Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 2236	ad-hoc	9		[1]			
LIVEARCHIVE 7156	ad-hoc	9		[1]			
LIVEARCHIVE 4121	ad-hoc	8.75		[1]			
CSA4-F	ad-hoc	8.5		[1]			
LIVEARCHIVE 2993	ad-hoc	8.5		[1]			
LIVEARCHIVE 3568	ad-hoc	8.5		[1]			
LIVEARCHIVE 4785	ad-hoc	8.5		[1]			
LIVEARCHIVE 7162	ad-hoc	8.5		[1]			
LIVEARCHIVE 7588	ad-hoc, analysis	8.5		[1]			
LIVEARCHIVE 2480	ad-hoc, annoying	8.5		[1]			
kattis hanoi18.bipartitebattle	ad-hoc, games, bipartite graphs, combinatorics, [https://people.eecs.berkeley.edu/-	8.5	Sol	[1]			
LIVEARCHIVE 2998	ad-hoc	8.25		[1]			
<u>CF1097-D12-E</u>	ad-hoc, constructive	8		[1]	p3		1
<u>CF1070-D12-L</u>	ad-hoc, constructive, probability, bits	8		[1]	p3		1
LIVEARCHIVE 6397	ad-hoc	8		[1]			
LIVEARCHIVE 6770	ad-hoc, analysis, precalc	8		[1]			
<u>CS47-F</u>	ad-hoc, hamiltonian, impl	8		[1]			
LIVEARCHIVE 6774	ad-hoc, hashing	8		[1]			
CSA1-G	ad-hoc, impl	8		[1]			
LIVEARCHIVE 8045	ad-hoc, observations	8		[1]			
LIVEARCHIVE 3567	ad-hoc, observations, divisors	8		[1]			
<u>CF930-D1-D</u>	ad-hoc, probability, combinatorics	8		[1]			1
<u>CF1179-D1-E</u>	ad-hoc, d&c, quick select, interactive	7.75		[1]	p4		1
<u>CSA58-G</u>	ad-hoc	7.75		[1]		1	1
<u>CF1063-D1-E</u>	ad-hoc, constructive	7.5		[1]	p4		3
AtCoder003-AGC-E	ad-hoc, binary search, observations, [1. reversing the operations 2. using the fact t	7.5		[1]	р3		1
AtCoder006-AGC-E	ad-hoc, observations, [3x3 matrix rotate, invariants]	7.5		[1]	p3		1
 CF101889-gym-L	ad-hoc, preprocess, prefix sum, binary search	7.5		[1]	p3		
<u>CF914-D12-F</u>	ad-hoc, bitset or bf or suffix array, kmp	7.25	Sol	[1]	p4		1
<u>CF1081-D12-F</u>	ad-hoc, probability, bitset, interactive	7.25		[1]	p4		6
<u>CF128-D1-D</u>	ad-hoc	7.25		[1]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 4786	ad-hoc	7.25		[1]			
LIVEARCHIVE 6037	ad-hoc, analysis, simulation	7.25		[1]			
<u>CF1127-D12-G</u>	ad-hoc, constructive	7		[1]	р3		1
<u>CF1173-D2-F</u>	ad-hoc, constructive, induction trick	7		[1]	р3		2
CODECHEF ELPHANT	ad-hoc	7		[1]			
LIVEARCHIVE 7580	ad-hoc or bf, binary search	7		[1]		2	4
LIVEARCHIVE 2239	ad-hoc, graph, recursion, [hard text]	7		[1]			1
CF1097-D12-F	ad-hoc, bitmasks, [Cool use of bitmasks]	6.75		[1]	р3	1	6
CF1287-D2-E2	ad-hoc, constructive, interactive	6.75		[1]	р3		1
<u>CF1072-D2-E</u>	ad-hoc, graph, constructive	6.75		[1]	р3	1	4
CF909-D2-F	ad-hoc, constructive, d&c, [permutations]	6.7		[1]	р3	2	10
HACKR meeting-point	ad-hoc, Manhattan2DRotation, sweep ine, range query, [meeting point], For rotatio	6.5	<u>Sol</u>	[1]	p5	2	20
<u>CF936-D1-C</u>	ad-hoc, constructive or misc	6.5	Another	[1]	p4	1	12
kattis hanoi18.jurassicjungle	ad-hoc, constructive, hamiltonian path, cases	6.5	Sol	[1]	p4		
CF1100-D2-D	ad-hoc, constructive, interactive	6.5		[1]	p4	2	5
CF102154-GYM-C	ad-hoc, permutation, randomization, [https://github.com/DrSchwad/CompetitivePro	6.5	Sol	[1]	p4		2
kattis hanoi18.grabagraph	ad-hoc, constructive, shortest paths count, greedy, fibonacci numbers, binary repre	6.5	Sol	[1]	р3		1
CF611-D12-E	ad-hoc, greedy, math	6.5		[1]	р3	1	4
CF1230-D2-F	ad-hoc, simulation, observation or math, sqrt optimizations	6.5		[1]	p3		2
SRM675-D1-500	ad-hoc, sqrt blocks	6.5		[1]	p3		1
<u>CF1159-D2-D</u>	ad-hoc, constructive, patterns	6.5		[1]			1
<u>CF1067-D12-F</u>	ad-hoc, constructive	6.4		[1]	рЗ		2
<u>CF1261-D1-E</u>	ad-hoc, constructive algorithms	6.4		[1]	p3		2
CODEJAM 19-Qualification-D	ad-hoc, interactive, binary search	6.3		[1]	p3	1	5
SRM541-D1-500	ad-hoc, string processing, greedy or dp	6.25	Sol	[1]	p4	2	8
CF102147-GYM-D	ad-hoc, two pointers, [https://github.com/DrSchwad/CompetitiveProgramming/blob.	6.25	Sol	[1]	p4		3
CF425-D1-D	ad-hoc, bf, hashing, sqrt	6.25		[1]	рЗ	1	8
Atcoder092-ARC-B	ad-hoc, bitmasks, binary search, constructive	6.25	Sol	[1]	р3	6	14
CF109-D1-D	ad-hoc, constructive, sortings, impl	6.25		[1]	рЗ	2	6
CF1004-D2-D	ad-hoc, divisors, formula, impl, [cases]	6.25	Sol	[1]	р3	1	4
AtCoder029-AGC-D	ad-hoc, constructive, game	6.25		[1]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF124-D2-D</u>	ad-hoc, Manhattan2DRotation*, number theory	6	Sol	[1]	p4	3	19
UVA 1406	ad-hoc, bitmasks or dp	6	Sol	[1]	p3 v2	1	7
<u>CF1084-D2-E</u>	ad-hoc or dp, binary search, math	6		[1]	р3	1	12
CF898-D2-F	ad-hoc, hashing	6		[1]	р3		4
<u>CF1117-D2-E</u>	ad-hoc, math, interactive	6		[1]	р3		9
ACMWF19-D	ad-hoc, difference array	6		[1]	p2		1
SRM333-D1-500	ad-hoc	6		[1]		1	3
SRM480-D2-1000	ad-hoc	6		[1]			4
<u>CF101149-gym-E</u>	ad-hoc, Blagewoosh#6trick, Interactive	6		[1]			2
UVA 12946	ad-hoc, complex number class	6		[1]			
AtCoder079-ARC-B	ad-hoc, constructive, math, proof, [The reason why this works is that when the fina	5.5		[1]	p3 v2	1	16
<u>CF101806-gym-T</u>	ad-hoc or sqrt decomposition, [repeated idea]	5.5	<u>Sol</u>	[1]	р3		2
CF1282-D2-D	ad-hoc, constructive, interactive	5.5		[1]	р3		2
<u>CF907-D12-D</u>	ad-hoc, constructive, ranomization, cases or misc	5.5		[1]	р3		3
CF101149-gym-M	ad-hoc, d&c, interactive	5.5	<u>Sol</u>	[1]	р3		1
Kickstart 19-RH-B	ad-hoc, Manhattan2DRotation, observation	5.5	<u>Sol</u>	[1]	р3		2
<u>CF333-D1-D</u>	ad-hoc, sorting	5.5	<u>Sol</u>	[1]	р3	1	6
AtCoder079-ARC-C	ad-hoc	5.5		[1]	p2		4
CF1214-D12-E	ad-hoc, constructive	5.5		[1]	p2		5
<u>CF591-D2-C</u>	ad-hoc, constructive, impl	5.5	Editorial	[1]	p2	1	8
SRM432-D1-500	ad-hoc, greedy or topo sort, [cases]	5.5		[1]	p2		5
KICKSTART 19-RC-B	ad-hoc, prefix sum, impl	5.5		[1]	p2		2
CF1296-D3-E2	ad-hock, greedy	5.5		[1]	p2		1
LIVEARCHIVE 2996	ad-hoc, precalc, bf, [multiview]	5.5		[1]			1
LIVEARCHIVE 3695	ad-hoc, prefix sum, geometry	5.5	Sol	[1]			1
LIVEARCHIVE 2726	ad-hoc, quad tree or impl, recursion	5.5		[1]			1
CF1230-D2-D	ad-hoc	5.25		[1]	р3		2
<u>CF779-D2-E</u>	ad-hoc, bitmasks, parsing or topological sort	5.25		[1]	р3		2
SPOJ PARSUMS	ad-hoc, cyclic shifts, partial sum or segment tree	5.25	Sol	[1]	p2 v3	1	23
CF101807-GYM-F	ad-hoc	5.25	Sol	[1]	p2		1
<u>CF867-D2-C</u>	ad-hoc or ternary search ?	5.25		[1]		1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF868-D12-C</u>	ad-hoc	5		[1]	v2		3
SPOJ PAIRSUM	ad-hoc, preprocess, prefix sum	5	Editorial	[1]	p4		1
<u>CF23-D12-C</u>	ad-hoc, sortings, overflow, greedy, math	5		[1]	p4	3	16
<u>CF309-D1-C</u>	ad-hoc, binary search, bitmasks or rmq	5		[1]	р3	3	15
<u>CF1174-D2-D</u>	ad-hoc, bitmasks, constructive	5		[1]	р3		4
SPOJ UCBINTC	ad-hoc, bitset, math	5	Sol	[1]	р3		2
<u>CF1204-D2-D</u>	ad-hoc, constructive	5		[1]	р3		1
<u>CF1270-D12-D</u>	ad-hoc, constructive	5		[1]	р3		1
<u>CF41-D2-E</u>	ad-hoc, constructive	5		[1]	р3		1
CF1092-D3-D1	ad-hoc, set	5		[1]	р3		8
CF100488-GYM-M	ad-hoc, constructive	5		[1]	p2		2
CF1110-D12-E	ad-hoc, constructive	5		[1]	p2		3
SRM321-D1-500	ad-hoc, sorting, [print the smallest lexicographically]	5	See Rus	[1]	p2	1	8
<u>CF344-D2-D</u>	ad-hoc	5		[1]	p1	1	6
SRM174-D1-500	ad-hoc, math, strings	5		[1]	p1		2
CF1005-D3-E1	ad-hoc, prefix sum	5		[1]	p1		2
AtCoder003-AGC-A	ad-hoc	5		[1]			
<u>CF100182-GYM-B</u>	ad-hoc	5		[1]		1	2
<u>CF63-D2-D</u>	ad-hoc	5		[1]		2	8
CF957-D2-D	ad-hoc	5		[1]			3
CODECHEF FRCPRT	ad-hoc	5		[1]			1
CODEJAM 18-R2-A	ad-hoc	5		[1]			2
LIVEARCHIVE 5454	ad-hoc	5		[1]			1
<u>CF1047-D2-D</u>	ad-hoc, [cases, boring]	5		[1]			1
AtCoder004-AGC-C	ad-hoc, constructive, impl	5		[1]			1
SRM576-D2-1000	ad-hoc, counting	5		[1]		1	7
UVA 1727	ad-hoc, days	5		[1]			1
<u>CF56-D2-C</u>	ad-hoc, recursion, impl	5		[1]			3
ZOJ 3713	ad-hoc, string, convert to hex, impl	5		[1]			1
<u>CF189-D2-C</u>	ad-hoc	4.5	Sol	[1]	v3		15
AtCoder019-AGC-B	ad-hoc	4.5	Sol	[1]	v2		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
TIMUS 1689	ad-hoc, sorting or fb	4.5	Sol	[1]	v2		3
Atcoder006-AGC-B	ad-hoc	4.5		[1]	р3		1
Codechef LENTMO	ad-hoc ,math	4.5		[1]	р3		1
SPOJ KOMPICI	ad-hoc, bitmasks, [=SPOJ IITKWPCH]	4.5	Sol	[1]	р3	1	6
<u>CF1148-D12-C</u>	ad-hoc, constructive, impl	4.5		[1]	р3		1
SRM274-D1-500	ad-hoc, canonical form, bf or greedy	4.5		[1]	p2 v3		4
UVA 10920	ad-hoc, coordinate systems, math or simulation, [spiral grid]	4.5		[1]	p2		7
UVA 10774	ad-hoc, jouseph or dp_ad-hoc	4.5		[1]	p2		4
<u>CF157-D2-D</u>	ad-hoc	4.5		[1]	p1		5
<u>CF1042-D2-C</u>	ad-hoc, constructive, [cases]	4.5		[1]	p1		4
<u>CF808-D12-D</u>	ad-hoc, string prefix	4.5		[1]	p1		9
AtCoder005-AGC-A	ad-hoc	4.5		[1]			1
CF298-D2-D	ad-hoc	4.5		[1]			12
<u>CF353-D2-D</u>	ad-hoc	4.5		[1]			9
<u>CF124-D2-C</u>	ad-hoc, constructive	4.5		[1]		1	4
<u>CF493-D2-D</u>	ad-hoc, constructive	4.5		[1]			7
LIVEARCHIVE 2325	ad-hoc, math, sorting	4.5	<u>Sol</u>	[1]			2
UVA 1726	ad-hoc, prefix sum	4.5	<u>Sol</u>	[1]			1
<u>CF195-D2-C</u>	ad-hoc, string parsing	4.5		[1]		1	4
<u>CF59-D2-C</u>	ad-hoc, string parsing	4.5		[1]			3
SRM180-D1-500	ad-hoc, strings	4.5		[1]			6
SPOJ PLUSEVI	ad-hoc, preprocess	4.25		[1]	р3		1
<u>CF1066-D3-E</u>	ad-hoc, string, math	4.25		[1]	р3		4
TIMUS 1212	ad-hoc	4		[1]	v2	1	5
<u>CF375-D1-B</u>	ad-hoc, sorting	4		[1]	v2		7
SRM155-D1-500	ad-hoc, sorting	4		[1]	v2		6
CF1207-D12-E	ad-hoc, bitmasks, interactive	4		[1]	р3		5
CF1043-D12-C	ad-hoc, constructive	4		[1]	р3		9
CF1075-D2-C	ad-hoc, constructive, sweep or two pointers	4		[1]	р3		9
<u>CF122-D2-D</u>	ad-hoc, impl	4		[1]	р3		12
CODECHEF OPPOSITE	ad-hoc	4		[1]	p2	1	6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ TWINSNOW	ad-hoc, canonical form, [unclear/incorrect text]	4	Sol - text	[1]	p2		8
<u>CF466-D2-C</u>	ad-hoc, LL or dp	4		[1]	p2		14
<u>CF112-D2-D</u>	ad-hoc, math	4		[1]	p2		3
<u>CF296-D2-C</u>	ad-hoc, prefix sum	4		[1]	p2		3
SRM381-D2-1000	ad-hoc, sorting, [bubble sort]	4		[1]	p2		8
SRM695-D2-500	ad-hoc	4		[1]	p1		1
<u>CF733-D2-D</u>	ad-hoc	4		[1]			3
<u>CF822-D2-C</u>	ad-hoc	4		[1]			4
<u>CF869-D2-B</u>	ad-hoc	4		[1]			1
CODECHEF ORMATRIX	ad-hoc	4		[1]			2
TIMUS 1350	ad-hoc	4		[1]			3
<u>CF479-D2-D</u>	ad-hoc, [cases]	4		[1]		1	10
<u>CF677-D2-C</u>	ad-hoc, bitmasks	4		[1]			2
CF862-D2-C	ad-hoc, bitmasks	4		[1]			1
AtCoder002-AGC-A	ad-hoc, cases	4		[1]			
<u>CF913-D12-C</u>	ad-hoc, greedy	4		[1]			3
SPOJ MMINPER	ad-hoc, permutation, inversions	4	Editorial	[1]			3
<u>CF976-D2-C</u>	ad-hoc, sorting	4	Sol	[1]			1
SRM202-D1-500	ad-hoc, sorting	4		[1]			7
<u>CF978-D3-F</u>	ad-hoc, sorting, data structures, implementation	4		[1]			1
SRM157-D1-500	ad-hoc, strings	4		[1]			6
<u>CF900-D2-C</u>	ad-hoc or bit	3.5	Sol	[1]	p3 v2		4
CF21-D12-C	ad-hoc or binary search	3.5	Sol	[1]	р3		1
SPOJ RANGESUM	ad-hoc, preprocess, prefix sum	3.5		[1]	р3		1
CF869-D2-A	ad-hoc	3.5		[1]			1
<u>CF897-D2-B</u>	ad-hoc	3.5		[1]			6
CSA59-C	ad-hoc	3.5		[1]			4
SRM324-D1-500	ad-hoc, sorting	3.5		[1]			5
ZOJ 3295	ad-hoc, [WAs]	3		[1]	v2		5
SRM154-D1-500	ad-hoc, sorting	3		[1]	v1		6
<u>CF740-D2-C</u>	ad-hoc, constructive	3		[1]	p2		12
UVA 11053	ad-hoc, cycle detection for Iterated function	3	Find O(n	[1]	p2		6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ MAIN8_E	ad-hoc, string	3	Sol	[1]	p2		1
AtCoder134-ABC-D	ad-hoc	3		[1]			3
<u>CF88-D2-D</u>	ad-hoc	3		[1]		1	3
UVA 12155	ad-hoc	3		[1]			1
<u>UVA 227</u>	ad-hoc	3		[1]		1	6
<u>CF42-D12-B</u>	ad-hoc, chess	3		[1]			1
SRM426-D2-500	ad-hoc, cycle, probability	3		[1]			2
<u>UVA 188</u>	ad-hoc, impl	3		[1]		1	12
CSA27-C	ad-hoc, prefix sum	3		[1]			4
TIMUS 1059	ad-hoc, recursion, [Horner's rule]	3	Sol	[1]			3
TIMUS 1100	ad-hoc, stable sort	2	Sol	[1]	p2		6
UVA 12148	ad-hoc, calender, leap year	2		[1]	p1		8
CODECHEF EXTRAN	ad-hoc	2		[1]			5
CODECHEF XENTASK	ad-hoc	2		[1]			5
SPOJ LCPC12F	ad-hoc	2		[1]			8
Timus 1567	ad-hoc	2		[1]			2
UVA 12444	ad-hoc, bitmasks	2		[1]			3
UVA 1326	ad-hoc, bitmasks	2	Sol	[1]			3
SRM161-D1-500	ad-hoc, bitmasks or dp	2		[1]			2
SPOJ CSUMQ	ad-hoc, prefix sum or bit	2		[1]			1
SRM164-D1-500	ad-hoc, sorting	2		[1]			5
CODECHEF CULPRO	ad-hoc, sorting or bit	2		[1]			2
LIVEARCHIVE 8040	bf, impl, [TLE]	9		[2]			
SPOJ MAXISET	bf, prune, impl	8.5	TC Foru	[2]		1	2
UVA 1481	bf, observation, [hard text]	8		[2]			1
LIVEARCHIVE 4122	bf, prune	8		[2]			
SRM500-D1-500	bf, geometry, recursion, counting	7.75		[2]		1	2
CF97-D12-A	bf, impl	7.75		[2]			
LIVEARCHIVE 6401	bf, optimizations	7.5		[2]			
SRM190-D1-500	bf, prune	7.5		[2]			
<u>CF754-D2-E</u>	bf, [optimize using bitset]	7		[2]	р3	1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 6773	bf, bitmasks	7		[2]			1
SRM457-D2-1000	bf, counting, backtrack	7		[2]		2	5
SRM310-D1-1000	bf, dp, sorting	7		[2]			1
SRM552-D1-500	bf, search	7		[2]			2
UVA 1381	bf, masks, summation	6.75	Sol	[2]	р3	1	10
SRM512-D1-500	bf, math, search, impl	6.75		[2]	p1 v3		2
<u>CF460-D2-D</u>	bf	6.75		[2]			
<u>CF457-D12-C</u>	bf, datastructures	6.75		[2]			1
CSA-fii-code-2020-round-2-E	bfs, dp	6.5		[2]	p4		1
<u>CF1041-D2-F</u>	bf, math, impl	6.5		[2]	р3		3
<u>CF365-D2-E</u>	bf, number theory, [local verifications]	6.5	<u>Sol</u>	[2]	р3	1	5
SRM406-D1-500	bf, prune	6.5		[2]		1	1
<u>CF680-D2-D</u>	bf, greedy, induction, math or dp	6.25		[2]	p5	1	15
<u>CF868-D2-D</u>	bf	6.25		[2]	р3		1
<u>CF835-D2-E</u>	bf, bitmasks, constructuve, interactive, xor	6.25		[2]	р3		1
UVA 11699	bf, bitmasks, impl	6.25		[2]	p1	1	5
<u>CF424-D2-D</u>	bf	6.25		[2]			1
SRM232-D1-500	bf, bitmasks, search	6.25		[2]			
<u>CF100517-GYM-D</u>	bf, implementation, simulation	6.25	<u>Sol</u>	[2]			1
UVA 10568	bf, all permutations, combination, generation, impl	6		[2]	p2		2
<u>CF366-D2-E</u>	bf, impl, math, ad-hoc	6		[2]	p1	1	7
CF250-D2-E	bf	6		[2]			1
SRM514-D2-1000	bf	6		[2]			4
SRM224-D1-500	bf, [restrict time]	6		[2]		1	2
<u>CF745-D2-D</u>	bf, bitmasks	6		[2]			3
<u>CF552-D2-E</u>	bf, expression parsing	6		[2]			3
SRM574-D2-1000	bf, geometry	6		[2]			1
SRM579-D2-1000	bf, geometry, search	6		[2]			4
SRM291-D1-500	bf, graph	6		[2]			2
SRM506-D2-1000	bf, graph, search	6		[2]			2
<u>CF448-D2-E</u>	bf, impl, number theory	6		[2]			5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM409-D1-500	bf, math	6		[2]			3
SRM213-D1-500	bf, math, strings	6		[2]			1
SRM265-D1-500	bf, math, strings	6		[2]			1
<u>CF594-D1-C</u>	bf, greedy, geometry, [strict tle]	5.6		[2]			5
SRM525-D1-500	bf, graph, bitmasks	5.5	Sol	[2]	p4	2	15
<u>CF1166-D2-E</u>	bf	5.5		[2]	р3		2
<u>CF68-D12-C</u>	bf	5.5		[2]	р3	1	2
SRM513-D2-1000	bf or dp	5.5		[2]	p2	1	8
<u>CF361-D2-C</u>	bf or greedy	5.5		[2]	p2	2	10
<u>CF42-D12-C</u>	bf or greedy	5.5		[2]			2
LIVEARCHIVE 3808	bf, all permutations, [hard text]	5.5		[2]		1	6
<u>CF370-D2-D</u>	bf, impl	5.5		[2]			2
<u>CF105-D12-C</u>	bf, impl, sortings	5.5		[2]			1
CODECHEF AVGMAT	bf, Manhattan2DRotation, prefix sum	5.5		[2]			1
CF633-D12-D	bf, hashing, impl, [Tricky Time Complexity - functions like fibonacci grow very fast.]	5		[2]	p4		11
<u>CF621-D2-D</u>	bf, math, logs, [one solution use complex numbers], [https://github.com/ilyesLtifi/Co	5	<u>Sol</u>	[2]	p4	2	13
<u>CF799-D12-D</u>	bf	5		[2]	р3		1
<u>CF818-D12-D</u>	bf	5		[2]	р3		3
UVA 12261	bf, [cases]	5	<u>Sol</u>	[2]	р3	1	6
CF1017-D12-D	bf, bitmasks or dp_ad-hoc	5		[2]	р3	1	13
<u>CF31-D2-D</u>	bf, impl	5		[2]	р3		1
<u>CF872-D2-D</u>	bf, impl, interactive	5		[2]	р3		1
<u>CF1169-D2-D</u>	bf, pigeonhole principle	5		[2]	р3		5
UVA 10705	bf, prune, binary base, bitmasks	5	<u>Sol</u>	[2]	р3	3	12
<u>CF146-D2-D</u>	bf, impl or greedy	5		[2]	p2 v1	1	10
<u>CF1077-D3-E</u>	bf or greedy	5		[2]	p2		8
CF863-D12-D	bf, [Anany: harder version where m <= 2e5 can be solved using treap]	5	<u>Sol</u>	[2]	p2		9
<u>CF490-D2-C</u>	bf, math	5		[2]	p2	1	11
<u>CF252-D2-D</u>	bf, combinatorics, impl, [cases]	5		[2]	p1		3
<u>CF332-D2-E</u>	bf	5		[2]			1
<u>CF465-D2-D</u>	bf	5		[2]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF550-D2-C</u>	bf	5		[2]			11
<u>CF58-D2-C</u>	bf	5		[2]			5
SRM207-D1-500	bf	5		[2]			2
UVA 11140	bf	5		[2]			1
UVA 11961	bf	5		[2]			1
SRM510-D2-1000	bf or binary search	5		[2]			4
<u>CF336-D2-C</u>	bf or greedy	5		[2]			4
TIMUS 1034	bf, [chessboard]	5		[2]			3
SRM409-D2-1000	bf, graph	5		[2]			2
SRM527-D2-1000	bf, greedy	5		[2]			5
UVA 1640	bf, math, repeated squaring	5		[2]			5
SRM412-D2-1000	bf, simulation, sorting, strings	5		[2]			5
<u>CF426-D2-C</u>	bf, sorting	5		[2]			4
SRM522-D1-500	bf, math	4.5		[2]	v3	1	5
<u>CF557-D2-C</u>	bf, datastructures	4.5		[2]	v2		12
SRM234-D1-500	bf, recursion	4.5		[2]	v2		2
<u>CF1036-D2-C</u>	bf, combinatorics	4.5		[2]	р3		3
<u>CF63-D2-C</u>	bf, impl, reverse thinking	4.5	<u>Sol</u>	[2]	р3	2	10
<u>CF71-D2-D</u>	bf, impl	4.5		[2]	p1 v2	2	4
<u>CF365-D2-C</u>	bf, math	4.5		[2]	p1		8
<u>CF496-D2-C</u>	bf	4.5		[2]			7
SRM492-D2-500	bf	4.5		[2]			1
<u>CF192-D2-D</u>	bf, constructive	4.5		[2]		1	5
SRM451-D2-1000	bf, graph	4.5		[2]			5
<u>CF526-D12-C</u>	bf, greedy, math	4.5		[2]			3
SRM393-D1-500	bf, impl	4.5		[2]			5
UVA 11701	bf, math_ad-hoc, impl	4.5	sol	[2]			2
AtCoder004-AGC-B	bf, optimize	4.5		[2]			
SRM422-D2-1000	bf, bitmasks	4		[2]	v2		8
UVA 565	bf, bitmasks, np-complete, [TLEs]	4	<u>Sol</u>	[2]	v2		5
SRM466-D2-1000	bf, sorting, strings	4		[2]	v2		9

