute force; greedy cover | 92 | | 2.1 |
| succession | [Kattis - succession](https://open.kattis.com/problems/succession) | (upwards) traversal of family DAG; use unordered\_maps; make the founder has very large starting blood to avoid fraction | 165 | | 3.1 |
| sudokunique | [Kattis - sudokunique](https://open.kattis.com/problems/sudokunique) | GRAPH-COLORING; 9-color; backtracking with heavy pruning | 61 | | 8.8 |
| suffixarrayreconstruction | [Kattis - suffixarrayreconst...](https://open.kattis.com/problems/suffixarrayreconstruction) | clever creative problem involving Suffix Array concept; be careful that '\*' can be more than one character | 125 | | 4.1 |
| suffixsorting | [Kattis - suffixsorting](https://open.kattis.com/problems/suffixsorting) | basic Suffix Array construction problem; be careful with terminating symbol | 201 | | 5.7 |
| sumkindofproblem | [Kattis - sumkindofproblem](https://open.kattis.com/problems/sumkindofproblem) | sum of arithmetic progression | 3258 | | 1.7 |
| summertrip | [Kattis - summertrip](https://open.kattis.com/problems/summertrip) | 3 loops TLE; clever 2D nested loops; try all possible ending index i; use DAT to remember the latest lowest starting index that has the same event as s[i] | 632 | | 2.4 |
| sumoftheothers | [Kattis - sumoftheothers](https://open.kattis.com/problems/sumoftheothers) | parsing; try each number as the sum; sum the rest | 1261 | | 1.9 |
| sumsets | [Kattis - sumsets](https://open.kattis.com/problems/sumsets) | SUBSET-SUM; 4-SUM variant; use unordered\_map to map sum of a and b in S and their two indices; also available at UVa 10125 - Sumsets | 130 | | 8.2 |
| sumsquareddigits | [Kattis - sumsquareddigits](https://open.kattis.com/problems/sumsquareddigits) | base number conversion; square the digits | 1503 | | 1.4 |
| supercomputer | [Kattis - supercomputer](https://open.kattis.com/problems/supercomputer) | easy problem if we use Fenwick Tree | 760 | | 3.8 |
| suspensionbridges | [Kattis - suspensionbridges](https://open.kattis.com/problems/suspensionbridges) | BSTA + Maths; be careful of precision error | 409 | | 4.6 |
| svada | [Kattis - svada](https://open.kattis.com/problems/svada) | BSTA + simulation; process the two types of monkeys separately | 144 | | 3.5 |
| swaptosort | [Kattis - swaptosort](https://open.kattis.com/problems/swaptosort) | it boils down to finding CCs of 1 with N-1; 2 with N-2; and so on... | 423 | | 3.9 |
| sylvester | [Kattis - sylvester](https://open.kattis.com/problems/sylvester) | 2D grid; DnC into 4 regions; count how many times that cell is part of the fourth quadrant | 359 | | 2.2 |
| symmetricorder | [Kattis - symmetricorder](https://open.kattis.com/problems/symmetricorder) | use stack to help reverse even-indexed names | 3584 | | 1.5 |
| synchronizinglists | [Kattis - synchronizinglists](https://open.kattis.com/problems/synchronizinglists) | sort and lower\_bound | 2130 | | 1.5 |
| t9spelling | [Kattis - t9spelling](https://open.kattis.com/problems/t9spelling) | similar to (the reverse of) UVa 12896 | 2425 | | 1.7 |
| taisformula | [Kattis - taisformula](https://open.kattis.com/problems/taisformula) | area of consecutive trapezoids | 923 | | 1.5 |
| tajna | [Kattis - tajna](https://open.kattis.com/problems/tajna) | simple 2D grid cipher | 471 | | 2.1 |
| tarifa | [Kattis - tarifa](https://open.kattis.com/problems/tarifa) | one pass; array not needed | 9768 | | 1.3 |
| tautology | [Kattis - tautology](https://open.kattis.com/problems/tautology) | try all 2^5 = 32 values with pruning; also available at UVa 11108 - Tautology | 160 | | 3.4 |