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF558-D2-C</u>	bf, greedy, easy math or bfs	4		[2]	v1		6
<u>CF55-D12-B</u>	bf, all perm, probability	4		[2]	р3		1
<u>CF911-D12-D</u>	bf, observation	4		[2]	р3		1
<u>CF1073-D2-D</u>	bf, impl or bit, binary search	4		[2]	p2		11
UVA 11898	bf, optimized, pigeonhole principle, [much processing but AC]	4		[2]	p1 v2	1	6
<u>CF255-D2-C</u>	bf	4		[2]			5
SRM158-D1-500	bf	4		[2]			2
SRM168-D1-500	bf	4		[2]			3
SRM171-D1-500	bf	4		[2]			2
SRM181-D1-500	bf	4		[2]			2
SRM504-D2-1000	bf	4		[2]			2
SRM611-D2-1000	bf	4		[2]		1	4
UVA 12249	bf	4		[2]			1
SRM246-D1-500	bf or dp	4		[2]			2
UVA 257	bf or dp	4		[2]			1
<u>CF118-D2-C</u>	bf or greedy	4		[2]		1	4
<u>CF219-D2-C</u>	bf or greedy	4		[2]		2	7
<u>CF672-D2-C</u>	bf or greedy	4		[2]			2
SRM315-D1-500	bf or segment tree or sqrt decomposition	4		[2]			2
UVA 234	bf, all permutations	4		[2]			1
<u>CF443-D2-C</u>	bf, bitmasks, impl	4		[2]			2
<u>CF439-D2-C</u>	bf, constructive, impl	4		[2]			5
CF200-D2-C	bf, impl	4		[2]			4
<u>CF368-D2-C</u>	bf, impl	4		[2]			5
UVA 12649	bf, impl	4	<u>Sol</u>	[2]			1
<u>CF686-D2-C</u>	bf, math	4		[2]			6
SRM522-D2-1000	bf, math	4		[2]			2
SRM223-D1-500	bf, primes	4		[2]			3
SRM427-D2-1000	bf, simulation, strings	4		[2]			2
SRM366-D1-500	bf	3.5		[2]	v1		4
SRM399-D2-1000	bf, math	3.5		[2]	v1		8

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF101609-GYM-G</u>	bf	3.5		[2]	р3		1
UVA 418	bf	3.5		[2]			6
SRM262-D1-500	bf, dice	3.5		[2]			3
SRM592-D2-500	bf, next_permutation	3.5		[2]			3
<u>CF189-D2-A</u>	bf	3		[2]			5
SRM173-D1-500	bf	3		[2]			2
SRM182-D1-500	bf	3		[2]			1
SRM402-D1-500	bf	3		[2]			3
SRM504.5-D1-500	bf	3		[2]			2
UVA 11412	bf	3		[2]			4
SRM539-D2-500	bf, bitmasks	3		[2]			7
SRM445-D2-1000	bf, bitmasks, math	3		[2]			16
CF402-D2-C	bf, constructive	3		[2]			8
SRM156-D1-500	bf, next_permutation	3		[2]			3
UVA 1523	bf, all permutations	2.5		[2]			2
SRM191-D1-500	bf	2		[2]			1
SRM148-D1-500	bf, next_permutation	2		[2]			3
UVA 1209	bf, prev_permutation	2		[2]			5
SRM251-D1-500	bf, recursion, simulation	2		[2]			2
SRM258-D1-500	bf, strings	2		[2]			1
LIVEARCHIVE 5222	simulation	8.5		[3]			
LIVEARCHIVE 2727	simulation, [direct, tedious]	8.5		[3]			
LIVEARCHIVE 2723	simulation, recusion, matrix	8.5		[3]			
SRM281-D1-500	simulation, geometry, [abstract editorial]	7		[3]		1	2
LIVEARCHIVE 3810	simulation, physics	7		[3]		1	1
AtCoder011-AGC-D	simulation, cycles, constructive, [period based on bitwise operations], [https://githul	6.75	Sol (mate	[3]	p4		5
SRM177-D1-500	simulation	6.75		[3]			1
<u>CF161-D12-C</u>	simulation, d&c, proof	6.5	Prove yo	[3]	p3 v2	3	7
SRM208-D1-500	simulation	6.5		[3]		1	1
UVA 335	simulation	6.5		[3]			1
CF1030-D12-E	simulation, math, impl, [~=CF1058-D2-E]	6.25		[3]	p2	1	7

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF879-D2-D</u>	simulation, math, impl	6		[3]	p4	1	3
<u>CF950-D2-D</u>	simulation	6	Sol	[3]	p1		1
SPOJ HITOMISS	simulation	6		[3]			1
SRM152-D1-500	simulation	6		[3]			
SRM249-D1-500	simulation	6		[3]			
SRM293-D1-500	simulation	6		[3]		1	1
SRM326-D2-1000	simulation	6		[3]			1
SRM147-D1-500	simulation, gcd	6		[3]			
LIVEARCHIVE 4446	simulation, impl, gates	6		[3]		1	4
UVA 1262	simulation, backtrack, bitmkasks, counting	5.5		[3]	p1		3
LIVEARCHIVE 2724	simulation, graph, bitmasks	5.5		[3]			1
CF101201-gym-J	simulation, impl, stl	5.5	<u>Sol</u>	[3]			3
SRM160-D1-500	simulation, spiral	5.5		[3]			1
TIMUS 1037	simulation, datastructures	5	<u>Sol</u>	[3]	p1 v1		4
AtCoder002-AGC-B	simulation	5		[3]			
UVA 10315	simulation	5		[3]		1	1
LIVEARCHIVE 3736	simulation, impl, [hard impl]	5		[3]		2	4
UVA 11036	simulation, stack	5		[3]			1
SRM469-D2-1000	simulation or bf	4		[3]	v1		8
UVA 12598	simulation, binary search, [observations to avoid TLE]	4		[3]	p1		2
SRM145-D1-500	simulation	4		[3]			1
UVA 10134	simulation	4		[3]			1
UVA 12608	simulation	4		[3]			1
UVA 11860	simulation, binary search, bf	4		[3]			1
UVA 11230	simulation, greedy	4		[3]			2
SRM260-D1-500	simulation, impl, [hard impl]	4		[3]			1
UVA 326	simulation, optimization	4	Sol	[3]			2
UVA 962	simulation, preprocessing or precalculation	4		[3]			2
SRM415-D2-1000	simulation or bf	3.5		[3]			9
LIVEARCHIVE 2232	simulation	3		[3]			1
<u>UVA 101</u>	simulation	3		[3]		1	8

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 2365	simulation, [no constraints]	3	Sol	[3]			5
UVA 13059	simulation, math	3	Sol	[3]			1
TIMUS 1638	simulation, formula, [WAs, tricky]	2	Can you	[3]	p2		4
TIMUS 1607	simulation, tricky, [WAs]	2	Can you	[3]	p1		7
SRM284-D1-500	simulation	2		[3]			3
UVA 12750	simulation, game theory, impl	2		[3]			2
SRM151-D1-500	simulation, sorting	2		[3]			1
<u>CF1034-D1-D</u>	datastructures, binary search, two pointers	8		[4]	p5		2
CodeChef ARMYOFME	datastructures, persistence	8		[4]			1
<u>CF1079-D2-G</u>	datastructures, binary lifting	7.25		[4]	р3		3
<u>CF182-D2-C</u>	datastructures, stl, long impl or treap	7		[4]	р3		4
AtCoder070-ARC-C	datastructures, stack, slope_trick, [simple if know slope trick], [https://github.com/tn	7	Editorial	[4]	p2	3	4
CF1181-D2-E2	datastructures, d&c, [small-to-large]	6.75		[4]	р3		2
CF876-D12-F	datastructures, d&c, impl or rmq	6.5		[4]	p4		3
<u>CF15-D12-D</u>	datastructures, monotonic queue or bit or 2d rmq, [no editorial]	6.5	Sol	[4]	p4		5
SPOJ SFLIP	datastructures, greedy or segment tree, subSegment ST, [Maximum sum of k-disjo	6.5	Sol	[4]	р3	3	8
<u>CF413-D12-E</u>	datastructures, d&c or segment tree, impl, [segment tree idea don't handle cases n	6.25	Sol	[4]	p3 v2	2	6
<u>CF313-D2-E</u>	datastructures, greedy, stl, [prove]	6.25	Sol. Try t	[4]	p3 v2	2	11
CF100488-GYM-L	datastructures	6.25	Sol	[4]	р3		4
<u>CF707-D2-E</u>	datastructures or 2d bit, offline processing	6.25		[4]	р3		9
<u>CF500-D12-E</u>	datastructures, [several ways]	6.25	Sol. Rea	[4]	р3		6
<u>CF875-D1-D</u>	datastructures, monotonic stack	6.25		[4]	р3		2
UVA 11997	datastructures, heap, [counting subarrays with sum k, solve SPOJ ABA12E first]	6.1	Sol	[4]	p4		18
CSA79-E	datastructures, binary search, greedy, [https://math.stackexchange.com/questions/	6	Sol	[4]	p3 v2		10
<u>CF1121-D2-D</u>	datastructures	6		[4]	р3		6
<u>CF706-D2-E</u>	datastructures, 2D linkedlist	6		[4]	р3		4
<u>CF1269-D2-E</u>	datastructures, inversions	6		[4]	р3		3
CODECHEF SEATS	datastructures, set, impl	6		[4]	р3		1
<u>CF897-D2-E</u>	datastructures, set, observations	6		[4]	р3		1
SPOJ FSEQ	datastructures, stack or priority queue, fib, cycles, dp or segment tree, dp, [Me auth	6	Sol	[4]	р3		10
<u>CF894-D2-D</u>	datastructures, bst, impl	6		[4]	p2		7

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CSA19-D	datastructures, greedy	6		[4]	p2		3
<u>CF754-D2-D</u>	datastructures, heap, sorting, sweep	6		[4]	p2		7
UVA 12674	datastructures, stack or segment tree, lis	6		[4]	p2		3
AtCoder018-AGC-C	datastructures	6		[4]			1
<u>CF286-D1-B</u>	datastructures, dequeue	6		[4]			1
<u>CF114-D2-D</u>	datastructures, hashing	6		[4]		1	1
UVA 1153	datastructures, heap, greedy	6		[4]		1	3
CSA75-D	datastructures, sweep	6		[4]			1
<u>UVA 11234</u>	datastructures, stack & queue, [Postfix Expression]	5.75	Sol	[4]	р3		19
<u>CF219-D2-E</u>	datastructures, set or segment tree	5.5	Sol	[4]	p3 v2	1	10
<u>CF1208-D12-E</u>	datastructures	5.5		[4]	р3		4
<u>CF862-D2-E</u>	datastructures, binary search	5.5		[4]	р3		4
<u>CF224-D2-C</u>	datastructures	5.5		[4]	p2 v2	2	12
<u>CF548-D2-D</u>	datastructures, stack or rmq or segment tree	5.5		[4]	p2 v2	1	17
<u>CF1236-D2-D</u>	datastructures, careful impl	5.5		[4]	p2		1
<u>CF319-D1-B</u>	datastructures, impl	5.5		[4]	p2		2
UVA 12657	datastructures, linked list, impl	5.5	Sol	[4]	p2	3	20
<u>CF899-D2-E</u>	datastructures, lists or sets merging	5.5		[4]	p2	1	22
<u>CF982-D2-D</u>	datastructures	5.5		[4]			3
UVA 12266	datastructures, heap, max_min heap or ad-hoc	5.5		[4]			2
<u>CF475-D12-D</u>	datastructures, gcd or segment tree, persistent	5.25		[4]	p4		11
<u>CF911-D12-E</u>	datastructures, impl	5.25		[4]	р3		2
SPOJ WEIRDFN	datastructures, heap, min_max heaps, [restricted tl, pq faster than multiset]	5	Sol. Note	[4]	p4		28
CF1095-D3-E	datastructures	5		[4]	р3		3
<u>CF5-D12-C</u>	datastructures or rmq	5		[4]	р3		1
<u>CF817-D12-D</u>	datastructures, d&c or monotonic stack	5	Find O(n	[4]	p3		5
SPOJ RMID2	datastructures, math, impl, [mn/mx heap]	5	Sol	[4]	рЗ	3	9
<u>CF45-D12-C</u>	datastructures, set	5		[4]	р3		1
UVA 501	datastructures, heap, min_max or bbst or segment tree	5	Sol Must	[4]	p2 v3	1	26
LiveArchive 3634	datastructures, sets intersections and union	5	Sol	[4]	p2	4	15
UVA 12393	datastructures, queue or rmq	5		[4]	p1		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF731-D2-D</u>	datastructures	5		[4]			3
<u>CF522-D2-D</u>	datastructures or segment tree	5		[4]			2
UVA 12207	datastructures, [can use dequeue]	5	Sol	[4]			5
CSA84-D	datastructures, [ternary search passes but weak cases]	5		[4]			2
AtCoder005-AGC-B	datastructures, set	5		[4]			1
SRM257-D1-500	datastructures, impl, math	4.5		[4]	v1		2
<u>CF284-D2-C</u>	datastructures	4.5		[4]	р3		2
<u>CF675-D2-D</u>	datastructures	4.5		[4]			5
<u>CF681-D2-C</u>	datastructures, impl	4.5		[4]		1	4
<u>CF697-D2-C</u>	datastructures, impl, trees	4.5		[4]			10
<u>CF845-D2-D</u>	datastructures, stack	4.5		[4]			4
LiveArchive 8078	datastructures, stack or dp, [count the longest balanced brackets sequence]	4	Sol	[4]	p4		5
CF1140-D12-C	datastructures, sorting	4		[4]	р3		1
<u>CF92-D2-D</u>	datastructures, grid compress	4		[4]	p2		4
<u>CF705-D2-C</u>	datastructures, impl	4		[4]	p2	1	14
UVA 1592	datastructures, multimap, hashing, bf	4		[4]	p2		6
<u>CF714-D2-C</u>	datastructures	4		[4]			5
CSA82-C	datastructures	4		[4]			1
HACKR watsons-love-for-arrays	datastructures	4		[4]			1
<u>CF276-D2-C</u>	datastructures, impl, sortings	4		[4]			8
UVA 12651	datastructures, set	4		[4]			1
UVA 10686	datastructures, multimap	3.5		[4]			3
SPOJ POSTERIN	datastructures, stack	3	Sol	[4]	p4		1
<u>CF357-D2-C</u>	datastructures, set	3		[4]	p2		8
CF272-D2-C	datastructures, impl	3		[4]			4
<u>CF518-D2-C</u>	datastructures, impl	3		[4]		1	8
CF527-D2-C	datastructures, stl	3		[4]			3
SPOJ BYTESE2	datastructures	2		[4]			2
SRM449-D2-1000	backtrack or dp_profile	7	Sol not i	[5]	p1		2
CF101498-GYM-M	backtrack	7		[5]			1
UVA 11127	backtrack	7		[5]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
FbHkrCup 19-R0-D	backtrack, trees, impl	6.75	Read offi	[5]	p2		2
UVA 11201	backtrack	6.75		[5]			1
LIVEARCHIVE 3476	backtrack, prune	6.75		[5]			1
UVA 649	backtrack, prune, bitmasks	6.75	Sol	[5]			
UVA 307	backtrack	6.5		[5]			1
UVA 10123	backtrack, optimization, impl	6.5	<u>Sol</u>	[5]			
SRM523-D1-1000	backtrack, bitmasks or meet in middle, [careful impl]	6.4	<u>Sol</u>	[5]	р3	1	4
<u>CF161-D12-E</u>	backtrack, primes, impl	6.3		[5]	р3		3
SRM496-D2-1000	backtrack, string	6.25		[5]	p4		8
UVA 10957	backtrack, sudoku	6.25		[5]			
UVA 10160	backtrack, prune, bitmasks, np-complete, graph, dominating set	6	Sol	[5]	p3	1	6
SRM392-D2-1000	backtrack or bf	6		[5]			4
SRM571-D2-1000	backtrack, [annoying text]	6		[5]		1	3
TJU 1533	backtrack, geometry	6	Sol	[5]			1
CODEJAM 19-R1A-A	backtrack, random_shuffle	5.5		[5]			1
UVA 12639	backtrack, hexagon grid	5	Sol	[5]	- add to junio	ol .	1
SRM425-D2-1000	backtrack or bf	5		[5]	v2	1	6
<u>CF47-D2-D</u>	backtrack, datastructures, impl	5		[5]	p3	3	15
UVA 604	backtrack	5		[5]			1
SRM479-D2-1000	backtrack or bf, [annoying]	5		[5]			5
UVA 222	backtrack or dp	5		[5]			2
UVA 12022	backtrack or dp_bitmasks	5		[5]			1
LiveArchive 6585	backtrack	4.5	Sol	[5]	p3		
SPOJ MYQ8	backtrack	4.5	Sol	[5]	рЗ	1	2
CF101191-gym-C	backtrack	4.5		[5]			1
UVA 10890	backtrack, bitmasks	4		[5]	p2		2
CF100952-GYM-E	backtrack	4		[5]			1
SPOJ UCI2009D	backtrack	4		[5]			3
SRM146-D2-1000	backtrack	4		[5]			1
UVA 750	backtrack	4		[5]			7
SRM237-D1-500	backtrack or dp	4		[5]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 193	backtrack, graph, maximum independent set	4		[5]			7
SPOJ COMCB	backtrack, impl, [hamiltonian path]	4		[5]		1	11
TJU 1542	backtrack, primes	4		[5]			1
UVA 10624	backtrack, prune	4	Sol	[5]		1	3
UVA 10854	backtrack	3		[5]			1
SPOJ TETRAVEX	backtrack or bf, permutation	3		[5]			8
SPOJ LINEUP	backtrack, bitmasks or dp or mcmf	3		[5]			10
UVA 10496	backtrack, prune or bf, next_perm or dp_bitmasks	3		[5]			5
UVA 10285	backtrack, prune	2.5		[5]			1
UVA 10344	backtrack	2		[5]			7
UVA 12166	backtrack, expression parsing, greedy	8		[6]		1	1
UVA 10875	backtrack, expression parsing	7		[6]			
ZOJ 1145	backtrack, expression parsing, [WAs]	7		[6]		1	3
UVA 1662	backtrack, expression parsing	6.75		[6]			
UVA 814	backtrack, expression parsing	6.5		[6]			
UVA 174	backtrack, expression parsing or ad-hoc	6.5		[6]			
UVA 12219	backtrack, expression parsing, expression tree	6		[6]			
UVA 1596	backtrack, expression parsing, impl	6		[6]			2
TIMUS 1186	backtrack, expression parsing	5.5		[6]			3
UVA 622	backtrack, expression parsing, [cnf]	5.25	Sol	[6]	p4	6	24
UVA 592	backtrack, expression parsing, graph, observations	5		[6]			
ZOJ 1097	backtrack, expression parsing, impl, datastructures	5	Sol	[6]			3
UVA 10058	backtrack, expression parsing, [java has advantage	4	Sol	[6]	р3		20
LIVEARCHIVE 2234	search	9		[7]			
CODECHEF ANKINTER	search, d&c, two pointers	8.5		[7]	p2	2	2
LIVEARCHIVE 5217	search	8		[7]			
LIVEARCHIVE 5218	search, bitmasks, [unclear text]	8		[7]		1	1
<u>CF415-D2-E</u>	search, d&c, sortings	8		[7]			
LIVEARCHIVE 4451	search, min-max, alpha-beta	7.75		[7]	р3		
SRM336-D1-500	search, math, sorting	7.5		[7]			
LIVEARCHIVE 6030	search, prove complexity	7.5		[7]		1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM403-D1-500	search, recursion	7.5		[7]			1
SRM264-D1-500	search, recursion, math	7.5		[7]			
SRM214-D1-500	search, recursion, trees, html processing	7.5		[7]			
SRM426-D2-1000	search, bf, math	7.25		[7]			
SRM438-D2-1000	search, recursion, simulation, strings	7.25		[7]			
UVA 10950	search	7		[7]			1
SRM547-D1-500	search, math	7		[7]			2
UVA 10661	search, np-complete, graph, clique	6.75	Sol	[7]	p2		1
SPOJ SUDOKU	search, algorithm X	6.25		[7]			
SRM389-D1-500	search	6.1		[7]		1	2
SRM496-D1-500	search, np-complete, bipartite graph, [constraints to make it polynomial]	6		[7]	р3		5
UVA 10506	search	6		[7]			1
UVA 12648	search	6		[7]			1
CODEJAM 18-R2-B	search, dp	6		[7]			2
SRM437-D2-1000	search, math	6		[7]			2
SRM236-D1-500	search, math, like dijkstra	6		[7]			2
CF244-D2-C	search, bitmasks, d&c, math	5		[7]	v3		3
LIVEARCHIVE 2237	search, [hard text, Don't print line after last test case]	5		[7]		2	3
<u>CF862-D2-D</u>	search, d&c, interactive	5		[7]			2
UVA 10475	search, impl	5		[7]			1
SRM344-D1-500	search, [complete search]	4.5		[7]			2
<u>CF448-D2-C</u>	search, d&c, greedy	4.5		[7]			2
SRM473-D2-1000	search, bf, math	4		[7]	v1		9
SRM490-D2-1000	search	4		[7]			1
CF897-D2-C	search, d&c	4		[7]			5
UVA 12291	search	3		[7]			2
SRM186-D1-500	search, strings, impl	3		[7]			3
SRM266-D1-500	search, recursion, math	2		[7]			1
UVA 11214	search, algorithm x	7		[8]			
UVA 10094	search, algorithm x or backtrack, prune	7		[8]		3	3
UVA 745	search, algorithm x	6.75		[8]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ NQUEEN	search, algorithm x	6		[8]			
LIVEARCHIVE 2994	binary search, bf	8.25		[9]			
<u>CF121-D1-D</u>	binary search, impl	8		[9]			
AtCoder020-AGC-D	binary search, [normal, hard to impl]	7.5		[9]		1	1
<u>CF1008-D2-E</u>	binary search, interactive	7.25	Find O(n	[9]	p5	4	6
SPOJ METEORS [2]	binary search, parallel binary search, segment tree, [https://szkopul.edu.pl/problem	7	Sol - mus	[9]	p4		16
AtCoder006-AGC-D	binary search, datastructures	7		[9]	р3		2
HACKER make-n00b_land-great-again-c	binary search, parallel binary search, euler tour, [solve SPOJ METEORS first]	7		[9]	р3		3
<u>CF981-D12-F</u>	binary search, two pointers, greedy, sweep	7	Sol	[9]	р3		4
<u>CF163-D12-B</u>	binary search	7		[9]			
UVA 1199	binary search	7		[9]		2	2
<u>CF314-D1-D</u>	binary search, datastructure, Manhattan2DRotation, [For rotation trick, solve CF12	7		[9]			2
SRM456-D1-500	binary search, math	7		[9]			1
<u>CF875-D12-E</u>	binary search, greedy, dp	6.75		[9]	p4		4
<u>CF1101-D12-F</u>	binary search, impl, math or dp, randomization, Blogewoosh#6	6.75	Sol	[9]	p4		6
<u>CF489-D2-E</u>	binary search, dp, graph	6.75		[9]	p3 v2		6
<u>CF993-D1-D</u>	binary search, dp	6.75	<u>Sol</u>	[9]			1
<u>CF627-D12-D</u>	binary search, greedy, bfs or dp_trees	6.6		[9]	р3		3
<u>CF989-D2-D</u>	binary search, math	6.6		[9]	р3	1	3
AtCoder002-AGC-D	binary search, parallel binary search, d&c or mo's algorithm or dsu-persistent, bina	6.5	Sol-must	[9]	p4		18
kattis hanoi18.dividedoughnut	binary search, interacticve, Intermediate value theorem, [Asia 18]	6.5	Sol	[9]	p3 v2	1	6
<u>CF555-D1-D</u>	binary search, impl, math, bf	6.5		[9]	р3		4
<u>CF1033-D12-E</u>	binary search, spaning tree, interactive	6.5		[9]	р3	1	5
<u>CF920-D12-G</u>	binary search, gcd, inclusion-exclusion, factorization	6.3		[9]	р3		3
SPOJ PATULJCI	binary search, randomization or segment tree	6.25	Sol	[9]	p4	2	11
<u>CF350-D2-D</u>	binary search, geometry	6.25		[9]			1
SRM535-D1-500	binary search, math	6.25		[9]			3
SPOJ MSE07E	binary search, d&c, [issues in IO, seems diffcult, but easy sol]	6	Read FIF	[9]	p3 v2	9	24
<u>CF847-D12-E</u>	binary search, bf	6		[9]	р3		2
<u>CF1277-D2-F</u>	binary search, constructive, observation	6		[9]	р3		2
<u>CF727-D2-F</u>	binary search, dp	6		[9]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF1132-D12-D	binary search, priority queue, [set TLE]	6		[9]	р3		8
<u>CF1114-D2-E</u>	binary search, randomization, interactive	6		[9]	р3		11
<u>CF1153-D2-E</u>	binary search	6		[9]	p2		1
<u>CF713-D1-B</u>	binary search, interactive, impl	6		[9]	p2		4
UVA 1476	binary search, numerical or ternary	6		[9]	p2		2
<u>CF429-D1-D</u>	binary search, prefix sum or sweep line, greedy	6		[9]	p2		7
FbHkrCup 18-R1-C	binary search, simulation	6		[9]	p2		3
UVA 12609	binary search, math, impl	6	Sol	[9]	p1 v3	1	2
SRM329-D1-500	binary search or greedy	6		[9]			1
UVA 12673	binary search, bf or greedy	6		[9]			1
CODECHEF SCHEDULE	binary search, greedy	6		[9]			1
<u>CF378-D2-D</u>	binary search, greedy, impl	6		[9]			10
<u>CF810-D2-D</u>	binary search, interactive	6		[9]			
AtCoder070-ARC-B	binary search, dp, operservation	5.75		[9]	р3		3
<u>CF750-D12-C</u>	binary search	5.75		[9]	p2		8
UVA 11020	binary search, multiset	5.75		[9]	p2		3
SPOJ ABA12E	binary search, [counting subarrays with sum k]	5.5	Sol	[9]	р3	1	14
CF1277-D2-F	binary search, constructive, observation	5.5		[9]	р3		2
<u>CF739-D1-B</u>	binary search, trees, segment tree or bit or Ica	5.5		[9]	р3		12
UVA 11692	binary search or math	5.5		[9]		1	3
SRM325-D1-500	binary search, geometry	5.5		[9]			1
<u>CF1041-D2-D</u>	binary search, prefix sum or bf	5.5		[9]			5
<u>CF817-D12-C</u>	binary search, math	5		[9]	v3		7
<u>UVA 1555</u>	binary search, math or formula	5	Sol	[9]	p3 v2		14
<u>CF448-D2-D</u>	binary search	5		[9]	р3		13
CODECHEF CIRCINTE	binary search, greedy	5		[9]	р3	1	5
<u>CF1063-D1-C</u>	binary search, interactive	5		[9]	р3		3
AtCoder149-ABC-E	binary search, math	5		[9]	р3		1
SPOJ FUNFACT	binary search, sterling approximation	5		[9]	р3		
CF1060-D12-C	binary search, two pointers, armortized analysis	5	Sol	[9]	р3		11
CF255-D2-D	binary search, math	5		[9]	p2 v3	4	13

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CSA28-D	binary search	5		[9]	p2		1
AtCoder155-ABC-D	binary search, implementation	5		[9]	p2		1
<u>CF985-D12-D</u>	binary search, math	5		[9]	p2		5
<u>CF1260-D12-D</u>	binary search, sorting	5		[9]	p2		1
<u>CF1010-D1-B</u>	binary search, interactive	5		[9]	p1		1
<u>CF83-D1-B</u>	binary search, math, sortings, impl	5		[9]	p1		5
<u>CF344-D2-E</u>	binary search	5		[9]			1
<u>CF616-D2-D</u>	binary search	5		[9]			2
UVA 11881	binary search	5		[9]			1
UVA 13177	binary search	5	<u>Sol</u>	[9]			1
LIVEARCHIVE 4445	binary search, bf, permutations	5		[9]			4
<u>CF725-D12-D</u>	binary search, datastructures, greedy	5		[9]			3
CODECHEF CHGCDG	binary search, gcd	5		[9]			2
CODECHEF BANDMATR	binary search, greedy	5		[9]			1
LIVEARCHIVE 2477	binary search, greedy	5		[9]			1
LIVEARCHIVE 6398	binary search, greedy	5		[9]			3
CSA79-C	binary search, greedy , datastructures	5		[9]			1
SRM290-D1-500	binary search, math	5		[9]			2
SRM355-D2-1000	binary search, math	5		[9]		2	5
SRM450-D2-1000	binary search, nested binary search	5		[9]			4
CF913-D12-D	binary search, sorting, greedy	5		[9]			7
<u>CF1138-D2-C</u>	binary search, sorting	4.5		[9]	p4		2
<u>CF381-D2-C</u>	binary search, greedy, impl	4.5		[9]	p2	2	5
SPOJ DICTSUB	binary search, lower bound	4.5	Sol	[9]	p2	2	7
<u>CF732-D2-D</u>	binary search	4.5		[9]	p1		9
CF237-D2-C	binary search, lower bound, gcd, impl	4.5		[9]	p1		6
SPOJ GLASNICI	binary search, precision	4.5		[9]	p1		2
CF492-D2-D	binary search	4.5		[9]			4
CF84-D2-D	binary search	4.5		[9]			5
SPOJ BOOKS1	binary search	4.5		[9]			2
UVA 12190	binary search	4.5		[9]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF471-D2-C</u>	binary search or math	4.5		[9]			8
<u>CF567-D2-D</u>	binary search, datastructures, set	4.5		[9]		1	6
SPOJ MKUHAR	binary search, math, [known problem]	4		[9]	v2		5
<u>CF1117-D12-C</u>	binary search	4		[9]	р3		7
<u>CF812-D2-C</u>	binary search	4		[9]	р3		8
CF1118-D3-D2	binary search, greedy	4		[9]	р3		2
<u>CF270-D2-C</u>	binary search, greedy, math, impl	4		[9]	р3		8
<u>CF651-D2-D</u>	binary search, bf, left-right trick	4		[9]	p2	1	14
<u>CF75-D2-C</u>	binary search, math	4		[9]	p2		5
SPOJ SVADA	binary search, [unclear text]	4		[9]	p1		2
<u>CF779-D2-D</u>	binary search	4		[9]			4
SPOJ ICPCS	binary search	4	<u>Sol</u>	[9]		2	9
UVA 10611	binary search	4		[9]			4
UVA 12390	binary search	4		[9]			2
UVA 12911	binary search, bitmasks, [meet in middle??]	4		[9]			2
SRM592-D2-1000	binary search, bitmasks, bf	4		[9]			1
TIMUS 1066	binary search, geometry or math	4		[9]			2
CF1146-D12-C	binary search, interactive	3.5		[9]	p2		3
LIVEARCHIVE 2439	binary search	3.5		[9]			4
UVA 10276	binary search or simulation	3.5		[9]			3
UVA 10077	binary search, gcd	3.5		[9]			3
UVA 12791	binary search or greedy or formula	3	<u>Sol</u>	[9]	p1		3
<u>CF975-D2-C</u>	binary search, prefix sum	3		[9]	p1		3
AtCoder134-ABC-E	binary search	3		[9]			3
LIVEARCHIVE 8043	binary search	3		[9]			2
SPOJ AGGRCOW	binary search	3		[9]			4
CODECHEF SNAKEEAT	binary search, prefix sum	3		[9]			1
SRM169-D1-500	binary search or dp	2		[9]			1
TC(Rafting)	ternary search, geometry	7.25	Editorial	[10]		1	1
UVA 10794	ternary search, geometry 3d or ad-hoc	7		[10]			
UVA 11243	ternary search, geometry, [rectangle rotation]	6.75	Sol	[10]	р3	3	6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
TC(DRIVING)	ternary search, interpolation or math	6.6	Editorial	[10]	p4	1	2
LIVEARCHIVE 6341	ternary search, nested	6.5	Sol	[10]		1	2
CSA84-E	ternary search, weighted tree diameter, math or binary search, [https://github.com/s	6.4	Sol	[10]	p4		9
<u>UVA 11702</u>	ternary search, math, [https://github.com/shashank0107/CompetitiveProgramming/	6.3	Sol (no e	[10]	p4		1
SRM253-D1-1000	ternary search or math, probability	6.3		[10]			
SRM543-D2-1000	ternary search, discrete	6.3		[10]		1	4
SRM347-D1-500	ternary search or math	6		[10]	v2	1	2
UVA 13010	ternary search, dijkstra	6	Sol	[10]	р3		3
CF101102-GYM-I	ternary search	6	<u>Sol</u>	[10]			5
<u>CF626-D2-E</u>	ternary search	5.75		[10]	р3		3
<u>CF106-D2-E</u>	ternary search, 3d ternary, geometry, 3d	5.5		[10]	p2		2
<u>CF939-D2-E</u>	ternary search or greedy, two pointers	5.5		[10]	p1		11
CODEJAM 09-R1C-B	ternary search or math	5.5		[10]			1
<u>CF250-D2-D</u>	ternary search, discrete, geometry, [cross product sol: who understand: https://cod	5.25		[10]	p4		9
SRM426-D1-500	ternary search or binary search	5		[10]	v3		2
UVA 10385	ternary search, tricky	5		[10]	p4		3
<u>CF1244-D2-E</u>	ternary search, binary search	5		[10]	р3		3
CF818-D12-F	ternary search, graph, math or binary search	5		[10]	р3		3
<u>CF702-D12-D</u>	ternary search	5		[10]			3
TC(MONKEYTREEDISTANCE)	ternary search or ad-hoc, math	5		[10]			3
<u>CF304-D2-D</u>	ternary search or math	5		[10]		1	3
SPOJ HAMSTER1	ternary search or math, laws of motion	5		[10]			2
SRM287-D1-500	ternary search, math	4		[10]			2
<u>CF439-D2-D</u>	ternary search	3.5	Read the	[10]			2
SRM258-D2-1000	ternary search or greedy, math	3		[10]	v1		2
SPOJ KOPC12A	ternary search	3		[10]			2
SPOJ TRICKTRT	ternary search	3		[10]			5
SRM629-D2-500	ternary search	2		[10]	p2		4
SRM528-D1-500	meet in middle, dp, combinations or backtrack, snoob/gosper's hack	7.5		[11]			1
CODECHEF LEBOXES	meet in middle, dp	7.25		[11]		1	1
SRM388-D1-1000	meet in middle, dp_bitmask, optimizations or bf, optimizations	7.1	Sol	[11]	p4	1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF XORSORT2	meet in middle, bitmasks, binary search	7.1	Sol	[11]			2
<u>CF1257-D12-F</u>	meet in middle	7		[11]			1
SPOJ SUBSET	meet in middle, bitmasks, inclusion-exclusion	6.5	Sol	[11]	p4		6
<u>CF839-D2-E</u>	meet in middle, dp, max cliques or Bron-Kerbosch algorithm	6.5	Sol - mu	[11]	p4	2	11
SRM307-D1-1000	meet in middle, backtrack	6.5	Sol	[11]	р3		2
<u>CF912-D2-E</u>	meet in middle, binary search, number theory, two pointers	6.4		[11]	p4		18
CSA67-E	meet in middle, dp, bitmasks, [non standard dp]	6.3		[11]	p5	2	12
<u>CF327-D2-E</u>	meet in middle, dp_bitmasks	6.3		[11]	р3		4
CODECHEF MATPER	meet in middle, kmp, bitmasks, impl	6.3		[11]	р3		3
<u>CF585-D1-D</u>	meet in middle, [strict tl], [=CF585-D1-D]	6.25		[11]	p3 v2		9
SPOJ SOLIT	meet in middle, bfs, [long impl] or bfs, prune	6.1	Sol	[11]	p2	2	3
CSA60-D	meet in middle	6		[11]	р3	2	4
SPOJ COLOR_CC	meet in middle	5	NO Sol	[11]	p4	1	1
<u>CF490-D2-D</u>	meet in middle, bfs or bf	5		[11]	р3	1	10
SRM205-D1-500	meet in middle or search, recursion, [Hexagonal number]	5		[11]	p1		3
CF1006-D3-F	meet in middle	5		[11]			14
LIVEARCHIVE 3888	meet in middle or bf [long impl]	5		[11]		2	4
UVA 10125	meet in middle or bf, prune	5	Sol	[11]			5
<u>CF888-D12-E</u>	meet in middle, [~ CODECHEF CHEFCODE]	5		[11]			6
UVA 704	meet in middle, bfs, [long impl]	5		[11]			5
SRM446-D2-1000	meet in middle, bfs, no editorial	5		[11]			5
TC(KNAPSACKPROBLEM)	meet in middle, binary search	5	Sol	[11]			3
SRM404-D1-500	meet in middle, dp, combinations or greedy	5		[11]			2
SRM415-D1-500	meet in middle, two pointers	5		[11]			4
<u>CF525-D2-E</u>	meet in middle, ternarymask	4.5		[11]	р3		10
AtCoder026-AGC-C	meet in middle, bf, hasing	4.25	Sol	[11]	р3	1	8
SPOJ SUMFOUR	meet in middle, hashing, [solve SPOJ ABCDEF first]	4		[11]	v2		5
SPOJ SUBSUMS	meet in middle	4		[11]	p3 v2		11
SPOJ ABCDEF	meet in middle	4		[11]			4
<u>CF101064-GYM-H</u>	meet in middle or backtrack, bignum	3.6		[11]			2
CODECHEF AMITNITI	meet in middle, bitmasks	3.5	<u>Sol</u>	[11]	p2		3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF713-D1-D</u>	rmq, 2d rmq	7		[12]	р3		2
<u>CF1143-D2-E</u>	rmq, binary lifting, successor graph	6.5		[12]	р3		4
<u>CF515-D2-E</u>	rmq, formula or segment tree	6.5		[12]	р3		6
<u>CF1062-D2-E</u>	rmq, lca, binary search	6.25	Sol	[12]	р3		10
<u>CF869-D2-E</u>	rmq, xor or bit or bf, smart	6	<u>Sol</u>	[12]	р3		2
CODECHEF UPDOTR	rmq, [basic]	6		[12]			2
PKU 3145	rmq, bit, [set min reminder]	6		[12]			1
<u>CF689-D2-D</u>	rmq, sparce table, binary search or datastructures or bit or segment tree, impl	5.75		[12]	р3	4	32
<u>CF359-D2-D</u>	rmq, binary search, gcd, analysis or stack	5.5	<u>Sol</u>	[12]	р3	2	32
CF1237-D12-D	rmq	5.5		[12]	p2		5
<u>CF514-D2-D</u>	rmq, binary search or bit or two pointers	5	Use RM0	[12]	р3	1	23
PKU 2452	rmq, [guys getting WAs]	5		[12]		2	2
<u>CF702-D2-E</u>	rmq, binary lifting, graphs	5		[12]			3
SPOJ HISTOGRA	rmq, d&c or datastructure, [Largest Rectangle in a Histogram, ~=UVA 12462 = SRI	4.5	Sol. Don	[12]	p4	1	15
<u>CF100093-GYM-E</u>	rmq, sparse table	4.5	Sol	[12]			1
SPOJ THRBL	rmq, [direct]	3		[12]			1
SPOJ RPLN	rmq	2		[12]			1
CODECHEF IDOLS	segment tree	9		[13]			
CODECHEF MUPDO	segment tree, persistent, Manhattan2DRotation, [2D implicit segment trees is slow]	9		[13]			
<u>CF1037-D12-H</u>	segment tree, persistent, suffix tree, impl	9		[13]			2
CSA70-E	segment tree, LiChao or dp_convex_hull	8.5		[13]	p5		
<u>CF447-D2-E</u>	segment tree	8.5		[13]			
<u>CF1060-D12-G</u>	segment tree	8		[13]	р3		2
<u>CF1083-D1-D</u>	segment tree	8		[13]	p3		1
HACKR basketball-tournament-1	segment tree, dsu, binary search	8		[13]	p3		1
<u>CF280-D1-D</u>	segment tree, subsequence ST	8		[13]	p3		1
<u>CF464-D1-E</u>	segment tree, persistent, dijkstra, hashing	8		[13]	p2		3
CODECHEF CHAQOT	segment tree, persistent, Ica	8		[13]	p2		1
<u>CF101055-GYM-B</u>	segment tree	8		[13]			
<u>CF220-D1-E</u>	segment tree or bit	8		[13]			3
SPOJ GSS8	segment tree, [solve GSS6 first]	8		[13]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF260-D2-E</u>	segment tree, binary search or fractional cascading	8		[13]			
CODECHEF DISTNUM2	segment tree, persistent or fractional cascading	8		[13]			
<u>CF283-D1-E</u>	segment tree, lazy, combinatorics	7.75		[13]	р3		1
<u>CF1172-D1-F</u>	segment tree, math	7.75		[13]	р3		1
<u>CF529-D1-C</u>	segment tree	7.75		[13]			
CF1044-D12-F	segment tree	7.5		[13]	p4		1
<u>CF763-D1-E</u>	segment tree	7.5		[13]	p4		
<u>CF1084-D2-F</u>	segment tree, Ica, cases	7.5		[13]	р3	2	3
<u>CF679-D1-E</u>	segment tree, beats	7.5		[13]	p2		1
<u>CF1109-D1-E</u>	segment tree, lazy segt, primes, euler, factorization	7.5		[13]	p2		1
<u>CF445-D2-E</u>	segment tree	7.5		[13]			
SRM339-D1-1000	segment tree or bit or dsu	7.5		[13]			
CODECHEF COT5	segment tree, [from LCA/Treaps/RMQ on Dynamic Array]	7.5		[13]			
HACKR animal-transport	segment tree, dp	7.5		[13]			1
<u>CF587-D1-E</u>	segment tree, gauss basis	7.5		[13]			2
SPOJ SIGNGAME	segment tree, lazy propagation	7.5		[13]			
CODECHEF FNCS	segment tree, sqrt decompositions	7.5		[13]			
CF765-D12-F	segment tree, CASCADE	7.25		[13]	p5 v2	1	4
CF722-D12-F	segment tree, two pointers, crt, [repeated]	7.25		[13]	p5	1	3
<u>CF453-D1-E</u>	segment tree, beats or sqrt decomposition	7.25	Sol	[13]	р3		3
<u>CF484-D1-E</u>	segment tree, presistent, grid compression, binary search	7.25		[13]	р3		6
CODECHEF CBFEAST	segment tree, lazy, dynamic, impl	7.25		[13]			1
CF903-D12-G	segment tree, [based on min-cut formulation]	7.1		[13]	p4	1	4
<u>CF811-D2-E</u>	segment tree, dsu, d&c	7	Sol	[13]	p4 v2	3	12
CF377-D1-D	segment tree	7		[13]	р3		5
HDU 5306	segment tree, beats, impl, [https://github.com/aviroop123/CompetitiveProgramminç	7	Sol	[13]	р3		3
<u>CF849-D2-E</u>	segment tree, bit, [bit as nodes in seg]	7		[13]	р3		1
CODECHEF MXDIST	segment tree, convex hull, rotating calipers	7		[13]	р3		1
CF817-D12-F	segment tree	7		[13]	p2		1
HACKR two-arrays-1	segment tree	7		[13]	p2		1
<u>CF100956-GYM-J</u>	segment tree, [count distinct increasing subsequences + Stirling numbers * fac[n]]	7		[13]	p2	1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF498-D1-D</u>	segment tree, lcm	7		[13]	p2		3
SRM310-D1-500	segment tree or bit or datastructures	7		[13]			
SPOJ CPAIR	segment tree or bit, dsu	7		[13]			2
<u>UOJ 164</u>	segment tree, beats, [chineese txt - long]	7	Sol	[13]			
BZOJ 3064	segment tree, beats, [chineese txt - short]	7	<u>Sol</u>	[13]			
<u>CF173-D12-E</u>	segment tree, binary search or fractional cascading	7		[13]			1
CF633-D12-G	segment tree, bitmasks, [boring]	7		[13]			2
CF526-D12-F	segment tree, d&c or bit	7		[13]			2
<u>CF256-D1-E</u>	segment tree, dp	7		[13]			2
CSA84-G	segment tree, persistent, hashing	7		[13]			1
CODECHEF FRBSUM	segment tree, persistent, math, [math is the hard part]	7		[13]			1
<u>CF163-D2-E</u>	segment tree, binomial theorem, impl or bit	6.8		[13]	p5 v2	2	7
<u>CF516-D1-C</u>	segment tree or sqrt decomposition	6.8		[13]	р3		4
SPOJ GSS2	segment tree, [solve SPOJ GSS1 first]	6.75	<u>Sol</u>	[13]	p5	4	12
AtCoder067-ARC-F	segment tree or rmq or dp_d&c_opt or dp, [just dp https://github.com/stefdasca/Co	6.75	Sol	[13]	p4		4
<u>CF258-D1-E</u>	segment tree, dfs order	6.75		[13]	p4		9
<u>CF438-D1-D</u>	segment tree, math or datastructures, [can be used as sub-problem in some others	6.75		[13]	p4		9
<u>CF610-D2-E</u>	segment tree, strings	6.75	<u>Sol</u>	[13]	p4	2	8
CF1042-D2-F	segment tree, greedy, [small-to-large], [Interesting greedy observations, although tl	6.75	Sol (not t	[13]	р3		5
<u>CF981-D12-G</u>	segment tree, impl or datastructures	6.75	<u>Sol</u>	[13]	р3		4
<u>CF786-D1-C</u>	segment tree, persistent or bit, binary search or order_statistics_tree	6.75	Compute	[13]	р3		9
CF1080-D2-F	segment tree, persistent, binary search	6.75		[13]	р3		5
<u>CF115-D1-E</u>	segment tree, dp	6.75		[13]	p2		2
<u>CF377-D1-D</u>	segment tree, sorting	6.75		[13]			5
<u>CF100182-GYM-E</u>	segment tree	6.75		[13]			2
<u>CF555-D1-C</u>	segment tree	6.75		[13]			6
<u>CF381-D2-E</u>	segment tree or bit	6.75		[13]			1
UVA 11990	segment tree or datastructure	6.75		[13]			2
CF132-D1-D	segment tree, dp	6.75		[13]			1
UVA 11669	segment tree, sieve, factorization, dfs, overflow or bit, binary search]	6.75	Bits Sol	[13]			1
<u>CF719-D2-E</u>	segment tree, matrix pow, [strict tl/mem]	6.6		[13]	p4		3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF101492-gym-C</u>	segment tree, inclusion-exclusion, relative primes	6.5	Sol	[13]	p4 v2	1	8
<u>CF787-D2-D</u>	segment tree, 2 segment trees, dijkstra	6.5	Sol	[13]	p4		6
Atcoder-DP-Intervals	segment tree, dp	6.5		[13]	p4	1	4
<u>CF911-D2-G</u>	segment tree, dsu or sqrt decomposition, [bf pass!]	6.5	Sol	[13]	p4	2	13
CF1239-D1-C [3]	segment tree	6.5		[13]	р3		4
CF893-D12-F	segment tree, merge, dfs order	6.5		[13]	р3		3
Codechef COOLCHEF	segment tree, persistent, sqrt decomposition ,cases	6.5		[13]	р3		2
SPOJ COT	segment tree, persistent, rmq, lca or hld	6.5		[13]	p2 v2		9
<u>CF1114-D2-F</u>	segment tree, totient, impl	6.5		[13]	p2		5
UVA 11992	segment tree, lazy propagation, 2D [though 1D pass, is weak cases?]	6.5	<u>Sol</u>	[13]	p1	2	4
<u>CF420-D1-D</u>	segment tree or bit or bbst	6.5		[13]			1
CODECHEF BOMBING	segment tree or bit or bbst, treap	6.5		[13]		1	1
CODECHEF SLIS	segment tree or bit or dp	6.5		[13]			1
SPOJ XXXXXXXX	segment tree, 2d, impl or bbst, bit, [classical], [https://github.com/tr0j4n034/SPOJ/b	6.5	<u>Sol</u>	[13]			2
<u>CF833-D1-B</u>	segment tree, dp	6.5		[13]			4
<u>CF150-D1-C</u>	segment tree, expectation	6.5	<u>Sol</u>	[13]			1
CF580-D2-E	segment tree, hashing	6.5		[13]			1
CF803-D12-G	segment tree, implicit	6.5		[13]			3
CODECHE PSHTRG	segment trees, fibonacci, [query maximum perimeter of a non degenerate triangle]	6.5		[13]			1
CSA78-D	segment tree, dp	6.4		[13]	р3		2
CF1107-D12-G	segment tree or d&c	6.4		[13]	p2	1	5
SPOJ FREQUENT	segment tree, mo's algorithm or rmq, sparse table	6.25	<u>Sol</u>	[13]	p5		13
CSA41-E	segment tree, bit or min-cut, greedy	6.25	Sol (not i	[13]	p4	1	13
PKU 2991	segment tree, geometry, [https://www.cnblogs.com/demian/p/6164613.html]	6.25	<u>Sol</u>	[13]	p4	4	10
CF1110-D12-F	segment trees, rerooting, [Rerooting without ETT]	6.25		[13]	p4		9
<u>CF813-D12-E</u>	segment tree, presistent or sg_mergesort or sqrt decomposition or wavelet trees or	6.25	<u>Sol</u>	[13]	p3 v1		17
<u>CF462-D2-E</u>	segment tree	6.25		[13]	р3		5
<u>CF121-D1-E</u>	segment tree, amortized or sqrt decomposition or bit, [educational]	6.25		[13]	р3		4
CF1023-D12-G	segment tree, masks, impl	6.25	Read Ed	[13]	р3		3
CF1093-D12-G	segment tree, math, bitmasks	6.25	Sol	[13]	р3	1	9
SPOJ MKTHNUM	segment tree, persistent or merge sort or wavlet tree or mo's algorithm, [classic]	6.25	Learn Pe	[13]	р3	1	16