| taxicab | [Kattis - taxicab](https://open.kattis.com/problems/taxicab) | LA 3126 - NorthwesternEurope04; MPC on DAG; also available at UVa 01201 - Taxi Cab Scheme | 38 | | 5.5 |
| teacherevaluation | [Kattis - teacherevaluation](https://open.kattis.com/problems/teacherevaluation) | greedy | 262 | | 3.0 |
| telephones | [Kattis - telephones](https://open.kattis.com/problems/telephones) | brute force; check intervals; also available at UVa 12205 - Happy Telephones | 302 | | 2.6 |
| temperature | [Kattis - temperature](https://open.kattis.com/problems/temperature) | if-else if-else; 3 cases; derive formula | 685 | | 2.2 |
| temperatureconfusion | [Kattis - temperatureconfusi...](https://open.kattis.com/problems/temperatureconfusion) | simple conversion; fraction; GCD | 393 | | 2.1 |
| tenis | [Kattis - tenis](https://open.kattis.com/problems/tenis) | Tennis scoring rules; tricky test cases; be careful | 78 | | 5.0 |
| teque | [Kattis - teque](https://open.kattis.com/problems/teque) | all operations must be O(1) | 766 | | 3.3 |
| terraces | [Kattis - terraces](https://open.kattis.com/problems/terraces) | group cells with similar height together; if it cannot flow to any other component with lower height, add the size of this CC to answer | 339 | | 3.6 |
| test2 | [Kattis - test2](https://open.kattis.com/problems/test2) | SCC + printing solution; also available at UVa 10731 - Test | 20 | | 5.5 |
| tetration | [Kattis - tetration](https://open.kattis.com/problems/tetration) | n to the power of 1/n | 718 | | 1.6 |
| tetris | [Kattis - tetris](https://open.kattis.com/problems/tetris) | actually 3D pattern array to simulate various shape positions | 322 | | 1.8 |
| texassummers | [Kattis - texassummers](https://open.kattis.com/problems/texassummers) | Dijkstra's; complete weighted graph; print path | 97 | | 4.0 |
| textencryption | [Kattis - textencryption](https://open.kattis.com/problems/textencryption) | convert input alphabets to UPPERCASEs; loop | 305 | | 3.2 |
| textmessaging | [Kattis - textmessaging](https://open.kattis.com/problems/textmessaging) | greedy; sorting | 222 | | 2.9 |
| textureanalysis | [Kattis - textureanalysis](https://open.kattis.com/problems/textureanalysis) | one loop | 571 | | 2.4 |
| tgif | [Kattis - tgif](https://open.kattis.com/problems/tgif) | given the day of 1 Jan of an unspecified year, find the DAY\_OF\_WEEK of another day of that year; use Java GregorianCalendar | 82 | | 3.2 |
| thanos | [Kattis - thanos](https://open.kattis.com/problems/thanos) | simple simulation; R is at least 2 | 335 | | 3.2 |
| thanosthehero | [Kattis - thanosthehero](https://open.kattis.com/problems/thanosthehero) | for-loop from backwards | 320 | | 3.9 |
| thebackslashproblem | [Kattis - thebackslashproble...](https://open.kattis.com/problems/thebackslashproblem) | actually power of two | 349 | | 2.2 |
| thedealoftheday | [Kattis - thedealoftheday](https://open.kattis.com/problems/thedealoftheday) | simple combinatorics (read the problem carefully) with either backtracking or DP (overkill; small state); the main issue is BigInteger; use Python or Java BigInteger | 116 | | 2.2 |
| thegrandadventure | [Kattis - thegrandadventure](https://open.kattis.com/problems/thegrandadventure) | stack simulation | 348 | | 2.0 |
| thekingofthenorth | [Kattis - thekingofthenorth](https://open.kattis.com/problems/thekingofthenorth) | interesting min cut problem | 193 | | 5.0 |
| thelastproblem | [Kattis - thelastproblem](https://open.kattis.com/problems/thelastproblem) | S can have space(s) | 76 | | 1.8 |