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF739-D1-C</u>	segment tree, subsequence Segment tree	6.25		[13]	р3	1	5
SPOJ SAMTWARR	segment tree	6.25	Sol	[13]		1	2
<u>CF101194-GYM-C</u>	segment tree, bf	6.25	Sol	[13]			
<u>CF1136-D2-E</u>	segment tree, lazy	6.1		[13]	р3	1	7
IFHLC19-C2-D	segment tree, merge sort	6.1	Sol	[13]	р3		1
<u>CF145-D1-E</u>	segment tree	6.1		[13]	p2		7
CF1146-D12-E	segment tree, tricky impl	6.1		[13]	p2		1
<u>CF397-D2-E</u>	segment tree	6		[13]	p4		6
CODECHEF MBOARD	segment tree or bit or order-statistic tree	6	Sol	[13]	р3		4
CF1108-D3-E2	segment tree or sorting, intervals	6	<u>Sol</u>	[13]	р3		6
<u>CF762-D12-E</u>	segment tree, bf	6		[13]	р3		4
CF1099-D2-F	segment tree, dfs or bit, dp_trees, impl	6		[13]	р3		5
<u>CF1197-D12-E</u>	segment tree, dp, binary search	6		[13]	р3		3
CODECHEF XRQRS	segment tree, persistent or trie, xor, impl	6		[13]	р3	3	7
CODECHEF CHANOQ	segment tree, persistent, bf	6		[13]	р3	3	5
SPOJ CCOST	segment tree, persistent, sweep line or bit	6	<u>Sol</u>	[13]	р3		8
<u>CF160-D2-E</u>	segment tree, sorting	6		[13]	р3		5
SPOJ LGLOVE	segment tree, lazy propagation, lcm, sieve, impl	6	Sol	[13]	p2 v2	1	5
kattis whiteboard	segment tree or solutions-bag, impl	6	Sol-must	[13]	p2	1	1
<u>CF1180-D2-E</u>	segment tree, binary search	6		[13]	p2		7
SPOJ AE5B2	segment tree, dynamic max prefix sum query	6	<u>Sol</u>	[13]	p1	1	4
<u>CF19-D12-D</u>	segment tree	6		[13]			1
<u>CF56-D2-E</u>	segment tree or binary search, ad-hoc	6		[13]			4
CODECHEF BESTSUM	segment tree or prefix sum, binary search	6		[13]			1
<u>CF818-D12-E</u>	segment tree or two pinters or binary search, prime factors, prefix sum	6		[13]			8
<u>URI 1511</u>	segment tree, 2D tree, Manhattan2DRotation, [For rotation trick, solve CF124-D2-I	6		[13]		1	1
CODECHEF KCOMPRES	segment tree, binary search	6		[13]			2
HACKR cyclical-queries	segment tree, datastructures	6		[13]			1
HACKR factorial-array	segment tree, factorial, divsibility	6	Sol	[13]			2
<u>CF777-D12-E</u>	segment tree, grid compress, dp	6		[13]			4
<u>CF242-D2-E</u>	segment tree, lazy propagation, bitmasks, [boring?]	6		[13]			18

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF101086-GYM-C</u>	segment tree, persistent or trie	6		[13]			1
<u>CF916-D2-D</u>	segment tree, presistent or trie. [easy if know it is presistent[	6		[13]			4
<u>CF174-D2-C</u>	segment tree, queue	6		[13]			2
HACKR xorry-queries	segment tree, xor	6		[13]			1
<u>CF486-D2-E</u>	segment tree or bit, math, lis	5.75		[13]	p3 v2		10
<u>CF669-D2-E</u>	segment tree or bit or sqrt decomposition or order-statistic tree or bbst	5.75	Sol - mus	[13]	р3		4
UVA 10909	segment tree or bit, sieve or bbst or policy-based-datastructures, [Kth element seg	5.75	<u>Sol</u>	[13]	р3		10
<u>CF1156-D12-D</u>	segment tree or centroid-decomposition	5.75		[13]	р3		2
<u>CF558-D2-E</u>	segment tree, lazy propagation, <b>trickty to impl</b> , [count sort] or sqrt decomposition	5.75		[13]	p2 v3	1	22
CODECHEF MATCH2	segment tree or sqrt decomposition, hashing	5.75	Find O(n	[13]	p2	2	6
SPOJ GSS3	segment tree, [max sum+updates, spoj gss1 first]	5.5		[13]	p5	2	22
SPOJ IOPC1207	segment tree, lazy propagation, [handle dimensions independently]	5.5	<u>Sol</u>	[13]	p4	1	16
SPOJ SEGSQRSS	segment tree, lazy propagation, impl, [weak testcases, sum of squares]	5.5	<u>Sol</u>	[13]	p4		22
<u>CF380-D1-C</u>	segment tree, [~=SPOJ GSS5], [SPOJ GSS1]	5.5		[13]	p3 v3		30
CF101807-GYM-J	segment tree, trees	5.5	ACE	[13]	р3		2
AtCoder127-ABC-F	segment tree	5.5		[13]	р3		2
SPOJ PERMPATT	segment tree	5.5		[13]	р3	1	1
SPOJ GSS4	segment tree or bit, [classical]	5.5	<u>Sol</u>	[13]	р3	2	19
<u>CF1191-D2-E</u>	segment tree or greedy, game	5.5		[13]	р3		3
CF101807-GYM-J	segment tree, dfs	5.5	<u>Sol</u>	[13]	р3		2
<u>CF102154-GYM-B</u>	segment tree, dp	5.5	<u>Sol</u>	[13]	р3		2
SPOJ ORDERS	segment tree, kth element or bit or bst or treap or datastructure	5.5	<u>Sol</u>	[13]	р3	1	22
<u>CF620-D12-E</u>	segment tree, lazy propagation, euler tour on tree, bitmasks	5.5		[13]	р3		16
SPOJ BRCKTS2	segment tree, prefix sums or ad-hoc, recursion	5.5	<u>Sol</u>	[13]	р3	1	8
CF920-D2-F	segment tree or bit or set, divisors	5.5		[13]	p2		10
<u>UVA 1232</u>	segment tree, [skyline overlap, tle]	5.5	Sol	[13]	p2	3	19
UVA 11297	segment tree, 2d segment tree, rmq or quad tree	5.5		[13]	p2		3
<u>CF482-D1-B</u>	segment tree	5.5		[13]			5
<u>CF483-D2-D</u>	segment tree	5.5		[13]			8
<u>CF400-D2-E</u>	segment tree, bitmasks or datastructure	5.5		[13]			3
<u>CF474-D2-E</u>	segment tree, dp or bit or bbst, treap or datastructures	5.5		[13]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1263-D2-E</u>	segment tree, lazy	5.5		[13]			1
<u>CF67-D12-D</u>	segment tree, rmq or lis	5.5		[13]			3
<u>CF847-D12-D</u>	segment tree or datastructures	5.25	Sol	[13]	р3		2
SPOJ DCEPC11I	segment tree, lazy propagation	5.25	Sol	[13]	р3		3
<u>CF877-D2-E</u>	segment tree, lazy propagaion, euler walk	5	Sol - Vide	[13]	p4		15
SPOJ BRCKTS	segment tree, [bracket balance, 2 values in segtree]	5	Sol	[13]	р3	2	20
SPOJ GSS1	segment tree, [max sum, part of GSS series: http://blog.csdn.net/bhiaibogf/article/d	5	Sol	[13]	р3	1	20
SPOJ que2	segment tree, kth element	5	Sol	[13]	р3		1
UVA 12299	segment tree, rmq shift	5	See ssca	[13]	р3	1	22
PKU 2374	segment tree, dp or dp	5	Sol	[13]	p2 v3	2	13
<u>CF474-D2-F</u>	segment tree, gcd	5		[13]	p2 v2		16
SPOJ ANDROUND	segment tree	5	Sol	[13]	p2	1	15
<u>CF1187-D12-D</u>	segment tree, ad-hoc	5		[13]	p2		1
SPOJ GOODE	segment tree, lazy	5	Sol	[13]	p2		1
<u>CF460-D2-C</u>	segment tree, lazy propagation, greedy or binary search	5		[13]	p2		20
<u>CF61-D2-E</u>	segment tree or wavelet tree, [boring, inversion count, ~=CF459-D2-D]	5	Sol	[13]	p1		12
PKU 2019	segment tree, [N trees or unneccessirly 2D rmq]	5	<u>Sol</u>	[13]	p1		2
HACKR car-show	segment tree, lazy	5		[13]	p1		1
<u>UVA 11402</u>	segment tree, lazy propagation or datastructures	5	Sol	[13]	p1	4	22
HACKER weird-planet-2000a170	segment tree, lazy, grid compress or implicit segment tree or heap	5		[13]	p1		3
CF100739-gym-A	segment tree	5		[13]			1
<u>CF240-D1-F</u>	segment tree	5		[13]			1
<u>CF830-D1-B</u>	segment tree	5		[13]			4
HACKER test-problem-13-1db9a7bd	segment tree	5		[13]			1
<u>CF914-D12-D</u>	segment tree, gcd	5		[13]			5
SPOJ POSTERS	segment tree, grid compress or bst or datastructure, [=LightOJ 1207]	5		[13]			3
<u>CF101992-GYM-M</u>	segment tree, implicit, [ECPC18]	5	Sol	[13]			1
SPOJ PSEGTREE	segment tree, persistent, [direct impl	5		[13]			2
PKU 1823	segment tree, [Mido there is an awesome solution using bitset ( but too slow for thi	4.5	<u>Sol</u>	[13]	v2	1	2
SPOJ KGSS	segment tree, [max pair sum]	4.5		[13]	р3		18
SPOJ CITY2	segment tree or ad-hoc	4.5	Sol	[13]	p2	1	14

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ HELPR2D2	segment tree, impl	4.5		[13]	p2	1	11
SPOJ LITE	segment tree, lazy propagation, [edu]	4.5		[13]	p1	1	15
TIMUS 1724	segment tree or mo's algorithm or ad-hoc, stack	4.5	Sol. Don	[13]			2
CF52-D12-C	segment tree, lazy propagation, circular	4.5		[13]		1	23
<u>CF339-D2-D</u>	segment tree	4		[13]	v2		9
SPOJ TREEGAME	segment tree	4		[13]	v2		3
<u>CF295-D1-A</u>	segment tree	4		[13]	v1		4
SPOJ MULTQ3	segment tree, lazy propagation	4	Sol	[13]	p3 v2		13
SPOJ MON2012	segment tree	4		[13]	p2		1
SPOJ HORRIBLE	segment tree, lazy propagation or bit	4		[13]	p1		18
SPOJ CNTPRIME	segment tree, sieve	4		[13]	p1	2	20
<u>CF100812-GYM-E</u>	segment tree	4	<u>Sol</u>	[13]			4
<u>CF85-D12-D</u>	segment tree or bbst, treap or ad-hoc	4	Don't imp	[13]			1
SPOJ CDC12_H	segment tree	3.5		[13]			15
CODECHEF FLIPCOIN	segment tree, lazy propagation, [edu]	3		[13]			2
LIVEARCHIVE 2191	segment tree, [interval sum query]	2		[13]	р3		9
SPOJ COURAGE	segment tree	2		[13]			2
UVA 12532	segment tree or bit, [~=tju 3440]	2		[13]			10
TJU 3328	bit	8.5		[15]			
TJU 3527	bit	8.5		[15]			
SPOJ ZIGZAG2	bit	7.5		[15]	p4		
TJU 1502	bit	7.5		[15]			
TJU 3312	bit	7.5		[15]			
CSA84-F	bit, mst, dsu	7.25	Sol	[15]	p4	1	2
LightOJ 1348	bit, preorder traveral on trees	7.25		[15]	p2		1
<u>CF516-D1-D</u>	bit, two pointers, euler_tour or dp, binary search, lca, prefix sum	7	Sol	[15]	p5	1	7
CF1093-D12-E	bit, 2d bit, grid compress or sqrt decomposition or segment tree	7	Read Ed	[15]	р3	1	5
SPOJ SWAPS	bit, mo's algorithm, [tight limits]	7	Sol	[15]	р3	2	6
<u>CF504-D1-B</u>	bit or segment tree	7		[15]			3
CF542-D1-A	bit or segment tree or merge sort, impl, [classical, boring]	7		[15]			2
CODECHEF URBANDEV	bit, sweep line, [pair segments intersections	7		[15]		1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1087-D2-F</u>	bit, constructive	6.8		[15]	р3		4
SPOJ INCDSEQ	bit, dp, grid compress or segment tree, dp, [solve SPOJ INCSEQ first]	6.75	Sol	[15]	p4		20
<u>CF228-D2-D</u>	bit or segment tree	6.75		[15]	p2		1
<u>UVA 11423</u>	bit	6.5	Sol	[15]	p4		1
CODECHEF TEMPQUE	bit or segment tree	6.5		[15]	p4		1
<u>CF384-D2-E</u>	bit, dfs, tree, [solve CF101142-gym-G first], [independent subproblems]	6.5		[15]	p4		1
SPOJ KPMATRIX	bit, dp_subrectangle or treaps, [count sub matrices of given range sum], [quora ide	6.5	Sol	[15]	p4	1	5
SPOJ INCSEQ	bit, grid compress, dp or merge sort, [simpler than SPOJ INCDSEQ]	6.5	Sol	[15]	p4		16
<u>CF5-D12-E</u>	bit, counting or dp, grid compress or stack, Constructive	6.5	Sol	[15]	p3 v2		9
<u>CF341-D1-D</u>	bit, 2d bit, xor or segment tree 2D	6.5		[15]	p3 v1	4	9
<u>CF301-D1-D</u>	bit, sieve	6.5		[15]	р3		6
<u>CF276-D2-E</u>	bit or segment tree or datastructures	6.5		[15]	p2		4
PKU 1990	bit or segment tree, impl	6.5		[15]	p2		4
CF100182-GYM-F	bit	6.5		[15]			1
<u>CF369-D2-E</u>	bit	6.5		[15]			4
<u>CF540-D2-E</u>	bit, binary search, policy-based-datastructures, trees or datastructures, [inversion c	<u>6.5</u>		<del>[15]</del>			<u>7</u>
<u>CF749-D2-E</u>	bit, linearity of expectation, impl	6.5		[15]		1	4
CF538-D12-F	bit or segment tree, math or ad-hoc	6.4		[15]	p4		9
SPOJ CRAYON	bit, sweep line, grid compress or segment tree or sqrt decomposition	6.4	<u>Sol</u>	[15]	p4		3
CF899-D2-F	bit or sets or treap or centroid-decomposition	6.25		[15]	p3 v2		11
<u>CF540-D2-E</u>	bit, set	6.25		[15]			7
<u>CF827-D1-C</u>	bit, [using several bits]	6.1		[15]	p3 v2	1	9
<u>CF501-D2-D</u>	bit, factoradics, permutation or order-statistic tree or segment tree	6		[15]	p4 v2		15
SPOJ BRICKS	bit, count inversion or merge sort, [=CODECHEF REACAR]	6	Use a da	[15]	р3		6
<u>UVA 11031</u>	bit, lis, [https://github.com/shashank0107/CompetitiveProgramming/blob/master/U\	6	Sol	[15]	р3		1
LIVEARCHIVE 4976	bit, dp, grid compress or dp, like nlogn LIS, [strict time]	6	Sol	[15]	p2	1	7
<u>CF629-D2-D</u>	bit, grid compress or segment tree, dp	6		[15]	p2		11
kattis keepthemseparated	bit, 2d bit, hashing	6	Sol	[15]	p1		2
<u>CF431-D2-E</u>	bit or bbst, treap or binary search, datastructures	6		[15]			1
<u>CF374-D2-D</u>	bit or dp, binary search	6	Sol	[15]			2
<u>CF610-D2-D</u>	bit or segment tree, geometry, lines	6		[15]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ WINDVANE	bit, 2d bit or ad-hoc	6	Don't imp	[15]			1
<u>CF191-D1-E</u>	bit, binary search	6		[15]			1
UVA 11610	bit, sieve or math	6		[15]			2
SRM315-D2-1000 [4]	bit or segment tree or sqrt decomposition, [Josephus problem]	5.5	Use BIT	[15]	р3		3
<u>CF12-D2-D</u>	bit, datastructures, grid compress or segment tree	5.5		[15]	р3		6
<u>CF1268-D1-C</u>	bit, binary search, math	5.5		[15]	p2		2
<u>CF1285-D2-E</u>	bit, sorting	5.5		[15]	p2		1
UVA 12951	bit	5.5		[15]			1
<u>CF985-D12-E</u>	bit, dp or two pointers	5.5		[15]			2
UVA 12697	bit or segment tree or solutions-bag or binary search, sliding window, [bs https://git	5	Sol-must	[15]	p4		8
SPOJ DCEPC705	bit	5	Sol	[15]	р3		1
CF597-D12-C	bit or segment tree	5	Sol	[15]	р3		3
UVA 1428	bit or segment tree or datastructures, [https://github.com/shashank0107/Competitiv	5	Don't use	[15]	р3		5
SPOJ NICEDAY	bit or segment tree or sweep line	5	Sol	[15]	р3		5
DCP 422	bit, grid compress or policy-based-datastructures	5	Sol	[15]	р3		1
SPOJ ORDERSET	bit or segment tree or bbst, grid compress or order-statistic tree	5	Don't use	[15]	p2		9
SPOJ PLONK	bit or sorting, ad-hoc	5	Don't imp	[15]	p2		4
SPOJ CTRICK	bit, binary search or datastructures	5	Don't imp	[15]	p2		4
<u>CF1278-D12-E</u>	bit, constructive, dfs, binary search	5		[15]	p2		1
PKU 2985	bit, dsu, binary search or segment tree, [kth elemeent]	5		[15]	p2		3
SPOJ MCHAOS	bit or ad-hoc	5	Don't imp	[15]	p1		2
SRM424-D1-1000	bit	5		[15]			5
CF102-D2-D	bit or ad-hoc	5		[15]			2
UVA 12663	bit or segment tree or datastructures, stl	5		[15]			3
UVA 1513	bit or segment tree, [standard]	5	<u>Sol</u>	[15]			5
SPOJ CVJETICI	bit or segment tree, lazy propagation	5		[15]			6
SPOJ INTERVA2	bit, binary search or dp_bitmasks	5	Sol	[15]			1
<u>CF387-D2-E</u>	bit, binary search or segment tree, [basic]	5		[15]			3
Kickstart 19-RH-A	bit	4.5	SI	[15]			1
TIMUS 1028	bit or ad-hoc	4.5		[15]			2
SRM234-D1-1000	bit or segment tree or merge sort, count inversions, [=SPOJ INVCNT]	4.5	Sol	[15]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LiveArchive 7591	bit, [WA?]	4		[15]	р3	1	1
TIMUS 1470	bit, 3d bit, inclusion-execlusion, [=PKU 1195 is 2d case]	4	Sol	[15]	p2		3
TJU 3243	bit	4		[15]	p1		2
SPOJ MSE06H	bit or merge sort, [=SPOJ RATING]	4	Sol	[15]	p1		5
UVA 11495	bit or merge sort, game, [count inversion]	4		[15]			3
SPOJ KQUERY	bit or segment tree	4		[15]			4
TJU 3314	bit, [invesions?]	3.5		[15]			2
SPOJ MATSUM	bit, 2d bit	3	Sol	[15]			6
SPOJ NKMOBILE	bit, 2d bit or ad-hoc	3	Don't im	[15]			2
SPOJ SAS001	bit, inversions	3	Sol	[15]			1
SPOJ AKVQLD03	bit or segment tree	2		[15]			1
SPOJ YODANESS	bit or segment tree or merge sort, d&c	2		[15]			
<u>CF261-D1-E</u>	dp, [longest path on graph of strictly increasing edges]	8		[16]			1
CF797-D12-F	dp, solutions-bag or divide and conquer	8	Sol	[16]			1
CODECHEF SAFPAR	dp, optimizations, [small-to-large], [similar to IOI 18-meetings]	7.75	Sol	[16]	р5	2	5
SRM543-D1-500	dp, [complex, ternary]	7.75		[16]			1
HACKR demidenko-farmer	dp, d&c, combinatorics or dp, [no d&c opt]	7.5		[16]	р5		1
CODECHEF TREEBAL	dp, slope_trick, [small-to-large], [solve APIO 16-fireworks first]	7.5	Editorial	[16]	р5	2	3
UVA 1496	dp, [Steiner's Tree]	7.5	Sol	[16]	p4		
<u>CF388-D1-D</u>	dp, math	7.5		[16]	p4		1
HACKER quadruple-counting	dp, meet in middle (type trick)	7.5		[16]	p4		1
HACKER julia-and-operational-summatio	dp	7.5		[16]	р3		1
UVA 1350	dp, binary search, math	7.5		[16]	р3		1
AtCoder007-AGC-E	dp, binary search, trees, [small-to-large]	7.5		[16]	р3		1
<u>CF1103-D1-D</u>	dp, bitmasks	7.5		[16]	р3		2
<u>CF354-D1-E</u>	dp, greedy, impl	7.5		[16]	р3		2
CF518-D2-F	dp, impl	7.5		[16]	р3		1
<u>CF453-D1-D</u>	dp or fast_walsh_hadamard_transform or fft (whft), fast long long multiplication mo	7.5		[16]	p2		2
<u>CF228-D2-C</u>	dp	7.5		[16]			
<u>CF254-D2-E</u>	dp	7.5		[16]			
CF526-D12-E	dp	7.5		[16]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 12260	dp	7.5		[16]			1
<u>CF438-D1-C</u>	dp, geometry	7.5		[16]			
<u>CF353-D2-E</u>	dp, graph	7.5		[16]			
CF316-D12-D3	dp, math	7.5		[16]			
<u>CF57-D12-D</u>	dp, math	7.5		[16]			
USACO 11feb-GenericCowProtests	dp, solutions-bag	7.5	Sol - also	[16]			
SPOJ PAINTWAL	dp, [guy got tle]	7.25		[16]	p4	2	2
<u>CF722-D12-E</u>	dp, dp_expectation, dp_state_reduce, combinatorics, [interesting use of compleme	7.25		[16]	p4		5
AtCoder033-AGC-D	dp, optimizations	7.25	Sol	[16]	p4		3
CF178-D12-F2	dp, trie, mcm	7.25		[16]	p4		2
<u>CF1131-D2-G</u>	dp, stack	7.25		[16]	р3		1
CF101064-GYM-L	dp, greedy	7.25		[16]	p1		2
AtCoder036-AGC-D	dp	7.25		[16]		1	1
SRM354-D1-1000	dp	7.25		[16]		1	1
<u>CF979-D2-E</u>	dp, graph, combinatorics	7.25		[16]			1
<u>CF477-D1-D</u>	dp, precompute, lcs	7.25		[16]			2
<u>CF939-D2-F</u>	dp, monotonic queue or dp, rmq	7.1	<u>Sol</u>	[16]	р3		9
SRM452-D1-500	dp, math or math, observations	7	Sol must	[16]	р5	1	5
<u>CF150-D1-D</u>	dp	7		[16]	р3		1
<u>CF58-D2-E</u>	dp	7		[16]	р3	2	2
<u>CF913-D12-F</u>	dp	7		[16]	р3		1
<u>CF407-D1-D</u>	dp or bf	7		[16]	р3		2
<u>CF1055-D12-E</u>	dp, binary search	7		[16]	р3		2
CODECHEF BIPFAMIL	dp, combinatorics	7		[16]	р3		1
AtCoder035-AGC-D	dp, dp_masks, math, constructive	7		[16]	р3	1	5
<u>CF1146-D12-H</u>	dp, geometry, [number of convex polygons]	7		[16]	р3		1
CF1056-D12-F	dp, math	7		[16]	р3	1	2
<u>CF126-D1-D</u>	dp, math, fib, observations	7		[16]	р3		2
SRM315-D1-1000	dp, rectangles	7	Sol	[16]	р3		2
AtCoder086-ARC-E	dp, trees, path compression, optimization	7		[16]	р3		2
FbHkrCup 18-R1-D	dp, combinatorics	7		[16]	p2	1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM728-D1-500	dp, grid-compress, math, ad-hoc	7	<u>Sol</u>	[16]	p2		2
AtCoder-YahooProcon-D	dp, observations	7		[16]	p2		1
FbHkrCup 18-R2-D	dp, segment tree, datastructures, [same technique from AtCoder067-ARC-F	7	Find O(n	[16]	p2		1
<u>CF356-D1-D</u>	dp, reduce to subset sum	7		[16]	p1	1	2
<u>CF365-D2-D</u>	dp	7		[16]			1
<u>CF655-D12-E</u>	dp	7		[16]			
LIVEARCHIVE 6036	dp	7		[16]		2	3
LIVEARCHIVE 7584	dp	7		[16]			
SRM382-D2-1000	dp	7		[16]		1	2
SRM497-D1-500	dp	7		[16]			2
UVA 10128	dp	7		[16]			1
UVA 1158	dp	7		[16]			1
LIVEARCHIVE 7586	dp or ad-hoc, regex	7		[16]			1
CODECHEF BBRICKS	dp or combinatorics, mod inv or lagrange or matrix pow, [oeis helps]	7	<u>editorial</u>	[16]			
<u>CF261-D1-D</u>	dp, [boring]	7		[16]			1
LIVEARCHIVE 4126	dp, 2 dp or string processing, aho_corasick, dp or automta, dp	7		[16]			1
CF101492-GYM-J	dp, binary search	7		[16]			1
CODECHEF RIVER	dp, datastructures, [don't assign, rare DS]	7		[16]			1
<u>CF95-D1-E</u>	dp, fast knapsack	7		[16]			4
UVA 10412	dp, geometry, angles, intersections	7		[16]			
<u>CF685-D1-E</u>	dp, graph	7		[16]			1
SRM393-D2-1000	dp, graph	7		[16]			1
SRM371-D1-1000	dp, graph, math	7		[16]			1
<u>CF352-D2-E</u>	dp, graph, matrices	7		[16]			1
<u>CF77-D1-D</u>	dp, impl	7		[16]			1
<u>CF198-D1-D</u>	dp, lis, nlogn, level ??	7		[16]			1
<u>CF283-D1-D</u>	dp, math	7		[16]			1
<u>CF101490-GYM-H</u>	dp, optimizations, [dp over factors]	7	Sol	[16]		1	2
CF1065-D12-G	dp	6.75		[16]	p4	1	2
<u>CF1178-D12-F2</u>	dp	6.75		[16]	p4		3
CF500-D12-F	dp, d&c, offline dynamic connectivity, [not d&c opt], [has another tricky nice dp sol]	6.75		[16]	p4		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF801-D12-E</u>	dp, mod inv, clique, graph construction	6.75		[16]	p4		2
FbHkrCup 19-R2-C	dp, binary search, math	6.75		[16]	р3		3
AtCoder019-AGC-D	dp, datastructures or greedy	6.75		[16]	р3		4
<u>CF650-D1-D</u>	dp, datastructures, [cases]	6.75		[16]	р3		4
<u>CF101522-GYM-J</u>	dp, Lex-Kth	6.75	Sol	[16]	р3		3
<u>CF624-D2-D</u>	dp, gcd	6.75		[16]	p1		1
<u>CF296-D2-E</u>	dp, bfs, combinatorics	6.75		[16]			1
AtCoder-YahooProcon-F	dp, math	6.75		[16]			1
AtCoder032-AGC-D	dp	6.6		[16]	p2		1
CF178-D12-F3	dp, lcs or dp, d&c or dp_sibling	6.5	<u>Sol</u>	[16]	p5		7
CODECHEF COINDENO	dp, math, [coin change,int128]	6.5	Sol	[16]	p5	1	10
<u>CF645-D12-E</u>	dp, greedy, strings	6.5		[16]	p4 v1		8
CF888-D12-F	dp	6.5		[16]	p4	2	2
SRM469-D1-1000	dp	6.5		[16]	p4		2
SPOJ NPC2015E	dp, ad-hoc or binary search, [solve TIMUS 1223 first, classical eggs problem - big I	6.5	Sol	[16]	p4		6
<u>CF1131-D2-E</u>	dp	6.5		[16]	р3		2
<u>CF1264-D1-D1</u>	dp	6.5		[16]	p3		3
CF845-D12-F	dp	6.5		[16]	p3		3
HACKER number-of-ways-1	dp	6.5		[16]	p3		1
<u>CF1189-D2-F</u>	dp or sweep line, datastructures	6.5		[16]	p3		4
<u>CF1051-D12-E</u>	dp or z-algo or hashing	6.5		[16]	p3		5
LIVEARCHIVE 4791	dp, 2 dp, [CLR]	6.5		[16]	p3		3
<u>CF796-D2-E</u>	dp, cases	6.5		[16]	p3		3
CF1043-D12-F	dp, gcd, inclusion-exclusion or randomization, [classical for some trainees]	6.5	Sol	[16]	p3		8
SRM418-D1-500	dp, graph or sat	6.5	Sol (diffe	[16]	p3		4
<u>CF17-D12-C</u>	dp, iterative sparse	6.5		[16]	p3		1
CF1079-D2-F	dp, perfect matching in trees	6.5		[16]	p3		3
<u>CF1253-D2-E</u>	dp, sorting	6.5	SI	[16]	р3		2
CF1088-D2-F	dp, tree, greedy	6.5		[16]	p3	1	2
Atcoder-caddi2018-D	dp	6.5		[16]			1
<u>CF1068-D2-D</u>	dp	6.5		[16]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF373-D2-E</u>	dp	6.5		[16]			1
<u>CF480-D1-C</u>	dp	6.5		[16]			1
<u>CF744-D1-C</u>	dp	6.5		[16]			2
CODECHEF KNICOV	dp	6.5		[16]			1
FbHkrCup 18-R2-C	dp	6.5		[16]			1
SRM369-D2-1000	dp	6.5		[16]			1
CF71-D2-E	dp, [subsets of masks]	6.5		[16]			1
<u>CF536-D1-D</u>	dp, dp_game theory, dijkstra	6.5		[16]			1
CODECHEF DANYANUM	dp, dps_sos, sqrt decomp	6.5		[16]			
SRM556-D1-500	dp, math	6.5		[16]			1
<u>CF697-D2-E</u>	dp, matrix pow, math or repeated squaring	6.5		[16]			1
SRM302-D1-1000	dp, strings	6.5		[16]			1
<u>CF1247-D2-E</u>	dp, binary search, prefix sum	6.4		[16]	p4		3
<u>CF814-D2-E</u>	dp, optimizations, impl or math	6.3	Read Ed	[16]	p4	1	2
<u>CF981-D12-E</u>	dp, sweep or segment tree, dp, bitset, knapsack	6.3	Sol	[16]	p4		14
CF1237-D12-E	dp, math, trees	6.3		[16]	р3		3
Atcoder-caddi2018-C	dp, stack, math, [overflows]	6.3	Sol	[16]	р3		3
CF490-D2-F	dp, lis, binary search or segment tree or dp_trees	6.3		[16]			3
CF1146-D12-F	dp	6.25		[16]	p4	1	5
<u>CF1206-D2-E</u>	dp, constructive, interactive	6.25		[16]	р3		2
CF1178-D12-F1	dp, math	6.25		[16]	р3		4
<u>CF1105-D2-E</u>	dp, meet in middle, [NP]	6.25		[16]	р3		4
<u>CF569-D2-D</u>	dp, stiriling mumbers or inclusion-exclusion	6.25		[16]	р3		3
<u>CF922-D2-E</u>	dp, deque	6.25		[16]	p2		2
<u>CF133-D2-E</u>	dp	6.25		[16]			1
SRM511-D2-1000	dp	6.25		[16]			1
<u>CF486-D2-E</u>	dp or segment tree	6.25		[16]			10
LIVEARCHIVE 6400	dp, 2 dp	6.25		[16]			2
<u>CF124-D2-E</u>	dp, reduction, simulation	6.1	Sol	[16]	р3		1
<u>CF505-D2-D</u>	dp, scc?	6		[16]	v1		5
SRM502-D1-500	dp, greedy, math, [exchange arguments greedy], [Laaksonen's CP handbook, 4.2.3	6		[16]	p4 v2		11