| thermostat | [Kattis - thermostat](https://open.kattis.com/problems/thermostat) | convert one temperature to another; use fraction; use Java BigInteger; gcd | 81 | | 3.4 |
| thinkingofanumber | [Kattis - thinkingofanumber](https://open.kattis.com/problems/thinkingofanumber) | simple range; use min/max properly; then small divisibility tests | 379 | | 3.8 |
| thisaintyourgrandpascheckerboard | [Kattis - thisaintyourgrandp...](https://open.kattis.com/problems/thisaintyourgrandpascheckerboard) | simple 2D array manipulation | 578 | | 1.6 |
| threedigits | [Kattis - threedigits](https://open.kattis.com/problems/threedigits) | simulate factorial computation; remove trailing zeroes; keep many last few non-zero digits using modulo | 289 | | 5.9 |
| threepowers | [Kattis - threepowers](https://open.kattis.com/problems/threepowers) | Big Integer is for 3^n; binary rep of set; also available at UVa 10669 - Three powers | 700 | | 2.6 |
| throwns | [Kattis - throwns](https://open.kattis.com/problems/throwns) | use stack of egg positions to help with the undo operation; be careful of corner cases involving modulo operation | 1091 | | 2.6 |
| ticketpricing | [Kattis - ticketpricing](https://open.kattis.com/problems/ticketpricing) | LA 6867 - Rocky Mountain15; similar with UVa 11450 discussed in this book; real life problem; print (the first) part of the solution | 138 | | 4.9 |
| tictactoe2 | [Kattis - tictactoe2](https://open.kattis.com/problems/tictactoe2) | check validity of Tic Tac Toe game; tricky; also available at UVa 10363 - Tic Tac Toe | 167 | | 5.3 |
| tide | [Kattis - tide](https://open.kattis.com/problems/tide) | SSSP with complex rules; 3 different weights (0, 1, or 10 seconds); Dijkstra's | 21 | | 5.4 |
| tight | [Kattis - tight](https://open.kattis.com/problems/tight) | s: (i, j); #tight words of length i that end in digit j divided by #words: (k+1)^n; also available at UVa 10081 - Tight words | 100 | | 3.5 |
| tightfitsudoku | [Kattis - tightfitsudoku](https://open.kattis.com/problems/tightfitsudoku) | SUDOKU variant; backtracking + pruning | 87 | | 4.2 |
| tightlypacked | [Kattis - tightlypacked](https://open.kattis.com/problems/tightlypacked) | complete search + BSTA + a simple geometry rectangle area analysis | 72 | | 5.9 |
| tildes | [Kattis - tildes](https://open.kattis.com/problems/tildes) | basic UFDS with size of set query | 165 | | 2.6 |
| tiles | [Kattis - tiles](https://open.kattis.com/problems/tiles) | the low rating is misleading; modified sieve to count number of divisors d of i; interpret d as polynomial pd; use FFT to multiply pd\*pd | 246 | | 2.9 |
| timebomb | [Kattis - timebomb](https://open.kattis.com/problems/timebomb) | just a tedious input parsing problem; divisibility by 6 | 1174 | | 1.8 |
| timeloop | [Kattis - timeloop](https://open.kattis.com/problems/timeloop) | just print 'num Abracadabra' N times | 17170 | | 1.3 |
| timezones | [Kattis - timezones](https://open.kattis.com/problems/timezones) | follow the description, tedious; also available at UVa 10371 - Time Zones | 67 | | 5.3 |
| tiredterry | [Kattis - tiredterry](https://open.kattis.com/problems/tiredterry) | double the record to simplify wrap around issue; precompute number of sleep per any subranges; brute force all seconds | 164 | | 3.3 |
| toilet | [Kattis - toilet](https://open.kattis.com/problems/toilet) | simulation; be careful of corner cases | 1756 | | 2.4 |
| tolower | [Kattis - tolower](https://open.kattis.com/problems/tolower) | trivial string problem | 696 | | 1.8 |
| tomography | [Kattis - tomography](https://open.kattis.com/problems/tomography) | max flow; somewhat assignment problem; matching with capacity; bipartite graph: left-set: rows/right-set: col; can also be solved with greedy algorithm | 239 | | 3.8 |