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF623-D1-B</u>	dp, gcd	6		[16]	p4 v1	1	17
TIMUS 1223	dp, dp, dp_ad-hoc or binary search, [eggs problem - small limits]	6	Sol	[16]	p4	1	16
<u>CF1260-D12-E</u>	dp, observation or greedy	6		[16]	p4		2
AtCoder145-ABC-F	dp	6	Sol	[16]	р3		4
UVA 13179	dp	6	Sol	[16]	р3	1	2
<u>CF1175-D12-E</u>	dp or graph, Ica, binary lifting, dfs	6		[16]	р3		3
SRM492-D1-500	dp, graph	6		[16]	р3	1	3
CF1121-D2-F	dp, kmp or z-algo	6		[16]	р3		5
<u>CF1257-D2-E</u>	dp, lis, [repeated?	6		[16]	р3		3
<u>CF1169-D2-E</u>	dp, masks	6		[16]	р3		2
CF102014-GYM-I	dp, math	6	Sol (no e	[16]	p3	1	2
<u>CF1174-D2-E</u>	dp, math, number theory	6		[16]	p3		1
AtCoder007-AGC-D	dp, optimize, game theory, binary search	6		[16]	p3		4
SRM526.5-D2-1000	dp, permutation, sorting	6		[16]	p3		3
<u>CF611-D12-D</u>	dp, strings, lcp	6	Sol	[16]	p3	1	5
CODECHEF ABDTOLL	dp, tree, greedy	6		[16]	p3		1
CF101510-GYM-D	dp	6	Sol	[16]	p2		1
LIVEARCHIVE 6175	dp	6	Sol	[16]	p2		2
UVA 13014	dp or datastructures, [https://morris821028.github.io/2016/02/29/uva-13014/]	6	Sol	[16]	p2		1
CF100503-GYM-F	dp, [repeated]	6	Sol(no e	[16]	p2		3
UVA 1427	dp, deque	6	Sol	[16]	p2	2	5
SRM404-D2-1000	dp, geometry, math	6		[16]	p2		2
<u>CF1079-D2-E</u>	dp, knapsack	6	Sol	[16]	p2		5
<u>CF920-D2-D</u>	dp, Knapsack 0-1 variation	6	Sol	[16]	p2		2
<u>CF372-D1-C</u>	dp, sorting or rmq	6		[16]	p2		2
<u>CF984-D2-D</u>	dp	6		[16]	p1		1
LIVEARCHIVE 6761	dp, [available on hackerrank]	6	Sol	[16]	p1		1
<u>CF476-D2-E</u>	dp, string	6		[16]	p1		3
CF101492-GYM-L	dp	6		[16]			2
<u>CF208-D2-B</u>	dp	6		[16]			1
CF590-D1-D	dp	6		[16]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF675-D2-E</u>	dp	6		[16]			3
SRM548-D1-500	dp	6		[16]			1
SRM553-D2-1000	dp	6		[16]			1
LIVEARCHIVE 3565	dp or backtrack	6		[16]			2
<u>CF300-D2-D</u>	dp or fft, [boring]	6		[16]			1
UVA 11654	dp, [number of subsequences that are arithmetic progressions]	6	<u>Sol</u>	[16]			
UVA 12002	dp, ad-hoc, 2 dp	6		[16]			1
<u>CF677-D2-D</u>	dp, bfs, optimizations	6		[16]			4
<u>CF235-D1-B</u>	dp, dp_expectation	6		[16]			2
SRM499-D1-500	dp, greedy	6		[16]			1
LIVEARCHIVE 5137	dp, knapsack or bf	6		[16]			1
UVA 12256	dp, like fib recurrance, geometry	6		[16]			1
<u>CF157-D2-E</u>	dp, math	6		[16]			1
SRM484-D1-500	dp, math, combinatorics	6		[16]			1
CODECHEF MKSTR	dp, string matching	6		[16]			1
ZOJ 2349	dp, strings	6	<u>Sol</u>	[16]			1
<u>CF1025-D2-D</u>	dp, d&c	5.75		[16]	p3 v2	1	12
<u>CF313-D2-D</u>	dp, tree	5.75		[16]	р3		15
<u>CF488-D2-D</u>	dp, monotonic queue or dp, segment tree	5.75		[16]			3
<u>CF822-D2-D</u>	dp, sieve, math or bf, [TLE]	5.5		[16]	v3		8
<u>CF762-D12-D</u>	dp, bf	5.5		[16]	v2	1	3
<u>CF1013-D2-E</u>	dp	5.5		[16]	p4		8
<u>CF149-D2-D</u>	dp, dp_conting, dp_ranges	5.5	<u>Sol</u>	[16]	p3 v2	2	16
<u>CF10-D12-D</u>	dp	5.5		[16]	р3		3
<u>CF18-D12-E</u>	dp	5.5		[16]	р3		1
KICKSTART 19-RC-C	dp	5.5		[16]	р3		1
LiveArchive 8024	dp	5.5		[16]	р3		1
SPOJ EQ2	dp	5.5		[16]	р3	2	2
<u>CF264-D1-C</u>	dp, [non standard]	5.5		[16]	р3		14
<u>CF808-D12-E</u>	dp, [ternary search might be used]	5.5		[16]	р3		3
<u>CF284-D2-D</u>	dp, analysis	5.5		[16]	р3		9

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM399-D1-500	dp, bits	5.5		[16]	р3		2
CF1066-D3-F	dp, cases	5.5		[16]	р3	1	6
<u>CF1271-D2-D</u>	dp, greedy, sorting	5.5		[16]	р3		3
CF102021-GYM-K	dp, math	5.5	ACE	[16]	р3		2
<u>CF1151-D2-E</u>	dp, math or ad-hoc, [contribution technique]	5.5		[16]	р3		3
CF102021-GYM-K	dp, math, binary search	5.5	Sol	[16]	р3		2
<u>UVA 348</u>	dp, mcm	5.5	Sol	[16]	р3	2	16
Kickstart 19-RH-C	dp, observation, greedy	5.5	<u>Sol</u>	[16]	р3		3
<u>CF895-D2-C</u>	dp, prime factors	5.5		[16]	р3		4
SRM569-D2-1000	dp, primes	5.5		[16]	р3		9
CF1148-D12-D	dp, sorting	5.5		[16]	р3		2
<u>CF1114-D2-D</u>	dp	5.5		[16]	p2		8
<u>CF1256-D3-E</u>	dp	5.5		[16]	p2		2
CF1077-D3-F2	dp_subrectangle	5.5		[16]	p2		8
CF1012-D1-C	dp, [non standard]	5.5		[16]	p2	1	7
CODECHEF DINCPATH	dp, topological sort	5.5		[16]	p2		1
SRM570-D2-1000	dp, tree	5.5		[16]	p2	1	6
TIMUS 1156	dp, bicoloring, is bipartite	5.5	Sol	[16]	p1 v2	1	10
SRM272-D1-500	dp, math	5.5		[16]	p1		1
SRM229-D1-500	dp	5.5		[16]			1
SRM275-D1-500	dp	5.5		[16]			1
SRM351-D1-500	dp	5.5		[16]			1
SRM366-D1-1000	dp	5.5	<u>Sol</u>	[16]			2
SRM387-D1-500	dp	5.5		[16]			1
SRM400-D1-500	dp	5.5		[16]			1
UVA 1646	dp	5.5		[16]			1
SRM204-D1-500	dp or greedy	5.5		[16]			1
SRM328-D1-500	dp or greedy	5.5		[16]			2
CF285-D2-D	dp or math	5.5		[16]		2	6
CODECHEF KGP13G	dp or trie	5.5		[16]			
SRM397-D2-1000	dp, [knapsack]	5.5		[16]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF361-D2-D</u>	dp, binary search, math	5.5		[16]			2
<u>CF627-D12-A</u>	dp, dp_bitmasls, math, [harder version https://www.codechef.com/SNCK1A19/prob	5.5		[16]			3
UVA 976	dp, flood-fill	5.5		[16]			2
SPOJ MPOLY	dp, geometry	5.5		[16]			1
SRM416-D2-1000	dp, graph	5.5		[16]			1
SRM247-D1-500	dp, graph, sorting	5.5		[16]			1
<u>CF404-D2-D</u>	dp, impl	5.5		[16]			10
AtCoder118-ABC-D	dp, knapsack	5.5		[16]			1
<u>CF202-D2-D</u>	dp, math	5.5		[16]			6
SRM367-D1-500	dp, math	5.5		[16]			1
SRM440-D2-1000	dp, math	5.5		[16]			1
SRM410-D2-1000	dp, strings	5.5		[16]			2
CF1072-D2-D	dp, greedy or bfs	5.25		[16]	p3 v2		11
SRM254-D1-500	dp or greedy, [tc trick ppl with n=15]	5.25		[16]	р3		7
<u>CF6-D12-D</u>	dp, dp_build_output	5.25		[16]	р3		2
<u>CF101979-GYM-D</u>	dp, datastructures	5.25		[16]	р3		1
<u>CF459-D2-E</u>	dp, sortings, graph	5.25		[16]	p1		11
<u>CF598-D12-E</u>	dp	5		[16]	p4	1	4
CODECHEF CHSIGN	dp, backtracking, observation	5	<u>Sol</u>	[16]	p4	2	8
<u>CF494-D1-B</u>	dp, kmp or z-algo	5		[16]	p4		9
AtCoder087-ARC-B	dp, observations	5		[16]	p4	1	2
CF1132-D12-F	dp	5		[16]	р3		6
<u>CF13-D12-C</u>	dp	5		[16]	р3		1
<u>CF383-D1-D</u>	dp	5		[16]	р3		3
<u>CF900-D2-E</u>	dp	5	<u>Sol</u>	[16]	р3		3
SPOJ NUMTSN	dp	5	<u>Sol</u>	[16]	р3		1
CF1241-D2-D	dp, 2 pointers	5		[16]	р3		2
SPOJ COLORSEG	dp, gcd	5	Sol	[16]	р3		1
UVA 10534	dp, lis efficient, lis indices or segment tree	5	<u>Sol</u>	[16]	р3		15
<u>CF340-D2-D</u>	dp, lis, onlogn, reduce to efficient lis or dp, bit	5		[16]	р3		17
AtCoder132-ABC-F	dp, math	5		[16]	рЗ		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF1197-D12-D	dp, math	5		[16]	р3	1	3
<u>CF265-D2-D</u>	dp, sieve, binary search	5		[16]	р3		13
AtCoder145-ABC-E	dp, sorting	5	Sol	[16]	р3		1
UVA 10690	dp, summations, max-min product	5	Sol	[16]	р3		6
<u>CF366-D2-C</u>	dp, knapsack	5		[16]	p2 v2		12
AtCoder155-ABC-E	dp	5		[16]	p2		1
<u>CF1140-D12-D</u>	dp	5		[16]	p2		1
<u>CF101-D1-B</u>	dp, datastructures or binary search, impl	5	Sol	[16]	p2	1	8
<u>CF721-D2-C</u>	dp, graph or dijkstra	5		[16]	p2	1	18
<u>CF1107-D12-D</u>	dp, impl	5		[16]	p2		3
<u>CF2-D12-B</u>	dp, math	5		[16]	p2		1
<u>CF506-D1-A</u>	dp, observation	5		[16]	p2		6
<u>CF946-D12-D</u>	dp, precalculation	5		[16]	p2		10
<u>CF608-D2-C</u>	dp	5		[16]	p1		7
SPOJ FATAWY	dp, lcs, dsu	5	<u>Sol</u>	[16]	p1		1
SRM288-D1-500	dp, prefix sum, [greedy fails]	5		[16]	p1		1
SRM296-D1-500	dp, recursion, math or math	5		[16]	p1	1	2
AtCoder021-AGC-D	dp	5		[16]			1
<u>CF1096-D12-D</u>	dp	5		[16]			5
<u>CF225-D2-C</u>	dp	5		[16]			12
<u>CF407-D1-B</u>	dp	5		[16]			6
<u>CF699-D2-C</u>	dp	5		[16]			3
<u>CF811-D2-C</u>	dp	5		[16]			2
CODECHEF RWALK	dp	5		[16]			2
SPOJ SERVICE	dp	5		[16]		1	2
SRM372-D1-500	dp	5		[16]			2
SRM454-D2-1000	dp	5		[16]			2
SRM586-D2-1000	dp	5		[16]		1	4
UVA 1172	dp	5		[16]			5
SRM389-D2-1000	dp or ad-hoc	5		[16]		1	5
SRM239-D1-500	dp or greedy	5		[16]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM277-D1-500	dp or greedy	5		[16]			1
<u>CF991-D2-D</u>	dp or tricky greedy	5		[16]			1
<u>CF527-D2-D</u>	dp, binary search or greedy	5		[16]			1
CODECHEF VOGOZO	dp, binary search or greedy, sorting	5	Sol	[16]			2
<u>CF101411-GYM-H</u>	dp, binary search, revise category?	5		[16]			1
SRM209-D1-500	dp, calculus, [unclear text]	5		[16]			1
UVA 10185	dp, complete binary tree or, greedy, [hard text]	5		[16]		1	6
<u>CF607-D1-D</u>	dp, datastructure	5		[16]			1
<u>CF417-D2-D</u>	dp, dp_masks, greedy	5		[16]			2
LIVEARCHIVE 2151	dp, geometry	5		[16]		2	3
UVA 1238	dp, impl	5		[16]			2
<u>CF270-D2-D</u>	dp, lcs, analysis	5		[16]			6
CSA61-D	dp, lis	5		[16]			1
SPOJ BRDGHRD	dp, lis nlogn, sort	5	Sol	[16]			3
SRM353-D1-500	dp, math	5		[16]			2
<u>CF245-D12-H</u>	dp, palindromes, strings	5		[16]			3
SRM453.5-D1-500	dp, prefix sum, graph	5		[16]			1
SRM353-D2-1000	dp, search, math	5		[16]			2
PKU 1155	dp, tree, [hard text?]	5		[16]			2
<u>CF842-D2-C</u>	dp, trees, gcd	5	Sol	[16]			7
SPOJ STRSEQ	dp	4.5		[16]	p4		1
SPOJ NAIVELOK	dp	4.5	Sol	[16]	р3		1
<u>CF706-D2-C</u>	dp	4.5		[16]	p1	1	11
FbHkrCup 18-RQ-A	dp	4.5	<u>ACC</u>	[16]	p1		2
<u>CF430-D2-D</u>	dp, [unclear txt?]	4.5		[16]	p1		4
<u>CF358-D2-D</u>	dp	4.5		[16]			6
<u>CF408-D2-D</u>	dp	4.5		[16]			4
<u>CF456-D2-C</u>	dp	4.5		[16]			3
CF682-D2-D	dp	4.5		[16]		1	6
CF711-D2-C	dp	4.5		[16]			6
LIVEARCHIVE 8044	dp	4.5	Sol	[16]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>UVA 10617</u>	dp	4.5		[16]			11
<u>UVA 607</u>	dp	4.5	Sol	[16]			5
SRM548-D2-1000	dp or greedy	4.5		[16]		1	2
CODECHEF TACNTSTR	dp or math	4.5		[16]			2
AtCoder119-ABC-C	dp, bitmask, dfs	4.5		[16]			1
<u>CF792-D2-C</u>	dp, dp_memo or greedy	4.5		[16]			7
TIMUS 1342	dp, impl	4.5	<u>Sol</u>	[16]			3
CF4-D2-D	dp, lis (n^2)	4.5		[16]			6
MAUC 18-short-trade-transaction	dp	4.25	<u>Sol</u>	[16]	p1		1
UVA 12131	dp, impl	4		[16]	v3	1	9
SRM418-D2-1000	dp or greedy	4		[16]	v2		6
SPOJ WAYHOME	dp	4		[16]	p2		1
<u>CF604-D2-C</u>	dp or greedy	4		[16]	p2		8
CF1057-D12-C	dp, 2D grid	4		[16]	p2		6
<u>CF1102-D3-F</u>	dp, dp_bitmass	4		[16]	p2		1
ZOJ 1025	dp, lds, nlogn or greedy	4	<u>Sol</u>	[16]	p1 v3		10
SRM351-D2-1000	dp, [reverse thinking]	4		[16]	p1		2
UVA 10980	dp, knapsack	4	<u>Sol</u>	[16]	p1		1
<u>CF221-D2-D</u>	dp, prefix sum or mo's algorithm	4		[16]	p1		4
<u>CF415-D2-D</u>	dp	4		[16]			3
CF919-D2-D	dp	4		[16]			2
SRM253-D1-500	dp	4		[16]			1
SRM398-D1-500	dp	4		[16]			2
<u>UVA 10739</u>	dp	4		[16]			17
UVA 11002	dp	4		[16]			1
<u>UVA 12063</u>	dp	4		[16]			6
UVA 12904	dp	4		[16]			1
UVA 11026	dp, [elementary symmetric polynomials]	4	Sol	[16]			4
SRM295-D1-500	dp, [knapsack]	4		[16]			1
<u>UVA 10819</u>	dp, [knapsack]	4		[16]			15
SRM159-D1-500	dp, [lis releated]	4		[16]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF545-D2-C</u>	dp, dp_memo	4		[16]			2
SRM599-D2-1000	dp, graph, strings	4		[16]			2
<u>CF489-D2-C</u>	dp, greedy, impl	4		[16]			5
<u>CF41-D2-D</u>	dp, impl	4		[16]		1	4
ZOJ 1093	dp, lds or ad-hoc	4		[16]			8
<u>CF463-D2-D</u>	dp, lis	4		[16]		1	6
<u>UVA 497</u>	dp, lis, [direct lis]	4		[16]			9
UVA 11310	dp, recurrences	4		[16]			3
SRM370-D1-500	dp, search	4		[16]			4
UVA 812	dp	3.5		[16]			2
SPOJ NOCHANGE	dp, [coin change]	3.5		[16]			2
SPOJ UOFTAB	dp, bf or bfs	3.5	<u>Sol</u>	[16]			1
UVA 10100	dp, lcs	3.5		[16]		1	9
LIVEARCHIVE 2585	dp, tree or ad-hoc	3.5		[16]			2
LIVEARCHIVE 3574	dp	3		[16]	v2		4
SPOJ NOVICE63	dp	3	Sol	[16]	p2		1
<u>UVA 10003</u>	dp or dp_knuth, [use scanf, you may need to avoid memset or use table methd]	3		[16]	p2		21
UVA 10036	dp, math, [-ve mod]	3		[16]	p1		16
SPOJ DCOWS	dp	3	Sol	[16]			2
SPOJ TRT	dp	3		[16]			4
SRM395-D2-1000	dp	3		[16]			1
TIMUS 1346	dp	3		[16]			2
UVA 11420	dp	3		[16]			4
UVA 1231	dp	3	Sol	[16]			1
UVA 1647	dp	3		[16]			3
UVA 562	dp	3		[16]			8
SRM371-D1-500	dp or graph, min-cost-max-flow or ad-hoc	3		[16]			2
SRM248-D1-500	dp, [greedy fails]	3		[16]			1
CF67-D2-A	dp, graph	3		[16]			4
SRM462-D2-1000	dp, graph	3		[16]			1
UVA 10192	dp, lcs	3		[16]			13