| torn2pieces | [Kattis - torn2pieces](https://open.kattis.com/problems/torn2pieces) | construct graph from strings; traversal from source to target; reachability check; print path | 1115 | | 3.6 |
| touchscreenkeyboard | [Kattis - touchscreenkeyboar...](https://open.kattis.com/problems/touchscreenkeyboard) | follow the requirements; sort | 636 | | 1.9 |
| tourdefrance | [Kattis - tourdefrance](https://open.kattis.com/problems/tourdefrance) | brute force plus sorting; also available at UVa 11242 - Tour de France | 354 | | 2.7 |
| tourist | [Kattis - tourist](https://open.kattis.com/problems/tourist) | min cost two flows from NW to SE; MCMF variant | 63 | | 6.3 |
| tourists | [Kattis - tourists](https://open.kattis.com/problems/tourists) | APSP on Tree (special requirements); LCA | 431 | | 3.8 |
| towering | [Kattis - towering](https://open.kattis.com/problems/towering) | try all 6! permutations; get the one that works | 986 | | 2.1 |
| toys | [Kattis - toys](https://open.kattis.com/problems/toys) | use general case Josephus recurrence | 142 | | 4.5 |
| tracksmoothing | [Kattis - tracksmoothing](https://open.kattis.com/problems/tracksmoothing) | actually clever; those round corners will form a circle | 194 | | 1.8 |
| tractor | [Kattis - tractor](https://open.kattis.com/problems/tractor) | s: (row, col, move\_number), DAG; t: go up/left | 220 | | 6.1 |
| trainpassengers | [Kattis - trainpassengers](https://open.kattis.com/problems/trainpassengers) | create a verifier; be careful of corner cases | 1807 | | 2.1 |
| trainsorting | [Kattis - trainsorting](https://open.kattis.com/problems/trainsorting) | max(LIS(i)+LDS(i)-1), ∀i ∈ [0...n-1]; also available at UVa 11456 | 522 | | 5.4 |
| tram | [Kattis - tram](https://open.kattis.com/problems/tram) | ternary search a on unimodal function: sum of distances of N points to line y = x + a | 76 | | 2.7 |
| transitwoes | [Kattis - transitwoes](https://open.kattis.com/problems/transitwoes) | a possible real life scenario; simulate as asked | 353 | | 1.3 |
| transportation | [Kattis - transportation](https://open.kattis.com/problems/transportation) | max flow with vertex capacities | 165 | | 5.6 |
| transportationplanning | [Kattis - transportationplan...](https://open.kattis.com/problems/transportationplanning) | APSP; FW; for each unused edge, use it and see how much distance is reduced; get minimum; O(n^4) | 65 | | 3.9 |
| traveltheskies | [Kattis - traveltheskies](https://open.kattis.com/problems/traveltheskies) | (graph) DS manipulation; an array of ALs (one per each day); simulate the number of people day by day | 188 | | 3.2 |
| treasurediving | [Kattis - treasurediving](https://open.kattis.com/problems/treasurediving) | SSSP from source and all idol positions; TSP-like but there is a knapsack style parameter 'air\_left'; use backtracking | 87 | | 7.3 |
| treasurehunt | [Kattis - treasurehunt](https://open.kattis.com/problems/treasurehunt) | simple simulation on 2D grid | 1006 | | 2.6 |
| treehouses | [Kattis - treehouses](https://open.kattis.com/problems/treehouses) | 'minimum' spanning subgraph; very similar to UVa 10397 | 185 | | 4.2 |
| trendingtopic | [Kattis - trendingtopic](https://open.kattis.com/problems/trendingtopic) | use queue of length 7 to maintain words in the past 7 days, unordered\_map to count frequencies, sort to format the output | 181 | | 5.8 |
| tri | [Kattis - tri](https://open.kattis.com/problems/tri) | brute force all possibilities | 3924 | | 1.6 |
| triangle | [Kattis - triangle](https://open.kattis.com/problems/triangle) | use log 10 to compute the required answer | 722 | | 2.7 |
| triangleornaments | [Kattis - triangleornaments](https://open.kattis.com/problems/triangleornaments) | the problems can be decomposed into vector projections or to be precise: vector rejections | 204 | | 2.1 |
| tricktreat | [Kattis - tricktreat](https://open.kattis.com/problems/tricktreat) | ternary search; the function is unimodal | 156 | | 3.9 |
| trik | [Kattis - trik](https://open.kattis.com/problems/trik) | simple simulation game | 7191 | | 1.4 |
| trilemma | [Kattis - trilemma](https://open.kattis.com/problems/trilemma) | triangle properties; sort the 3 sides first | 225 | | 3.6 |
| trip | [Kattis - trip](https://open.kattis.com/problems/trip) | be careful with precision error; also available at UVa 10137 - The Trip | 103 | | 5.5 |
| trip2007 | [Kattis - trip2007](https://open.kattis.com/problems/trip2007) | greedy; sorting; also available at UVa 11100 - The Trip, 2007 | 191 | | 2.8 |
| tripletexting | [Kattis - tripletexting](https://open.kattis.com/problems/tripletexting) | print characters that appear at least two times out of three | 56 | | 1.8 |
| tritiling | [Kattis - tritiling](https://open.kattis.com/problems/tritiling) | there are two related recurrences here; also available at UVa 10918 - Tri Tiling | 465 | | 2.1 |
| trojke | [Kattis - trojke](https://open.kattis.com/problems/trojke) | complete search; 3 nested loops; check if three points have the same gradient | 185 | | 3.0 |
| trollhunt | [Kattis - trollhunt](https://open.kattis.com/problems/trollhunt) | brute force; simple | 976 | | 2.6 |
| tsp | [Kattis - tsp](https://open.kattis.com/problems/tsp) | optimization problem involving large TSP instance up to N ≤ 1000. To get high score for this problem, you need to use techniques outside CP | 1061 | | 8.1 |
| tugofwar | [Kattis - tugofwar](https://open.kattis.com/problems/tugofwar) | PARTITION; DP Knapsack with optimization to avoid TLE; also available at UVa 10032 - Tug of War | 68 | | 7.4 |
| turbo | [Kattis - turbo](https://open.kattis.com/problems/turbo) | somewhat similar with UVa 01513/Kattis - moviecollection; use DAT (for mapping) and Fenwick Tree (for RSQ) | 507 | | 4.3 |
| turtlemaster | [Kattis - turtlemaster](https://open.kattis.com/problems/turtlemaster) | interesting board game to teach programming for children; simulation | 323 | | 2.9 |
| tutorial | [Kattis - tutorial](https://open.kattis.com/problems/tutorial) | factorial is just part of the problem; pruning | 1249 | | 2.8 |
| twostones | [Kattis - twostones](https://open.kattis.com/problems/twostones) | just check odd or even | 15317 | | 1.3 |
| ultraquicksort | [Kattis - ultraquicksort](https://open.kattis.com/problems/ultraquicksort) | requires O(n log n) merge sort; also available at UVa 10810 - Ultra Quicksort | 180 | | 5.2 |
| ummcode | [Kattis - ummcode](https://open.kattis.com/problems/ummcode) | cipher; just do as asked | 144 | | 3.5 |
| undetected | [Kattis - undetected](https://open.kattis.com/problems/undetected) | brute force; simple geometry; UFDS | 274 | | 3.9 |
| unionfind | [Kattis - unionfind](https://open.kattis.com/problems/unionfind) | basic UFDS; similar to UVa 00793 | 1086 | | 4.8 |
| units | [Kattis - units](https://open.kattis.com/problems/units) | small implicit tree traversal; sort and normalize the output | 194 | | 3.5 |
| unlockpattern | [Kattis - unlockpattern](https://open.kattis.com/problems/unlockpattern) | complete search; Euclidean dist | 902 | | 1.7 |