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 1196	dp, lis nlogn	3		[16]			3
SRM577-D2-1000	dp, math	3		[16]			15
SRM551-D2-1000	dp, math, state symmetry	3		[16]			1
SRM299-D1-500	dp, strings	3		[16]			2
SPOJ BYTESM2	dp	2		[16]			5
SRM314-D1-500	dp	2		[16]			1
UVA 1225	dp, prefix sum	2		[16]			1
<u>CF1225-D12-G</u>	dp, knapsack, constructive, number theory, bitsets			[16]	р3		1
<u>CF506-D1-E</u>	dp, observations, linear recurrence [Berlekamp-Massey Algorithm]		Read Lat	[16]		1	1
<u>UVA 1413</u>	dp, dp_cyclic, matrix, gaussian elimination	8		[17]			
<u>CF24-D12-D</u>	dp, dp_cyclic, gaussian elimination or upper triangular matrix solving	7.5		[17]	p4	1	2
SRM504.5-D1-1000	dp, dp_cyclic, matrix, gaussian elimination or upper triangular matrix solving	7.5		[17]			
HACKR palindromes	dp, dp_cyclic, gaussian elimination	7		[17]			
UVA 1390	dp, dp_cyclic, state as vector, sorting state, dsu, tricky complexity	6.75	<u>Sol</u>	[17]	р3	3	8
CODEJAM 09-R1A-C	dp, dp_cyclic, dp_expectation or dp_depth or gaussian elimination or upper triangu	6.5	<u>Sol</u>	[17]	p4	2	11
TC(MONSTERSANDBUNNIES)	dp, dp_cyclic, dp_probability	6.5		[17]	р3	1	5
UVA 215	dp, dp_cyclic, gaussian elemination	6.5		[17]			
<u>CF102190-GYM-B</u>	dp, dp_cyclic, dp_probability or dp_depth	6.25	<u>Sol</u>	[17]	р3		2
UVA 11755	dp, dp_cyclic, dp_probability or dp_depth or gaussian elimination	6.25	<u>Sol</u>	[17]			3
SPOJ GS	dp, dp_cyclic, dp_expectation, gaussian elimination	6	<u>Sol</u>	[17]	p2		3
SRM318-D1-500	dp, dp_cyclic, expectation or bf, simulation	6		[17]			3
SRM334-D1-500	dp, dp_cyclic	5.75		[17]			1
SRM488-D1-250	dp, dp_cyclic, dp_expectation or dp_depth	5		[17]			5
SRM568-D2-1000	dp, dp_cyclic, expectation, [algebra handling]	5	<u>Sol</u>	[17]		1	2
AtCoder004-AGC-E	dp, dp_state_reduce, dp_subrectangle, 2D prefix sum	7.5		[18]	р3	1	2
UVA 12099	dp, dp_state_reduce, dp_table, greedy fails	6.75	<u>Sol</u>	[18]	р3	1	5
TC(SISTERSERASINGLETTERS)	dp, dp_state_reduce, dp_games, [min max]	6.3	Find O(N	[18]	p5		5
<u>CF351-D1-C</u>	dp, dp_state_reduce, matrix pow	6.25	Sol	[18]	р3		4
<u>CF559-D1-C</u>	dp, dp_state_reduce, dp_counting, inclusion-exclusion, [change object to dp, ~=CF	6.1		[18]	p4 v2	1	21
<u>CF1140-D12-E</u>	dp, dp_state_reduce, dp_counting	6		[18]	p2		3
SRM508-D1-500	dp, dp_state_reduce, dp_counting	6	Sol	[18]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LightOJ 1126	dp, dp_state_reduce, knapsack	5.5	Sol	[18]	р3		1
<u>CF837-D12-D</u>	dp, dp_state_reduce	5		[18]		2	6
SRM511-D1-500	dp, dp_state_reduce, dp_games	5		[18]			2
SRM540-D1-500	dp, dp_optimal_substructure_analysis, dp_probability, inclusion-exclusion	6.6		[19]	р3		5
HACKR BILLBOARDS	dp, dp_optimal_substructure_analysis, [maximum array sum with consecutives (<=	6	Sol	[19]	p3 v3		11
LIVEARCHIVE 5132	dp, dp_subrectangle, Manhattan2DRotation or inclusion-execlusion, [For rotation to	7		[20]	р5		4
<u>CF1199-D2-F</u>	dp, dp_subrectangle	6.3		[20]	p4		6
UVA 1366	dp, dp_subrectangle, 2d	5.75		[20]	p2		
SPOJ FISHES	dp, dp_subrectangle, 2d, observations, dot product, Largest Rectangle general, [A	5.5	Sol	[20]	р3	1	9
TIMUS 1389	dp, dp_subrectangle, 2d	5.5		[20]			
<u>CF75-D2-D</u>	dp, dp_subrectangle, 2d, [actually greedy version]	5		[20]	p2		15
UVA 10827	dp, dp_subrectangle, 2d, [harder version of UVA 108]	4		[20]			1
SPOJ BCAKE	dp, dp_subrectangle, 2d or max-flow	3.5		[20]			2
UVA 507	dp, dp_subrectangle, 1d, [more direct UVA 12640]	3		[20]			3
UVA 10667	dp, dp_subrectangle, 2d	3		[20]			6
LIVEARCHIVE 5128	dp, memoize or backtrack, herustics	7.5		[21]	р3		1
SRM525-D2-1000	dp, memoize map or bf, hard impl	6.5	See DP	[21]	р3		4
UVA 10597	dp, memoize in set, [CFG]	6.5		[21]		1	1
SRM358-D1-500	dp, memoize in map, gcd, [proof Bezout's identity] or randomization [such in CF104	6.1	Sol	[21]	р3		2
SRM566-D1-250	dp, memoize in map or math	5		[21]			1
SRM402-D1-250	dp, memoize in map, expectation	5		[21]			1
CF38-D12-F	dp, memoize in map, games	5		[21]			1
SRM413-D1-500	dp, memoize in map	3		[21]			1
SRM413-D2-1000	dp, memoize in map	3		[21]			2
CODECHEF BUYING	dp, dp_ad-hoc, pigeonhole principle, [knapsack optimization]	7.25	<u>Sol</u>	[22]	p5	1	11
UVA 1224	dp, dp_ad-hoc, [tiling]	6.5		[22]			
CF600-D12-E	dp, dp_ad-hoc, [small-to-large] or dsu-on-trees or centroid-decomposition	6		[22]	p4		23
SRM416-D1-500	dp, dp_ad-hoc, dp_inequality_constraints or bf, OEIS [=CF714-D2-E]	6	Sol. Rea	[22]	р3		4
LIVEARCHIVE 3930	dp, dp_ad-hoc, dp_games, state, impl	6	Sol	[22]	p2	1	4
UVA 12222	dp, dp_ad-hoc	6		[22]	p1		1
UVA 1638	dp, dp_ad-hoc	6		[22]	p1		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1051-D12-D</u>	dp, dp_ad-hoc, dp_table, [tiling, ~=10918]	5.5		[22]	p2		7
UVA 11545	dp, dp_ad-hoc or bfs	5.5		[22]			1
FbHkrCup 18-R1-A	dp, dp_ad-hoc, [non standard]	5		[22]	p2		8
<u>UVA 10918</u>	dp, dp_ad-hoc, [tiling], [in my videos], [https://github.com/yazanKabbany/Competiti	5	Sol	[22]	p1		3
UVA 1424	dp, dp_ad-hoc	5		[22]			1
UVA 11487	dp, dp_ad-hoc, bfs, counting	5		[22]			2
PKU 1170	dp, dp_ad-hoc, state, [strict TLE]	5		[22]		1	2
UVA 10940	dp, dp_ad-hoc, jouseph or bf, pattern	4	Sol	[22]		1	4
UVA 12235	dp, dp_table, roll table, dp_bitmasks	7.5		[23]		1	2
<u>CF840-D1-C</u>	dp, dp_table, dp_counting, [permutation dp, stars&bars], [solve CODECHEF AMB/	7.1	Sol	[23]	р5		13
<u>CF101606-GYM-E</u>	dp, dp_table, dp_build_output	7	Sol	[23]			1
CF100283-Gym-C	dp, dp_table, dp_susbstates_analysis, Manhattan2DRotation, [solve CF124-D2-D	6.75	<u>Sol</u>	[23]	p4 v1	2	18
<u>CF570-D2-E</u>	dp, dp_table	6.75		[23]	р3		7
<u>CF101490-GYM-D</u>	dp, dp_table	6.75	Sol	[23]			1
CODECHEF AMBALLS	dp, dp_table, dp_counting, [permutation dp, stars&bars], [CSA_Beta7-E (distinct_n	6.5		[23]	р3	1	2
CSA40-D	dp, dp_table, permutations	6.5	Sol	[23]	р3		7
<u>CF570-D2-E</u>	dp, dp_table, dp_counting	6.4		[23]	р3		7
SRM520-D1-500	dp, dp_table, dp_susbstates_analysis, [subproblem in CF100283-GYM-C]	6.3		[23]	p4 v2	1	11
<u>CF940-D2-E</u>	dp, dp_table, datastructures, math	6.3		[23]	р3		3
<u>CF813-D12-D</u>	dp, dp_table, tricky	6.25	Sol. Rea	[23]	p3 v2	5	10
<u>CF710-D12-E</u>	dp, dp_table, [cycles are cancelled], [memoization fails for RTE depth]	6.1	Sol	[23]	p3 v2		18
<u>CF418-D1-B</u>	dp, dp_table, dp_roll, dp_bitmasks, sortings	5.5		[23]	p4 v2	2	28
ZOJ 3305	dp, dp_table or dp_bitmasks, mask-all-subsets	5.5	Sol	[23]	p4	1	14
UVA 11266	dp, dp_table, roll table, [https://github.com/MetalBall887/Competitive-Programming	5.5	Sol	[23]	JS Add		1
SRM534-D1-500	dp, dp_table, dp_bitmasks, knapsack, factorization, [table to reduce memory]	5.5	sol	[23]			3
<u>CF478-D2-D</u>	dp, dp_table, dp_roll	5		[23]	p4 v2	4	29
<u>CF192-D2-C</u>	dp, dp_table	5		[23]			4
SRM728-D2-500	dp, dp_table, accumulation optimization	5		[23]			1
<u>CF667-D2-C</u>	dp, dp_table, [greedy fails]	4.5		[23]	р3		7
SRM502-D2-1000	dp, dp_table	3		[23]			1
<u>CF101915-Gym-E</u>	dp, dp_bitmasks	7.5	Sol	[24]	р3		2
CF662-D12-C	dp, dp_bitmasks	7.5		[24]	р3		3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1198-D1-F</u>	dp, dp_bitmasks, observations	7.5		[24]	р3		1
SPOJ PWORDS	dp, dp_bitmasks	7.5	Author A	[24]	p2		2
SRM549-D1-500	dp, dp_bitmasks, dp_ternarymask, impl	7.25		[24]		1	2
AtCoder012-AGC-E	dp, dp_bitmasks, intervals	7.25		[24]			
LIVEARCHIVE 6028	dp, dp_bitmasks, 2 dp	7		[24]	р5	1	3
<u>CF544-D2-E</u>	dp, dp_bitmasks, lowest Bit DP	7		[24]	р3		3
<u>CF367-D1-D</u>	dp, dp_bitmasks, dfs	7		[24]			1
LIVEARCHIVE 4794	dp, dp_bitmasks, mask-all-subsets, prune	6.75		[24]	p4		7
<u>CF543-D1-C</u>	dp, dp_bitmasks, [even if intermediate calcs are wrong, they may not affect results]	6.75		[24]	р3		4
TC(Avoid9)	dp, dp_bitmasks, dp_ternarymask	6.75		[24]			1
<u>CF454-D2-D</u>	dp, dp_bitmasks	6.5		[24]	р3		3
UVA 1323	dp, dp_bitmasks, Mersenne primes	6.5	Sol	[24]	р3	1	3
<u>CF1313-D2-D</u>	dp, dp_bitmasks, sweep line	6.5		[24]	р3		1
SRM549-D2-1000	dp, dp_bitmasks, topological sort to build dp	6.5	<u>Sol</u>	[24]	р3	2	5
<u>CF413-D12-D</u>	dp, dp_bitmasks	6.5		[24]			2
<u>CF743-D2-E</u>	dp, dp_bitmasks	6.5		[24]			19
<u>CF342-D2-D</u>	dp, dp_bitmasks, cases	6.5		[24]		1	2
CODECHEF FAVGAME	dp, dp_bitmasks, nested dps	6.5		[24]		1	3
CF1209-D12-E2	dp, dp_bitmasks, greedy	6.4	<u>Sol</u>	[24]	p4	1	5
SRM356-D1-500	dp, dp_bitmasks, optimizations, marriage graph or bf	6.25	<u>Sol</u>	[24]	р5		10
<u>CF378-D2-E</u>	dp, dp_bitmasks	6.25		[24]	р3	1	3
HACKR charity	dp, dp_bitmasks	6.25		[24]	р3		1
<u>CF907-D2-E</u>	dp, dp_bitmasks, cliques, np-hard or randomization	6.25	<u>Sol</u>	[24]	р3		4
SPOJ DNALAB	dp, dp_bitmasks, dp_build_output, greedy	6.25	<u>Sol</u>	[24]		3	7
LIVEARCHIVE 4970	dp, dp_bitmasks or graph, min-cost-max-flow, [knight distance in infinite chess]	6.1	<u>Sol</u>	[24]	р3	3	7
<u>CF743-D2-E</u>	dp, dp_bitmasks, binary search, [repeated idea]	6.1		[24]	p2 v2		19
<u>CF453-D1-B</u>	dp, dp_bitmasks, number theory	6.1		[24]	p2		4
<u>CF757-D12-D</u>	dp, dp_bitmasks	6		[24]	р3		1
SRM386-D1-500	dp, dp_bitmasks, polygon triangulation, [prove, greedy fails]	6		[24]	р3		5
<u>CF1234-D3-F</u>	dp, dp_bitmasks	6		[24]	p2		3
<u>CF100212-GYM-E</u>	dp, dp_bitmasks, dp_ternarymask	6	Sol	[24]	p2		5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF385-D2-D</u>	dp, dp_bitmasks, geometry	6		[24]	p2		1
UVA 1252	dp, dp_bitmasks	6		[24]	p1		3
AtCoder113-ABC-D	dp, dp_bitmasks	6		[24]			1
<u>CF101484-GYM-K</u>	dp, dp_bitmasks	6	Sol	[24]			2
SPOJ HELPBOB	dp, dp_bitmasks	6	Sol	[24]			2
<u>CF472-D12-G</u>	dp, dp_bitmasks or fft	6		[24]			
SRM575-D2-1000	dp, dp_bitmasks or max-flow	6		[24]			3
UVA 11284	dp, dp_bitmasks, floyd	6	<u>Sol</u>	[24]		4	20
<u>CF510-D2-D</u>	dp, dp_bitmasks, math	6		[24]			7
CF102219-GYM-F	dp, dp_bitmasks	5.5	<u>Sol</u>	[24]	p4		2
LIVEARCHIVE 3995	dp, dp_bitmasks	5.5	<u>Sol</u>	[24]	p1		3
CF100155-GYM-F	dp, dp_bitmasks	5.5	<u>Sol</u>	[24]			2
SRM390-D1-500	dp, dp_bitmasks, binary search	5.5		[24]			2
CF903-D12-F	dp, dp_bitmasks	5		[24]	р3		
UVA 11806	dp, dp_bitmasks, dp_countig or inclusion-exclusion, [cases]	5	Sol	[24]	p2 v2		9
UVA 11825	dp, dp_bitmasks, mask-all-subsets, [direct practice on mask-all-subsets]	5	<u>Sol</u>	[24]	p2		7
<u>CF101055-gym-E</u>	dp, dp_bitmasks	5		[24]			3
SPOJ ANARC08I	dp, dp_bitmasks	5		[24]			1
SRM189-D1-500	dp, dp_bitmasks	5		[24]			1
SRM364-D1-500	dp, dp_bitmasks	5		[24]			1
SRM364-D2-1000	dp, dp_bitmasks	5		[24]			2
SRM469-D1-500	dp, dp_bitmasks	5		[24]			1
TJU 1189	dp, dp_bitmasks	5		[24]		1	3
UVA 11084	dp, dp_bitmasks	5		[24]			1
UVA 1240	dp, dp_bitmasks	5		[24]			1
SPOJ BABY	dp, dp_bitmasks or min-cost-max-flow	5		[24]			2
SRM508-D2-1000	dp, dp_bitmasks, math	5		[24]		1	3
UVA 10944	dp, dp_bitmasks, tsp oe bfs, impl	5	<u>Sol</u>	[24]			5
SRM523-D2-1000	dp, dp_bitmasks	4.5		[24]			1
UVA 12030	dp, dp_bitmasks	4.5		[24]			1
UVA 10264	dp, dp_bitmasks or ad-hoc, masks, d&c	4.5	sol	[24]		1	11

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ TAILS	dp, dp_bitmasks or bfs, bitmasks	4.5		[24]		1	3
UVA 11008	dp, dp_bitmasks, geometry	4.5		[24]			1
SRM562-D2-1000	dp, dp_bitmasks, dp_counting, hard text	4		[24]	v2		6
<u>CF580-D2-D</u>	dp, dp_bitmasks	4		[24]	p2		8
SPOJ PERMUT1	dp, dp_bitmasks	4		[24]	p2		5
<u>UVA 10651</u>	dp, dp_bitmasks	4		[24]	p1		6
<u>SPOJ ASSIGN</u>	dp, dp_bitmasks or dp_sos	4		[24]	p1		4
SRM390-D2-1000	dp, dp_bitmasks	4		[24]		1	3
UVA 11088	dp, dp_bitmasks	4	<u>Sol</u>	[24]			5
SPOJ TRSTAGE	dp, dp_bitmasks or dijkstra	4	<u>Sol</u>	[24]			3
LIVEARCHIVE 5856	dp, dp_bitmasks, [kmp may help]	4	<u>Sol</u>	[24]			1
SRM407-D1-500	dp, dp_bitmasks, dp_games, [minimax]	4		[24]			1
SRM279-D1-500	dp, dp_bitmasks, math	4		[24]			3
SRM547-D2-1000	dp, dp_bitmasks, primes	4		[24]			1
UVA 11795	dp, dp_bitmasks, dp_counting	3.5	Sol	[24]			3
SPOJ MMINPAID	dp, dp_bitmasks or shortest path	3		[24]	v2		3
TIMUS 1152	dp, dp_bitmasks	3		[24]			4
SRM430-D2-1000	dp, dp_bitmasks, graph	3		[24]			1
HACKR polita-sets	dp, dp_counting, combinatorics	9.5		[26]			
HACKR digit-products	dp, dp_counting, combinatorics, observations	9		[26]			
AtCoder002-AGC-F	dp, dp_counting, mod inv, [reduced to number of topological orderings]	8.5		[26]			
AtCoder013-AGC-E	dp, dp_counting, matrix pow, [optimize dp with matrix pow]	7.6		[26]		1	1
<u>CF1034-D1-C</u>	dp, dp_counting	7.5		[26]	p4	1	3
AtCoder009-AGC-E	dp, dp_counting, trees	7.5		[26]	p4		1
CODECHEF ADIMAT	dp, dp_counting, [burnside's lemma]	7.5		[26]	р3		2
CODECHEF TBGRAPH	dp, dp_counting, segment tree	7.5	Sol	[26]	р3		1
CF1097-D12-G	dp, dp_counting, stirling numbers, A trick from Errichto,	7.5		[26]	p1		2
CF747-D2-F	dp, dp_counting	7.5		[26]			1
SRM145-D1-1000	dp, dp_counting	7.5		[26]			
SRM147-D1-1000	dp, dp_counting	7.5		[26]			
AtCoder028-AGC-D	dp, dp_counting	7.3		[26]	p4		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
AtCoder001-AGC-E	dp, dp_counting	7.25		[26]	p4		2
UVA 11828	dp, dp_counting, dp_ranges, 2 dp	7.25		[26]			
UVA 12298	dp, dp_counting, sieve, sieve bitmasks, combinatorics	7.25		[26]			
AtCoder026-AGC-D	dp, dp_counting, dsu, datastructures	7		[26]	р3		2
<u>CF841-D2-E</u>	dp, dp_counting, permutations	7		[26]	р3	2	4
HACKR alien-languages	dp, dp_counting	7	Sol	[26]	p1		1
CF101411-GYM-E	dp, dp_counting	7		[26]			2
<u>CF295-D1-D</u>	dp, dp_counting	7		[26]			1
SRM553-D1-500	dp, dp_counting, patterns	7		[26]		1	2
AtCoder005-AGC-D	dp, dp_counting, inclusion-exclusion, perfect matchings count	6.8		[26]	p4		7
AtCoder030-AGC-D	dp, dp_counting, dp_probability, dp_table, permutations	6.8		[26]	р3		2
AtCoder013-AGC-D	dp, dp_counting, [double-counting]	6.75		[26]	p4		5
CF1172-D1-C2	dp, dp_counting	6.75		[26]	р3		1
SRM532-D1-500	dp, dp_counting, dp_bitmasks, graph, [dublicate countings]	6.7	Sol	[26]	p4	1	7
<u>CF101064-GYM-B</u>	dp, dp_counting, permutations, LIS, [reduce to: find the number of permutations of	6.6	Sol	[26]	p5	1	9
<u>CF37-D12-D</u>	dp, dp_counting	6.5	Sol	[26]	p5	2	6
CF1185-D2-G2	dp, dp_counting	6.5		[26]	р3		3
<u>CF1204-D2-E</u>	dp, dp_counting	6.5		[26]	р3		4
CF1237-D12-F	dp, dp_counting	6.5		[26]	р3		2
<u>CF659-D2-G</u>	dp, dp_counting	6.5		[26]	р3		2
<u>CF129-D12-E</u>	dp, dp_counting or math, combinatorics, [independence property]	6.5	Sol	[26]	р3		2
CODECHEF SEAEQ	dp, dp_counting, summation order, perumtations, [fake constraint]	6.5		[26]	р3		6
<u>CF128-D1-C</u>	dp, dp_counting, summations or math, combinatorics, [independence property]	6.5	Sol	[26]	р3		14
<u>CF403-D1-D</u>	dp, dp_counting	6.5		[26]			3
LIVEARCHIVE 4123	dp, dp_counting	6.5		[26]		1	4
<u>CF1279-D12-E</u>	dp, dp_counting	6.3		[26]	р3		3
<u>CF295-D1-C</u>	dp, dp_counting, graph	6.25		[26]	p5	1	11
SRM514-D1-500	dp, dp_counting, dp_bitmasks	6.25		[26]	p4	5	16
SRM523-D1-500	dp, dp_counting	6.25		[26]			3
SRM406-D2-1000	dp, dp_counting, bicoloring, [double counting]	6.1		[26]	р3		1
SPOJ RIOI_3_2	dp, dp_counting, number theory	6	Sol	[26]	p4	1	8