| unlockpattern2 | [Kattis - unlockpattern2](https://open.kattis.com/problems/unlockpattern2) | brute force permutation + point-related geometry; S vs A and their invalid positions are tricky | 70 | | 2.9 |
| unusualdarts | [Kattis - unusualdarts](https://open.kattis.com/problems/unusualdarts) | try all 7! possible polygons; verify simple polygon by testing all pairs of line segments; area; a bit of probability | 160 | | 5.4 |
| uxuhulvoting | [Kattis - uxuhulvoting](https://open.kattis.com/problems/uxuhulvoting) | s: (priest\_id, mask\_of\_3\_bits); t: try all 3 possibilities of toggling a bit per priest, keep the best | 240 | | 3.2 |
| vacuumba | [Kattis - vacuumba](https://open.kattis.com/problems/vacuumba) | trigonometry to measure the X and Y displacements | 689 | | 1.9 |
| variablearithmetic | [Kattis - variablearithmetic](https://open.kattis.com/problems/variablearithmetic) | use unordered\_map as mapper | 394 | | 2.6 |
| vauvau | [Kattis - vauvau](https://open.kattis.com/problems/vauvau) | modular arithmetic problem | 1265 | | 1.8 |
| veci | [Kattis - veci](https://open.kattis.com/problems/veci) | try all permutations; get the one that is larger than X | 1193 | | 1.8 |
| vegetables | [Kattis - vegetables](https://open.kattis.com/problems/vegetables) | greedy; priority queue | 347 | | 3.4 |
| victorythroughsynergy | [Kattis - victorythroughsyne...](https://open.kattis.com/problems/victorythroughsynergy) | try all 10! team formations; get the one that works | 60 | | 4.3 |
| videospeedup | [Kattis - videospeedup](https://open.kattis.com/problems/videospeedup) | brute force; simple for loop; do as asked | 298 | | 2.0 |
| vindiagrams | [Kattis - vindiagrams](https://open.kattis.com/problems/vindiagrams) | challenging and tedious flood fill problem | 76 | | 5.3 |
| virtualfriends | [Kattis - virtualfriends](https://open.kattis.com/problems/virtualfriends) | maintain set attribute (size) in rep item; also available at UVa 11503 - Virtual Friends | 1078 | | 3.9 |
| virus | [Kattis - virus](https://open.kattis.com/problems/virus) | greedy | 753 | | 3.6 |
| visualgo | [Kattis - visualgo](https://open.kattis.com/problems/visualgo) | Dijkstra's produces SSSP spanning DAG if there are multiple shortest paths from s to t; counting paths on DAG | 496 | | 3.4 |
| vivoparc | [Kattis - vivoparc](https://open.kattis.com/problems/vivoparc) | GRAPH-COLORING on medium-sized graph; only 4 colors are used in this problem; backtracking | 151 | | 5.1 |
| volim | [Kattis - volim](https://open.kattis.com/problems/volim) | simple simulation | 1855 | | 1.7 |
| volumeamplification | [Kattis - volumeamplificatio...](https://open.kattis.com/problems/volumeamplification) | s: (reachable); bottom-up | 50 | | 7.5 |
| vote | [Kattis - vote](https://open.kattis.com/problems/vote) | follow the requirements | 1584 | | 2.2 |
| vuk | [Kattis - vuk](https://open.kattis.com/problems/vuk) | multi-sources BFS from all trees; BSTA+graph traversal from 'V' to 'J' passing only cells that are within 'ans' distance away from a tree | 86 | | 4.1 |
| waif | [Kattis - waif](https://open.kattis.com/problems/waif) | two layers of graph matching; with capacity; use max flow solution | 159 | | 2.7 |
| walkforest | [Kattis - walkforest](https://open.kattis.com/problems/walkforest) | counting paths in DAG; build the DAG; Dijkstra's from 'home'; also available at UVa 10917 - A Walk Through the Forest | 245 | | 4.4 |
| walkway | [Kattis - walkway](https://open.kattis.com/problems/walkway) | we can build the graph and compute area of trapezoid using simple geometry; SSSP on weighted graph; Dijkstra's | 190 | | 3.4 |