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 8299	dp, dp_counting	6		[26]	р3	1	1
<u>CF258-D1-C</u>	dp, dp_counting or combinatorics, binary search, binomial therom	6		[26]	р3		7
<u>CF233-D2-D</u>	dp, dp_counting, mod inv	6		[26]	р3		2
TC(FamilySeatingArrangement)	dp, dp_counting, pow	6		[26]	р3		1
<u>CF1111-D2-D</u>	dp, dp_counting, knapsack	6		[26]	p2		3
<u>CF1156-D12-F</u>	dp, dp_counting, probability, mod inv	6		[26]	p2		1
<u>CF156-D1-C</u>	dp, dp_counting	6		[26]			4
SRM602-D2-1000	dp, dp_counting	6		[26]		1	3
<u>CF489-D2-F</u>	dp, dp_counting or bf, [boring]	6		[26]			2
UVA 986	dp, dp_counting, combinatorics	6		[26]			1
LIVEARCHIVE 6396	dp, dp_counting, factorization or backtrack	6		[26]			4
UVA 11981	dp, dp_counting, graph	6		[26]			1
SRM477-D2-1000	dp, dp_counting, inclusion-exclusion	6		[26]		1	4
SRM428-D2-1000	dp, dp_counting or perm, ad-hoc	5.5	<u>Sol</u>	[26]	p2	1	11
SRM459-D1-500	dp, dp_counting, symbolic thinking	5.5		[26]			1
<u>CF888-D12-D</u>	dp, dp_counting	5		[26]	v2		8
SPOJ DCEPC810	dp, dp_counting, 2 pointers	5	<u>Sol</u>	[26]	р3		1
<u>CF100531-gym-K</u>	dp, dp_counting	5		[26]			3
<u>CF991-D2-E</u>	dp, dp_counting	5		[26]			1
SRM395-D1-500	dp, dp_counting	5		[26]			4
SRM520-D2-1000	dp, dp_counting	5		[26]			5
SRM554-D2-1000	dp, dp_counting	5		[26]		1	6
UVA 1645	dp, dp_counting or impl???	5		[26]			1
HACKR volleyball-match	dp, dp_counting, combinatorics	5		[26]			3
UVA 11655	dp, dp_counting, graph	5		[26]			1
<u>CF1084-D2-C</u>	dp, dp_counting	4.5		[26]	р3		7
SRM578-D2-1000	dp, dp_counting	4.5		[26]	р3	1	17
<u>CF474-D2-D</u>	dp, dp_counting	4.5		[26]	p2		10
SRM144-D1-500	dp, dp_counting or math, combinatorics, [repeated]	4.5		[26]		2	14
UVA 12223	dp, dp_counting, tree, dfs	4.5		[26]			2
SRM349-D1-500	dp, dp_counting	4		[26]	p2		10

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
HACKR construct-the-array	dp, dp_counting or combinatorics	4		[26]			1
UVA 10198	dp, dp_counting, bignum	4		[26]		1	7
UVA 12034	dp, dp_counting, combinations, mod	4		[26]			1
<u>CF431-D2-C</u>	dp, dp_counting, dp_trees	3.5		[26]			8
<u>CF118-D2-D</u>	dp, dp_counting	3		[26]			8
SRM227-D1-500	dp, dp_counting	3		[26]			1
SRM354-D2-1000	dp, dp_counting	3		[26]			19
HACKR lexicographic-steps	dp, dp_counting, combinatorics or ad-hoc	3		[26]			1
<u>CF382-D2-E</u>	dp, dp_games, dp_counting	8		[28]	р3		1
<u>CF317-D1-D</u>	dp, dp_games or grundy	6.5		[28]	р3		4
SPOJ XOINC	dp, dp_games, optimization, [needs O(n^2) not O(n^3), dp trick to reduce order]	6.25	Sol	[28]	p5	1	18
SRM526-D1-500	dp, dp_games, optimization, primes, set	6.1	Sol	[28]	p3 v2	6	12
<u>CF48-D12-E</u>	dp, dp_games, graphs or dijkstra or dfs, DAG	6.1		[28]	р3	1	7
SRM419-D1-500	dp, dp_games, [cases]	6.1	Sol	[28]	p2		2
SRM216-D1-1000	dp, dp_games or game theory, nim	6		[28]	p2		2
SRM343-D1-500	dp, dp_games, minimax	6		[28]		1	2
UVA 10111	dp, dp_games or backtrack, minmax (alpah beta)	5.5	Sol	[28]	р3	3	18
SRM384-D2-1000	dp, dp_games	5		[28]	p1	1	3
<u>CF731-D2-E</u>	dp, dp_games	5		[28]			2
SRM360-D2-1000	dp, dp_games	5		[28]			2
TIMUS 1398	dp, dp_games	5		[28]			3
<u>CF63-D2-E</u>	dp, dp_games, dp_bitmasks	5		[28]			5
<u>CF917-D1-B</u>	dp, dp_games, minmax	5		[28]			4
<u>CF148-D2-D</u>	dp, dp_games, dp_probability	4.5		[28]	р3	1	19
<u>UVA 10578</u>	dp, dp_games	4.5	Sol	[28]			13
UVA 10536	dp, dp_games, dp_bitmasks, repeated, [~=CF69-D2-D, SRM522-D1-250, SRM534	4.5	Sol	[28]			11
<u>CF1033-D12-C</u>	dp, dp_games, [Harmonic progression]	4		[28]	р3		8
SRM606-D2-1000	dp, dp_games, dp_bitmasks or bf	4		[28]			5
SRM534-D1-250	dp, dp_games, dp_bitmasks or game theory	4		[28]			12
SRM228-D1-500	dp, dp_games, minimax	3		[28]	р3	1	16
UVA 10404	dp, dp_games	3	Sol	[28]			10

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM172-D1-500	dp, dp_games or game theory	3		[28]		1	4
UVA 12469	dp, dp_games or game theory	3	Sol	[28]			2
UVA 11311	dp, dp_games, [nim]	3		[28]			4
SRM522-D1-250	dp, dp_games, dp_bitmasks or ad-hoc	3		[28]			9
<u>CF698-D1-C</u>	dp, dp_probability	8		[29]	р3	1	3
<u>CF249-D1-C</u>	dp, dp_probability	8		[29]			
<u>CF175-D12-D</u>	dp, dp_probability or ad-hoc	8		[29]			
TIMUS 1359	dp, dp_probability	7.5		[29]		1	1
<u>CF464-D1-D</u>	dp, dp_probability, [skip small probabilities trick]	7		[29]	p4		4
SPOJ LIM	dp, dp_probability or gaussian elimination	7	Sol	[29]			1
SRM542-D1-500	dp, dp_probability, dp_bitmasks	7		[29]			
<u>CF596-D2-D</u>	dp, dp_probability, dp_ranges	7		[29]			1
<u>CF867-D12-D</u>	dp, dp_probability	6.75		[29]	p4	2	2
CF513-D12-G2	dp, dp_probability	6.75		[29]			1
UVA 10529	dp, dp_probability, circular style, greedy fails	6.5		[29]	p4		2
<u>CF1097-D12-D</u>	dp, dp_probability, math, number theory	6.5		[29]	р3		4
<u>CF499-D2-D</u>	dp, dp_probability	6.5		[29]			1
SRM614-D2-1000	dp, dp_probability or gaussian elimination, [tridiagonal matrix algorithm], [https://git	6.5	Editorial	[29]		2	4
SRM476-D1-500	dp, dp_probability, bitmasks, combinations	6.5		[29]			2
SRM460-D1-500	dp, dp_probability	6.25		[29]		1	2
SRM603-D2-1000	dp, dp_probability, dp_depth or bf	6		[29]	p4		4
<u>CF908-D12-D</u>	dp, dp_probability	6	Sol	[29]	р3		10
UVA 11176	dp, dp_probability	6	Sol	[29]	p2 v2	4	9
<u>CF68-D12-D</u>	dp, dp_probability, datastructure or d&c	6		[29]	p1		2
SRM513-D1-500	dp, dp_probability	6		[29]		1	3
CF236-D2-D	dp, dp_probability or ad-hoc	6		[29]		1	2
CF167-D1-D	dp, dp_probability, ?? level	6		[29]			1
SRM304-D1-500	dp, dp_probability, bignum	6		[29]			1
CF768-D2-D	dp, dp_probability	5.5		[29]	v2		6
UVA 11021	dp, dp_probability, dp_table, [independence property], [prove correctness?]	5.5	Sol	[29]	р3	2	11
<u>CF28-D12-C</u>	dp, dp_probability, combinatorics or ad-hoc	5.25	Sol	[29]	p3 v3		8

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10169	dp, dp_probability, [print is the challenge]	5	Sol	[29]	v2		5
<u>CF678-D12-E</u>	dp, dp_probability, dp_bitmasks	5		[29]	v2	1	6
<u>CF859-D12-D</u>	dp, dp_probability	5		[29]	р3		
<u>CF16-D2-E</u>	dp, dp_probability, dp_table, masks	5	Sol	[29]	р3		12
UVA 10218	dp, dp_probability or combinatorics	5	Sol	[29]	p2	1	5
PKU 3744	dp, dp_probability or math, pow or matrix pow	5	Sol	[29]	p2	1	5
PKU 2151	dp, dp_probability, [educational]	5	Sol	[29]	p2	2	10
UVA 12179	dp, dp_probability, floyd	5	Sol	[29]	p1	1	9
SRM394-D1-1000	dp, dp_probability	5		[29]			2
SRM408-D2-1000	dp, dp_probability	5		[29]			1
<u>UVA 542</u>	dp, dp_probability, [=PKU 3071]	4.5	Sol	[29]	р3	1	21
<u>CF540-D2-D</u>	dp, dp_probability	4.5		[29]	p2	1	17
SRM339-D1-500	dp, dp_probability	4.5		[29]	p2	1	19
UVA 10759	dp, dp_probability, counting style	4.5	Sol	[29]	p2		10
PKU 3071	dp, dp_probability, dp_masks	4.5	Sol	[29]	p1		7
<u>CF168-D2-D</u>	dp, dp_probability	4.5		[29]			13
SRM338-D1-500	dp, dp_probability	4		[29]	v3		10
<u>CF101726-GYM-B</u>	dp, dp_probability	4	<u>Sol</u>	[29]	р3		2
<u>CF54-D12-C</u>	dp, dp_probability	4		[29]	p2		17
<u>UVA 12024</u>	dp, dp_probability	4	<u>Sol</u>	[29]			10
SRM504.5-D2-1000	dp, dp_probability	3.5		[29]			5
UVA 12457	dp, dp_probability or probability	3.5	<u>Sol</u>	[29]			7
<u>TJU 3051</u>	dp, dp_probability	3		[29]	р3		5
HACKR colorful-polygon	dp, dp_probability, dp_expectation	9		[30]			
LIVEARCHIVE 6777	dp, dp_probability, dp_expectation	9		[30]			
HACKR bear-and-dancing	dp, dp_probability, dp_expectation	8.5		[30]			
<u>CF138-D1-D</u>	dp, dp_probability, dp_expectation, linearity of expectation	8.5		[30]			
<u>CF183-D12-D</u>	dp, dp_probability, dp_expectation, max-min expectation	8.5		[30]			
SRM727-D1-1000	dp, dp_probability, dp_expectation, [new style - linearity of expectation + some sim	7.5		[30]	p2		1
<u>CF258-D1-D</u>	dp, dp_probability, dp_expectation, law of total expectation	7.1		[30]	p4 v2		6
SRM515-D1-500	dp, dp_probability, dp_expectation, dp_bitmasks, minimax	7		[30]	p4 v2	1	4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM384-D1-500	dp, dp_probability, dp_expectation, dp_depth	6.75		[30]		2	3
SRM462-D1-500	dp, dp_probability, dp_expectation, linearity of expectation	6.75		[30]			2
<u>CF101808-gym-D</u>	dp, dp_probability, dp_expectation, dp_bitmasks	6.6	Sol	[30]	р3		2
<u>CF101620-gym-G</u>	dp, dp_probability, dp_expectation, dijkstra	6.5	Sol	[30]	p4	1	3
<u>CF602-D2-E</u>	dp, dp_probability, dp_expectation, linearity of expectation	6.25		[30]	р3	1	7
<u>CF1278-D12-F</u>	dp, dp_probability, dp_expectation	6		[30]	р3		1
<u>CF399-D2-D</u>	dp, dp_probability, dp_expectation	6		[30]	р3		1
<u>CF697-D2-D</u>	dp, dp_probability, dp_expectation or expectation, easy formula hard proof, combir	6		[30]	р3	1	5
HACKR connect-the-country	dp, dp_probability, dp_expectation or graph, randomization, probability, [similar to c	6	<u>Sol</u>	[30]	р3	1	5
UVA 11427	dp, dp_probability, dp_expectation	6		[30]			1
UVA 1456	dp, dp_probability, dp_expectation	6		[30]			1
AtCoder144-ABC-F	dp, dp_probability, dp_expectation	5.5		[30]	р3		1
AtCoder149-ABC-F	dp, dp_probability, dp_expectation	5.5		[30]	р3		1
PKU 2096	dp, dp_probability, dp_expectation or math, [hard text for few]	5.5	<u>Sol</u>	[30]	р3	1	19
<u>CF1245-D2-E</u>	dp, dp_probability, dp_expectation, impl	5.5		[30]	p2		1
SPOJ LOOPEXP	dp, dp_probability, dp_expectation or math, probability	5	<u>Sol</u>	[30]	v1		4
SRM420-D1-500	dp, dp_probability, dp_expectation, dp_table, roll table	5	<u>Sol</u>	[30]	p2 v2		9
SRM533-D2-1000	dp, dp_probability, dp_expectation or expectation	5		[30]	p2		4
UVA 10288	dp, dp_probability, dp_expectation, gcd, fraction, [hard text?]	5	<u>Sol</u>	[30]	p2		3
<u>CF1265-D2-E</u>	dp, dp_probability, dp_expectation	5		[30]			1
UVA 12369	dp, dp_probability, dp_expectation	5	<u>Sol</u>	[30]			4
SRM184-D1-500	dp, dp_probability, dp_expectation, dp_masks or math, expectation	5	<u>Sol</u>	[30]			2
SRM561-D2-1000	dp, dp_probability, dp_expectation, linearity of expectation, graph or expectation	5		[30]			7
SRM402-D2-1000	dp, dp_probability, dp_expectation	4.5		[30]	v3		13
SRM518-D2-1000	dp, dp_probability, dp_expectation	4.1		[30]	v3		5
SRM249-D1-250	dp, dp_probability, dp_expectation, recursive expectation	4		[30]	v3		5
TC(BANKLOTTERY)	dp, dp_probability, dp_expectation, recursive expectation	4		[30]			4
CF30-D12-C	dp, dp_probability, dp_expectation, max-min expectation	3.5		[30]		1	5
<u>CF518-D2-D</u>	dp, dp_probability, dp_expectation, combinatorics	3		[30]			6
UVA 10454	dp, dp_ranges	6.75		[31]			
CF508-D2-E	dp, dp_ranges or greedy	6.25		[31]	p2 v2		7

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 1336	dp, dp_ranges, [https://github.com/magdy-hasan/competitive-programming/blob/cfe	6.25	Sol	[31]	p2 v2	1	4
UVA 12283	dp, dp_ranges	6.25		[31]			
UVA 12656	dp, dp_ranges	6.25		[31]			
UVA 12800	dp, dp_ranges	6.25		[31]			
<u>CF1107-D12-E</u>	dp, dp_ranges	6		[31]	р3		3
UVA 1351	dp, dp_ranges, string cycle using kmp or dp, hashing or ad-hoc	6	Sol	[31]	р3		5
SRM555-D2-1000	dp, dp_ranges, dp_counting, [consective ranges]	5.75		[31]	p2	5	10
SRM509-D1-500	dp, dp_ranges, hard to impl, floyd, [cases, edit distance]	5.5		[31]	p3 v2	3	15
<u>UVA 1626</u>	dp, dp_ranges, [weird input]	5.5	Sol	[31]	р3	4	16
SRM240-D1-1000	dp, dp_ranges, [=SPOJ ZUMA, CF538-D2]	5.5		[31]	p2	1	4
<u>UVA 1362</u>	dp, dp_ranges, combinatorics	5.5	Sol	[31]	p2	4	18
SRM536-D2-1000	dp, dp_ranges, [consective ranges]	5.25		[31]	p1	1	8
SRM558-D1-250	dp, dp_ranges, [consective ranges] or bf	5.1		[31]	р3		7
UVA 1239	dp, dp_ranges or ad-hoc	5	<u>Sol</u>	[31]	р3		8
SRM441-D1-250	dp, dp_ranges, [consective ranges, cyclic permutation] or bf	5		[31]	p2	1	8
UVA 12245	dp, dp_ranges	5	Sol	[31]			1
LIVEARCHIVE 2675	dp, dp_ranges, [consective ranges, in videos]	5		[31]			1
SPOJ GCJ1C09C	dp, dp_ranges, [nested ranges]	5	<u>Sol</u>	[31]			2
UVA 11022	dp, dp_ranges, strings	5	Sol	[31]			1
SRM366-D2-1000	dp, dp_ranges	4.5		[31]	v3	1	5
<u>UVA 11753</u>	dp, dp_ranges, lcs or backtrack	4.5		[31]	р3		19
SRM149-D1-500	dp, dp_ranges, impl, [consective ranges], [is repeated idea in the sheet?]	4.5		[31]		1	12
LIVEARCHIVE 2587	dp, dp_ranges	4		[31]			2
SRM367-D2-1000	dp, dp_ranges or greedy	3	Sol	[31]	v3		16
LIVEARCHIVE 8046	greedy, observations	9.5		[32]			
<u>CF1054-D12-G</u>	greedy, bitmasks	8		[32]	р3		2
SRM307-D1-500	greedy, search, math	8		[32]			
<u>CF249-D1-B</u>	greedy, binary search	7.75		[32]			
<u>CF1012-D1-D</u>	greedy, painful casework	7.5		[32]			1
HACKR diverse-strings	greedy, math, [Interesting proofs]	7.25	Prove	[32]	p4		3
<u>CF1147-D1-E</u>	greedy, interactive	7.25		[32]	р3		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 7585	greedy	7.25		[32]		3	3
<u>CF42-D12-D</u>	greedy, hamiltanion cycle	7.25		[32]			1
<u>CF725-D12-E</u>	greedy, simulation, bf, observations	7		[32]	p4		3
<u>CF767-D2-E</u>	greedy	7		[32]	р3		2
LIVEARCHIVE 6780	greedy, binary search or rmq	7	For me:	[32]		1	3
<u>CF436-D12-E</u>	greedy, datastructures	7	Check of	[32]			1
CF922-D2-F	greedy, constructive, primves, divisors	6.8	<u>Sol</u>	[32]	p4	1	5
AtCoder037-AGC-E	greedy, strings	6.8		[32]	р3		3
<u>CF713-D1-C</u>	greedy, priority queue, slope_trick or dp or min-cost-max-flow	6.75	Sol	[32]	p5	1	10
AtCoder043-AGC-D	greedy	6.75		[32]	p4		1
CF1091-D12-F	greedy	6.75	Note: ma	[32]	p4		4
<u>CF203-D2-E</u>	greedy, sortings, [cases]	6.75		[32]			1
AtCoder027-AGC-D	greedy, math, gcd	6.6		[32]	p2		2
AtCoder103-ARC-D	greedy, binary system, constructive	6.5		[32]	p4		9
CF297-D1-C	greedy, constructive, [tricky]	6.5		[32]	p3		12
AtCoder028-AGC-C	greedy, pattern analysis	6.5		[32]	p3	1	4
CF1076-D12-F	greedy	6.5		[32]	p2	1	5
CF962-D12-E	greedy	6.5		[32]	p2		4
<u>CF144-D2-E</u>	greedy, datastructures	6.5		[32]			1
SRM463-D1-500	greedy, dp, math	6.5		[32]		1	2
<u>CF273-D1-C</u>	greedy, graph	6.5		[32]			1
CF1054-D12-E	greedy, impl, [boring ?]	6.5		[32]			2
LIVEARCHIVE 7576	greedy, simulation	6.5		[32]			2
LIVEARCHIVE 7158	greedy, sorting, [long/unclear text]	6.5		[32]		1	3
CODECHEF STICKS2	greedy, [cases]	6.3		[32]	p2	1	3
AtCoder027-AGC-B	greedy, math, observations	6.25		[32]	p4 v2	2	9
CF1013-D2-D	greedy, simulation, graph, bipartite	6.25		[32]	p4	1	10
<u>CF799-D12-E</u>	greedy	6.25		[32]	р3	1	5
CF1132-D12-E	greedy, bf, knapsack	6.25	Prove	[32]	рЗ		4
<u>CF1059-D2-E</u>	greedy, binary search, dfs	6.25		[32]	р3		4
CF404-D2-E	greedy, binary search, impl	6.25		[32]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
AtCoder143-ABC-F	greedy, binary search, sorting	6.25	Try to pro	[32]	р3	1	2
SPOJ LAZYPROG	greedy, datastructures, heap, [hard to prove]	6.25		[32]	р3	2	9
SRM331-D1-500	greedy, induction or dp, [solve timus 1515 first]	6.25		[32]	р3		3
<u>CF996-D2-E</u>	greedy, induction trick, math	6.25		[32]	р3		3
AtCoder030-AGC-B	greedy, math	6.25		[32]	р3	1	5
SRM400-D2-1000	greedy, search, bitmasks, [LightedPanels]	6.25		[32]	р3	1	7
AtCoder001-AGC-D	greedy, constructive	6.25		[32]	p2		2
<u>CF101498-GYM-G</u>	greedy	6.25	<u>Sol</u>	[32]			2
SRM443-D1-500	greedy, math	6.25		[32]			1
SRM594-D2-1000	greedy, simulation	6.25		[32]			1
LIVEARCHIVE 4788	greedy, graph, dfs, sort states	6		[32]	p5		4
<u>CF980-D2-E</u>	greedy, trees, sparse tables, euer, [lca-like] or hld	6		[32]	p4 v2		21
<u>CF867-D12-E</u>	greedy, observations	6		[32]	p4	1	16
ACMWF19-A	greedy	6		[32]	р3		1
<u>CF467-D2-E</u>	greedy	6		[32]	р3		6
CF807-D2-E	greedy	6		[32]	р3	1	2
<u>CF946-D12-E</u>	greedy	6	<u>Sol</u>	[32]	р3		5
<u>CF1054-D12-D</u>	greedy, constructive	6	Prove	[32]	р3	1	12
CF908-D12-F	greedy, graph, impl, [~=CF954-D2-G]	6	<u>Sol</u>	[32]	р3		7
<u>CF1166-D2-D</u>	greedy, math	6		[32]	р3		2
SRM378-D2-1000	greedy, math, [simple if know tower of hanoi]	6	<u>Sol</u>	[32]	р3	2	10
SRM612-D2-1000	greedy, math, combinations or dp	6	<u>Sol</u>	[32]	р3		4
AtCoder025-AGC-C	greedy, math, datastructures, [short impl]	6	Try to pro	[32]	р3		5
CF1178-D12-E	greedy, palindromes, string, [pigeonhole]	6		[32]	р3	1	7
SRM345-D1-500	greedy or game theory, nim	6	<u>Sol</u>	[32]	p2 v2		8
SRM463-D2-1000	greedy, math, constructive, symbolic representation	6		[32]	p2 v2	2	9
SPOJ MCLB	greedy, [bad text?]	6	Author ya	[32]	p2		1
CODECHEF GHMC	greedy, [easy idea, cases]	6		[32]	p2	3	6
AtCoder140-ABC-F	greedy, datastructures	6	<u>Sol</u>	[32]	p2		1
<u>CF550-D2-E</u>	greedy, impl	6		[32]	p2		3
UVA 10148	greedy, print blank line between cases only WAs	6		[32]	p2		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF432-D2-E</u>	greedy	6		[32]			3
<u>CF627-D12-C</u>	greedy	6		[32]			2
<u>CF884-D12-D</u>	greedy	6		[32]			7
CODECHEF CENTREE	greedy	6		[32]			1
SRM421-D1-500	greedy	6		[32]			2
SRM538-D2-1000	greedy	6		[32]			3
SRM554-D1-500	greedy	6		[32]			1
UVA 1346	greedy	6		[32]			2
<u>CF679-D1-B</u>	greedy or dp	6		[32]			3
<u>CF518-D2-E</u>	greedy, [easy greedy, many cases to impl]	6		[32]			2
<u>CF463-D2-E</u>	greedy, bf, math	6		[32]			5
<u>CF748-D12-E</u>	greedy, binary search	6		[32]			2
<u>CF416-D2-D</u>	greedy, cases, impl	6		[32]			2
UVA 11269	greedy, comparison	6		[32]			2
LIVEARCHIVE 3835	greedy, geometry	6		[32]			2
SRM480-D1-500	greedy, graph	6		[32]			1
<u>CF86-D12-B</u>	greedy, graph matchings	6		[32]			1
<u>CF746-D2-E</u>	greedy, impl	6		[32]			6
SRM379-D1-500	greedy, math	6		[32]			1
SRM361-D1-500	greedy, math, search, constructive	6		[32]			1
CODECHEF XTGR	greedy, number theory	6		[32]			1
SRM396-D2-1000	greedy, search, strings	6		[32]		1	5
<u>CF976-D2-E</u>	greedy, sorting	6		[32]			4
<u>CF100956-GYM-D</u>	greedy	5.75	Sol	[32]	p3 v2		6
<u>CF427-D2-E</u>	greedy or ternary search	5.75		[32]	р3		7
<u>CF965-D2-D</u>	greedy, [flow concepts needed]	5.75		[32]	р3		5
CF981-D12-D	greedy, dp, bitmasks, [=APIO 15-sculpture]	5.75		[32]	р3		8
<u>CF794-D12-C</u>	greedy, d&c, constructive	5.75		[32]	p2	1	11
SRM392-D1-1000	greedy, bf, mask, impl, lexicographically or dp_digits, dp_build_output	5.5	Sol - not	[32]	р3	1	10
CF1099-D2-D	greedy, constructive	5.5		[32]	р3		5
CODECHEF BJUDGE	greedy, constructive, impl	5.5		[32]	рЗ	2	7