| walls | [Kattis - walls](https://open.kattis.com/problems/walls) | try whether the answer is 1/2/3/4; or Impossible; use up to 4 nested loops | 513 | | 4.0 |
| walrusweights | [Kattis - walrusweights](https://open.kattis.com/problems/walrusweights) | backtracking with memoization | 570 | | 3.8 |
| warehouse | [Kattis - warehouse](https://open.kattis.com/problems/warehouse) | use unordered\_map and multimap | 920 | | 2.1 |
| waronweather | [Kattis - waronweather](https://open.kattis.com/problems/waronweather) | brute force; distance of 3D points; obtuse triangle checks | 100 | | 3.5 |
| watchdog | [Kattis - watchdog](https://open.kattis.com/problems/watchdog) | in circle test; brute force | 212 | | 2.0 |
| watersheds | [Kattis - watersheds](https://open.kattis.com/problems/watersheds) | DP on an implicit DAG | 41 | | 3.2 |
| weakvertices | [Kattis - weakvertices](https://open.kattis.com/problems/weakvertices) | graph edge existence checks | 1775 | | 1.5 |
| weather | [Kattis - weather](https://open.kattis.com/problems/weather) | pre-compute factorial up to 20; brute force O(n^3) possible s/c/r (derive f) events; compress observations with same combined probability; custom Huffman coding; Priority Queue | 196 | | 3.3 |
| wedding | [Kattis - wedding](https://open.kattis.com/problems/wedding) | can be modeled as a 2-SAT problem; also available at UVa 11294 - Wedding | 36 | | 6.7 |
| weightofwords | [Kattis - weightofwords](https://open.kattis.com/problems/weightofwords) | s: (cur\_l, cur\_w); t: try all 26 characters; print any solution | 286 | | 2.6 |
| welcomeeasy | [Kattis - welcomeeasy](https://open.kattis.com/problems/welcomeeasy) | also see Kattis - welcomehard | 655 | | 2.1 |
| welcomehard | [Kattis - welcomehard](https://open.kattis.com/problems/welcomehard) | also see Kattis - welcomeeasy | 345 | | 4.8 |
| wertyu | [Kattis - wertyu](https://open.kattis.com/problems/wertyu) | use 2D mapper array to simplify the problem; also available at UVa 10082 - WERTYU | 768 | | 2.9 |
| wettiles | [Kattis - wettiles](https://open.kattis.com/problems/wettiles) | multi-sources BFS; limited flood fill or unweighted SSSP limited to step T | 227 | | 3.6 |
| wffnproof | [Kattis - wffnproof](https://open.kattis.com/problems/wffnproof) | greedy; sorting; also available at UVa 11103 - WFF'N Proof | 117 | | 2.9 |
| whatdoesthefoxsay | [Kattis - whatdoesthefoxsay](https://open.kattis.com/problems/whatdoesthefoxsay) | use unordered\_set to record excluded sounds | 2578 | | 2.1 |
| wheels | [Kattis - wheels](https://open.kattis.com/problems/wheels) | Euclidean distances; DFS traversal; gcd | 123 | | 4.1 |
| wherehaveyoubin | [Kattis - wherehaveyoubin](https://open.kattis.com/problems/wherehaveyoubin) | s: (i, mask\_of\_processed) - we have assign bin [0..i-1] and companies mask\_of\_processed; t: give consecutive bins to each company as needed | 30 | | 5.0 |
| wheresmyinternet | [Kattis - wheresmyinternet](https://open.kattis.com/problems/wheresmyinternet) | check connectivity to vertex 1 | 1716 | | 3.7 |
| whichbase | [Kattis - whichbase](https://open.kattis.com/problems/whichbase) | try reading input in base 8/10/16 | 523 | | 2.4 |
| whostheboss | [Kattis - whostheboss](https://open.kattis.com/problems/whostheboss) | sort; create the tree graph; DFS from root; parent array and size of subtree (a bit of DP) | 29 | | 6.1 |
| wifi | [Kattis - wifi](https://open.kattis.com/problems/wifi) | +greedy; also available at UVa 11516 - WiFi | 214 | | 4.3 |
| windows | [Kattis - windows](https://open.kattis.com/problems/windows) | LA 7162 - WorldFinals Marrakech15; tedious simulation problem; also available at UVa 01721 - Window Manager | 92 | | 7.6 |
| wine | [Kattis - wine](https://open.kattis.com/problems/wine) | Dijkstra's; also available at UVa 10280 - Old Wine Into New Bottles | 23 | | 9.0 |
| wizardofodds | [Kattis - wizardofodds](https://open.kattis.com/problems/wizardofodds) | if K is bigger than 350, the answer is clear; else just check if 2^K ≥ N | 488 | | 2.6 |
| woodcutting | [Kattis - woodcutting](https://open.kattis.com/problems/woodcutting) | greedy; sorting | 572 | | 3.1 |
| woodensigns | [Kattis - woodensigns](https://open.kattis.com/problems/woodensigns) | s: (idx, base1, base2), t: point left, right, or both; need to use hash table as memo table | 65 | | 2.3 |
| wordcloud | [Kattis - wordcloud](https://open.kattis.com/problems/wordcloud) | just a simulation; but be careful of corner cases | 322 | | 2.4 |
| wordclouds | [Kattis - wordclouds](https://open.kattis.com/problems/wordclouds) | s: (i); t: try breaking to next row at subsequent j = [i..N]; O(N^2) DP | 104 | | 5.0 |
| wordsfornumbers | [Kattis - wordsfornumbers](https://open.kattis.com/problems/wordsfornumbers) | tedious problem; use mini program to generate [1..99]; also see Kattis - recenice that goes up to [1..999] | 604 | | 2.5 |
| workout | [Kattis - workout](https://open.kattis.com/problems/workout) | gym simulation; use 1D arrays to help you simulate the time quickly | 151 | | 5.7 |
| workstations | [Kattis - workstations](https://open.kattis.com/problems/workstations) | greedy; priority queue | 1110 | | 3.6 |
| worstweather | [Kattis - worstweather](https://open.kattis.com/problems/worstweather) | store the year+rain data in a (sorted) array; binary search; Segment Tree/Sparse Table: static RMaxQueries | 94 | | 8.0 |
| wrapping | [Kattis - wrapping](https://open.kattis.com/problems/wrapping) | rotate; translate; CH; area; also available at UVa 10652 | 223 | | 3.6 |
| xyzzy | [Kattis - xyzzy](https://open.kattis.com/problems/xyzzy) | check 'positive' cycle; check connectedness; also available at UVa 10557 | 152 | | 6.7 |
| yinyangstones | [Kattis - yinyangstones](https://open.kattis.com/problems/yinyangstones) | trick question; just check if number of whites equals to number of blacks | 1365 | | 1.8 |
| yoda | [Kattis - yoda](https://open.kattis.com/problems/yoda) | ad hoc; 9 digits comparison | 1607 | | 2.1 |
| zagrade | [Kattis - zagrade](https://open.kattis.com/problems/zagrade) | try all subsets of bracket pairs to be removed | 298 | | 3.1 |
| zamka | [Kattis - zamka](https://open.kattis.com/problems/zamka) | Sum of Digit problem; brute force is sufficient | 5255 | | 1.4 |
| zanzibar | [Kattis - zanzibar](https://open.kattis.com/problems/zanzibar) | one pass; array not needed | 2308 | | 1.5 |
| zebrasocelots | [Kattis - zebrasocelots](https://open.kattis.com/problems/zebrasocelots) | zebra is 1; ocelot is 0; simulation of long long | 563 | | 3.2 |
| zipfslaw | [Kattis - zipfslaw](https://open.kattis.com/problems/zipfslaw) | sort the words to simplify this problem; also available at UVa 10126 - Zipf's Law | 157 | | 5.7 |
| zipfsong | [Kattis - zipfsong](https://open.kattis.com/problems/zipfsong) | sort; custom comparison function; zipf law | 209 | | 4.5 |
| zipline | [Kattis - zipline](https://open.kattis.com/problems/zipline) | min = straight line distance; max = use ternary search | 555 | | 3.5 |
| zoning | [Kattis - zoning](https://open.kattis.com/problems/zoning) | multi-sources BFS | 140 | | 4.5 |
| zoo | [Kattis - zoo](https://open.kattis.com/problems/zoo) | parsing; keep last token; tolower; frequency counting with map; order needed | 1499 | | 1.7 |