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
AtCoder008-AGC-D	greedy, datastructures	5.5		[32]	р3		2
<u>CF1061-D2-D</u>	greedy, datastructures, impl	5.5		[32]	р3		11
<u>CF549-D12-B</u>	greedy, induction trick, constructive	5.5		[32]	р3		4
<u>CF1023-D12-E</u>	greedy, interactive, constructive	5.5		[32]	р3	1	7
<u>CF104-D2-D</u>	greedy, math, ad-hoc, impl	5.5		[32]	р3	2	14
<u>CF1043-D12-E</u>	greedy, sort, prefix sum, [maybe solve SRM502-D1-500 first]	5.5		[32]	р3	2	8
<u>CF447-D2-D</u>	greedy or dp or datastructures	5.5	Prove	[32]	p2 v3	3	16
<u>CF402-D2-D</u>	greedy or dp, impl	5.5		[32]	p2 v2	2	11
<u>CF496-D2-D</u>	greedy, bf, impl, [tricky complexity]	5.5		[32]	p2	2	17
<u>CF672-D2-D</u>	greedy, binary search, [strict time]	5.5		[32]	p2	2	17
<u>CF128-D12-D</u>	greedy, constructive, map	5.5		[32]	p2		2
CODEJAM 18-R3-A	greedy, observations, math	5.5	Prove yo	[32]	p2	1	8
<u>CF1082-D12-E</u>	greedy, prefix sum	5.5		[32]	p2		8
<u>CF76-D12-B</u>	greedy, two pointers matching like	5.5		[32]	p2		
CF897-D2-D	greedy, interactive	5.5		[32]	p1	1	4
<u>CF135-D1-C</u>	greedy	5.5		[32]			2
CF159-D2-E	greedy	5.5		[32]			1
CF414-D2-C	greedy	5.5	Prove	[32]			5
<u>CF515-D2-D</u>	greedy	5.5		[32]			4
CF893-D2-D	greedy	5.5		[32]			3
SRM442-D1-500	greedy, math	5.5		[32]			2
AtCoder003-AGC-B	greedy, sorting, math	5.5		[32]			
CF102215-GYM-I	greedy, math	5.25		[32]	р3		1
SRM346-D1-500	greedy	5		[32]	v3	1	2
CF670-D2-F	greedy, strings	5		[32]	v3		8
CF238-D1-B	greedy	5		[32]	v2		3
SRM560-D2-1000	greedy	5		[32]	v2	1	2
<u>CF101341-GYM-E</u>	greedy, binary search	5	<u>Sol</u>	[32]	v2		2
CF922-D2-D	greedy, sorting, [exchange arguments]	5		[32]	v1		3
AtCoder009-ABC-C	greedy, lexographical sol, [japaneese txt]	5		[32]	p5	1	3
SPOJ ROADTRIP	greedy, datastructures	5	Sol	[32]	p4	1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF709-D2-D</u>	greedy, math or pattern or segment tree	5		[32]	p3 v2	1	12
<u>CF141-D2-C</u>	greedy, constructive	5		[32]	р3	1	6
<u>CF101917-gym-B</u>	greedy, datastructures, constructive, [https://github.com/magdy-hasan/competitive-	5	Sol	[32]	р3		8
<u>CF1256-D3-F</u>	greedy, inversions	5		[32]	р3		2
<u>CF94-D2-D</u>	greedy, math, impl	5		[32]	р3	2	17
<u>CF1183-D3-G</u>	greedy, sorting	5		[32]	р3		2
<u>CF1175-D12-D</u>	greedy, sorting, datastructures, logic	5		[32]	р3		3
CF313-D2-C	greedy, constructive	5		[32]	p2 v3		17
CF101917-D12-D	greedy	5	Sol	[32]	p2		3
<u>CF1153-D2-D</u>	greedy	5		[32]	p2		1
<u>CF737-D1-C</u>	greedy	5		[32]	p2		4
<u>CF465-D2-C</u>	greedy or bf	5		[32]	p2	1	5
<u>CF101149-GYM-G</u>	greedy or dijkstra, [multiple start nodes], [https://github.com/ahmedsamir221/Comp	5	Sol	[32]	p2		8
CF1012-D1-A	greedy, brute force, sorting	5		[32]	p2		6
AtCoder002-AGC-C	greedy, datastructures, stl	5	Sol	[32]	p2		4
SGU 321	greedy, dfs , tree	5	Sol	[32]	p2	1	9
<u>CF242-D2-D</u>	greedy, dfs or bfs, greedy	5		[32]	p2	1	14
SRM292-D1-500	greedy, graph	5	Read ed	i [32]	p2		4
<u>CF1038-D2-D</u>	greedy, impl	5		[32]	p2		8
UVA 12325	greedy, knapsack, math or ternary [https://github.com/ahmedsamir221/Competitive	5	Prove yo	[32]	p2		6
LIVEARCHIVE 3277	greedy, matching or bipartite matching	5		[32]	p2	1	5
SRM405-D2-1000	greedy, math, strings	5		[32]	p2	2	6
FbHkrCup 19-R1-B	greedy, mod, math or segment tree, binary search	5		[32]	p2		4
<u>CF239-D2-D</u>	greedy, sortings	5	Sol. Find	[32]	p2	1	13
SRM619-D2-1000	greedy, constructive	5		[32]	p1 v3		13
SRM453.5-D2-1000	greedy, math, sorting or dp	5		[32]	p1 v2	1	14
SPOJ SAM	greedy, job scheduling, datastructures, heap, [=CF101498-GYM-f]	5	Sol	[32]	p1	1	3
<u>CF954-D2-E</u>	greedy, precision	5		[32]	p1		6
CF227-D2-D	greedy, sortings, math	5		[32]	p1		13
CF100883-GYM-C	greedy	5	Sol	[32]			2
<u>CF10149-GYM-F</u>	greedy	5	Sol	[32]			4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF101492-GYM-E</u>	greedy	5	Sol	[32]			2
<u>CF215-D2-D</u>	greedy	5		[32]			2
<u>CF738-D2-E</u>	greedy	5		[32]			2
<u>CF898-D2-E</u>	greedy	5		[32]			9
<u>CF950-D2-C</u>	greedy	5		[32]			1
<u>CF978-D3-G</u>	greedy	5		[32]			5
CSA34-D	greedy	5		[32]			1
SRM381-D1-500	greedy	5		[32]		1	2
SRM544-D2-500	greedy	5		[32]			1
TIMUS 1515	greedy	5	Sol	[32]			2
<u>CF131-D2-E</u>	greedy, binary search	5		[32]			2
<u>CF551-D2-C</u>	greedy, binary search	5		[32]			4
<u>CF286-D1-C</u>	greedy, datastructures	5		[32]			2
<u>UVA 1595</u>	greedy, datastructures	5		[32]			3
SRM357-D1-500	greedy, graph	5		[32]			1
<u>CF358-D2-C</u>	greedy, impl	5		[32]			4
CF917-D1-A	greedy, impl	5		[32]			7
CF1062-D2-C	greedy, math	5		[32]			11
<u>CF476-D2-D</u>	greedy, math	5		[32]		1	12
SRM544-D1-500	greedy, math	5		[32]			2
UVA 13032	greedy, math	5	Sol to re	[32]			2
SRM486-D2-1000	greedy, math, sorting	5		[32]		1	4
<u>CF546-D2-D</u>	greedy, number theory	5		[32]		1	12
SRM380-D1-500	greedy, search	5		[32]			2
SRM450-D1-500	greedy, simulation, impl	5		[32]			3
CF732-D2-E	greedy, simulation, sortings, set, direct	5		[32]			4
AtCoder003-AGC-C	greedy, sorting	5		[32]			1
<u>CF779-D2-C</u>	greedy, sorting	5		[32]			11
SRM263-D1-500	greedy, sorting	5		[32]			2
SRM361-D2-1000	greedy, sorting	5		[32]		1	5
SRM382-D1-500	greedy, sorting	5		[32]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM516-D1-500	greedy, sorting	5		[32]			1
<u>CF222-D2-D</u>	greedy, sorting, matching, multiset	5		[32]			4
<u>CF529-D1-B</u>	greedy, sortings, bf	5		[32]			2
<u>CF797-D12-C</u>	greedy, stack	5		[32]			4
SRM433-D2-1000	greedy, strings or bf	5		[32]			5
<u>CF1087-D2-D</u>	greedy	4.5		[32]	р3		4
ZOJ 1200	greedy, simulation, priority queue, [WAs]	4.5	<u>Sol</u>	[32]	р3		6
LiveArchive 8260	greedy, sorting, dp	4.5		[32]	р3	1	1
<u>CF729-D12-D</u>	greedy, [pigeonhole principle]	4.5		[32]	p2		8
<u>CF519-D2-D</u>	greedy, datastructures or dp	4.5		[32]	p2		7
<u>CF486-D2-C</u>	greedy, impl, [reverse thinking]	4.5		[32]	p2		13
SRM456-D2-1000	greedy, math, binary search	4.5		[32]	p2		8
SPOJ KAOS	greedy, sorting or segment tree	4.5	Sol	[32]	p2		1
<u>CF584-D2-C</u>	greedy, constructive, [reverse thinking]	4.5		[32]	p1	1	7
<u>CF735-D2-C</u>	greedy, math, [reverse thinking]	4.5		[32]	p1		6
CF230-D2-C	greedy	4.5		[32]		1	5
<u>CF234-D2-H</u>	greedy	4.5		[32]			3
<u>CF384-D2-C</u>	greedy	4.5		[32]			5
<u>CF508-D2-C</u>	greedy	4.5		[32]			1
CF720-D1-A	greedy	4.5		[32]		2	8
CF721-D2-D	greedy	4.5		[32]			5
CF723-D2-C	greedy	4.5		[32]		1	5
<u>CF898-D2-D</u>	greedy	4.5		[32]			4
<u>CF92-D2-C</u>	greedy	4.5		[32]		1	4
<u>CF985-D12-C</u>	greedy	4.5		[32]			4
SRM372-D2-1000	greedy or dp	4.5		[32]			5
SPOJ BLOPER	greedy, [WAs]	4.5		[32]		1	2
<u>CF148-D2-C</u>	greedy, constructive	4.5		[32]			4
CF287-D2-C	greedy, constructive	4.5		[32]		1	4
SRM408-D1-500	greedy, graph	4.5		[32]			2
CF371-D2-D	greedy, grid compress	4.5		[32]			4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF260-D2-C</u>	greedy, impl	4.5		[32]			5
<u>CF387-D2-C</u>	greedy, impl	4.5		[32]			5
<u>CF405-D2-D</u>	greedy, impl, math	4.5		[32]			6
<u>CF266-D2-C</u>	greedy, math	4.5		[32]			3
SRM380-D2-1000	greedy, search	4.5		[32]			2
UVA 12259	greedy, sorting	4.5	Sol	[32]			1
<u>CF747-D2-D</u>	greedy, sortings	4.5		[32]			3
<u>CF58-D2-D</u>	greedy, strings	4.5		[32]		1	7
<u>CF883-D12-K</u>	greedy	4.25		[32]	р3		1
SRM398-D2-1000	greedy, search, strings	4		[32]	v3	1	16
SRM453-D2-1000	greedy	4		[32]	v2		4
<u>UVA 12124</u>	greedy, bf or binary search	4	Sol	[32]	v2	1	17
CODECHEF KSUM	greedy, sets, finding max k subarrays	4	Sol	[32]	p3 v1	1	12
<u>CF1151-D2-D</u>	greedy	4		[32]	р3		2
LiveArchive 7887	greedy, heap	4		[32]	р3	1	1
<u>CF1064-D2-C</u>	greedy, palindromes	4	Prove yo	[32]	р3		4
<u>CF101597-gym-J</u>	greedy, sweep	4		[32]	р3	1	1
<u>CF534-D2-D</u>	greedy, set or grid compress	4		[32]	p2 v2	2	9
<u>CF1065-D12-C</u>	greedy	4		[32]	p2		6
<u>CF445-D2-C</u>	greedy	4		[32]	p2		5
<u>CF567-D2-C</u>	greedy	4		[32]	p2		9
<u>CF1056-D12-C</u>	greedy, impl, interactive	4		[32]	p2		11
SRM481-D1-500	greedy, math	4		[32]	p2		4
CSES 1084	greedy, bipartite matching	4	Sol	[32]	p1		1
CSES 1090	greedy, load balancing greedy	4	Sol	[32]	p1		1
<u>CF899-D2-C</u>	greedy, math, [prove it]	4	Write co	[32]	p1		3
<u>CF376-D2-D</u>	greedy, sorting or dp	4		[32]	p1		2
<u>CF103-D1-C</u>	greedy	4		[32]			2
<u>CF116-D2-D</u>	greedy	4		[32]			3
<u>CF1180-D2-D</u>	greedy	4		[32]			4
<u>CF216-D2-C</u>	greedy	4		[32]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF240-D1-D</u>	greedy	4		[32]			1
<u>CF545-D2-D</u>	greedy	4		[32]			4
<u>CF81-D12-D</u>	greedy	4		[32]			2
<u>CF920-D2-C</u>	greedy	4		[32]			2
<u>CF980-D2-C</u>	greedy	4		[32]			3
SRM481-D2-1000	greedy	4		[32]			4
SRM518-D1-500	greedy	4		[32]			2
SRM566-D2-500	greedy	4		[32]			1
<u>CF754-D2-C</u>	greedy or bf	4		[32]		1	3
UVA 11452	greedy or maybe kmp	4		[32]			2
<u>CF909-D2-E</u>	greedy, bfs	4		[32]			2
<u>CF370-D2-C</u>	greedy, constructive	4		[32]		1	3
<u>CF401-D2-C</u>	greedy, constructive	4		[32]			3
UVA 1623	greedy, datastructures, lowerbound	4	<u>Sol</u>	[32]			4
<u>CF59-D2-D</u>	greedy, impl, unclear text?	4		[32]			3
<u>CF166-D2-C</u>	greedy, math	4		[32]			6
<u>CF515-D2-C</u>	greedy, math	4		[32]			7
CF835-D2-C	greedy, prefix sum 2D	4		[32]			5
SRM499-D2-1000	greedy, search	4		[32]			1
SRM348-D1-500	greedy, search, sorting	4		[32]			1
<u>CF137-D2-C</u>	greedy, sorting	4		[32]			5
<u>CF432-D2-C</u>	greedy, sorting	4		[32]		1	9
<u>CF492-D2-C</u>	greedy, sorting	4		[32]			2
ZOJ 1171	greedy, sorting, [PEs]	4		[32]			3
SRM414-D1-500	greedy, strings	4		[32]			2
<u>CF1104-D2-C</u>	greedy	3.5		[32]	р3		2
<u>CF416-D2-C</u>	greedy, sorting or dp	3.5		[32]	р3		8
<u>CF979-D2-B</u>	greedy, [cases]	3.5		[32]	p1		3
SPOJ CHOCOLA	greedy	3.5		[32]			3
<u>CF234-D2-G</u>	greedy or search, d&c, impl	3.5		[32]			2
CF1102-D3-E	greedy	3		[32]	p2		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF597-D12-B</u>	greedy	3		[32]	p2		1
<u>CF637-D12-B</u>	greedy	3		[32]	p2		1
<u>CF51-D12-C</u>	greedy, binary search, double	3		[32]	p2		3
<u>CF847-D12-K</u>	greedy, datastructures or dp	3		[32]	p2		2
SRM507-D2-500	greedy	3		[32]			2
UVA 12694	greedy or backtrack, prune	3		[32]			1
SPOJ INS14K	greedy or complete search	3		[32]			2
SRM556-D2-1000	greedy or dp	3		[32]			1
<u>CF140-D12-C</u>	greedy, binary search	3		[32]			2
<u>CF265-D2-C</u>	greedy, impl	3		[32]			4
<u>CF350-D2-C</u>	greedy, impl	3		[32]			6
<u>CF363-D2-C</u>	greedy, impl	3		[32]			6
<u>CF659-D2-C</u>	greedy, impl	3		[32]			5
<u>CF112-D2-C</u>	greedy, math	3		[32]			7
SRM498-D2-1000	greedy, search or bfs	3		[32]			16
<u>CF203-D2-C</u>	greedy, sorting	3		[32]			7
SRM163-D1-500	greedy, sorting	3		[32]			5
ZOJ 1966	greedy, sorting	3		[32]			4
AtCoder001-AGC-A	greedy, sorting	2		[32]			1
AtCoder005-AGC-E	game theory, dfs, [observation]	7.75		[33]	р3		1
AtCoder002-AGC-E	game theory, sorting	7.5		[33]	р3		1
<u>CF154-D1-D</u>	game theory, math	7.5		[33]			1
SRM338-D1-1000	game theory, [https://github.com/MetalBall887/Competitive-Programming/blob/mas	7.3	Editorial	[33]	р3		1
SPOJ NUMGAME	game theory	7.3	No web	[33]			
CF794-D12-E	game theory, math, even/odd	7.1	<u>Sol</u>	[33]	p4		3
SRM423-D1-500	game theory, bfs, impl or dp_depth, [mainly heavy impl]	7	<u>Sol</u>	[33]			2
UVA 1489	game theory or dp_games, [http://www.voidcn.com/article/p-aqgjmhcx-bdu.html], [h	6.75		[33]			
AtCoder010-AGC-D	game theory, gcd	6.6		[33]	р3		3
SPOJ GAME2	game theory, pattern, observation, [https://github.com/goswami-rahul/competitive-c	6.5	<u>Sol</u>	[33]	p4	1	3
HACKR the-white-lotus-and-caterpillar-	ga game theory, expectation	6.5	<u>Sol</u>	[33]	р3		1
CF919-D2-F	game theory, bfs, impl, [bfs for a game on graphs]	6.4	Sol	[33]	p5		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF181-D2-E</u>	game theory, [cases]	6.4		[33]	p2	2	8
AtCoder064-ARC-D	game theory, observations	6.25		[33]	p4		10
CF101808-GYM-I	game theory, cases, observations, [short impl]	6	Sol	[33]	р3		2
<u>CF549-D12-C</u>	game theory, cases	6		[33]	p2	1	7
<u>CF136-D2-E</u>	game theory, greedy	5.75		[33]			5
<u>CF279-D2-E</u>	game theory, greedy or dp_digit	5.5	NO Edito	[33]	p2 v3	1	5
<u>CF1147-D1-C</u>	game theory	5.25		[33]	p2		1
TIMUS 1051	game theory, pattern	5	Sol	[33]	v2		6
<u>CF120-D12-E</u>	game theory	5		[33]	р3		3
CODECHEF RANDGAME	game theory	5		[33]	р3		1
<u>CF936-D1-B</u>	game theory, dfs or dp_games	5		[33]	р3		7
SPOJ PEBBMOV	game theory, ad-hoc, [unclear/misleading txt]	5	Sol	[33]	p1		3
CSA63-D	game theory	5		[33]			2
<u>CF594-D1-A</u>	game theory, greedy	5		[33]			1
SPOJ GAME3	game theory, pattern	4.5		[33]	p4		
SPOJ EALP1	game theory, [Possible Moves of NIM]	4.5		[33]	р3		
SPOJ CHGROOM	game theory, factorization, [Win unless 2 prime factors]	4.5		[33]	р3		
<u>CF1191-D2-D</u>	game theory	4.5		[33]	p2		3
<u>CF36-D12-D</u>	game theory	4.5		[33]			1
UVA 12917	game theory	4.5	Sol (no e	[33]			
SRM598-D2-1000	game theory	4		[33]	v2	1	16
SRM271-D1-500	game theory, backtrack	4		[33]	v2	1	5
<u>CF100090-gym-H</u>	game theory	4	Sol	[33]	v1	1	4
<u>CF101979-GYM-A</u>	game theory, tree	4		[33]	р3		1
<u>CF151-D2-C</u>	game theory, divisors, greedy or dp_games	4		[33]	p2		20
<u>CF347-D2-C</u>	game theory, gcd	4		[33]	p2		24
<u>CF101489-GYM-I</u>	game theory	4	Sol	[33]			2
<u>CF100500-GYM-A</u>	game theory, greedy	4		[33]			2
<u>CF78-D2-C</u>	game theory, observation, divisors or dp_games	3.5		[33]	v1		4
UVA 10368	game theory, gcd, dfs or pattern, [why each time if I have multiple branches from the	3.5	Sol	[33]	p2	1	14
<u>CF914-D2-B</u>	game theory	3		[33]			5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF NUMGAME	game theory	3		[33]			
CODECHEF NUMGAME2	game theory	3		[33]			
SPOJ IITKWPCN	game theory	3		[33]			4
TIMUS 1023	game theory	3		[33]			2
UVA 11489	game theory	3		[33]			4
<u>CF55-D12-C</u>	game theory, observations	3		[33]		1	5
TIMUS 1639	game theory, [tracing samples]	2	Think in	[33]			14
IPSC10-K	game theory, nim	7.5	Sol	[34]			
SPOJ TEAMNIM	game theory, nim, [no editorials]	7.3		[34]		2	2
SRM710-D1-500	game theory, nim, misere nim, [https://github.com/MetalBall887/Competitive-Progra	7.25	Editorial	[34]	р3	3	7
<u>SPOJ ADAXMAS</u>	game theory, nim, [nim?]	7		[34]			
SRM309-D1-1000	game theory, nim	6.75	Sol	[34]	р3		1
<u>CF142-D1-D</u>	game theory, nim, k-nim, [retreat is useless], [tricky cases]	6.5		[34]	p4		4
SRM396-D1-1000	game theory, nim, linear independence, gaussian elimination	6.5	Sol	[34]	p3 v3	3	9
HACKR MOVE-THE-COINS	game theory, nim, [staircase nim]	6.5		[34]	р3	1	8
PKU 1704	game theory, nim, [=UVA 11534]	4	Sol	[34]	v3	3	9
CODECHEF ABGAME	game theory, nim	4		[34]	p2		2
CODECHEF QCJ6	game theory, nim	4		[34]			1
SRM558-D2-1000	game theory, nim	3	Sol	[34]	v1		9
SPOJ MMMGAME	game theory, nim, misere nim, [=LIVEARCHIVE 3830]	3		[34]	р3		6
UVA 11892	game theory, nim	3		[34]			4
SPOJ HUBULLU	game theory, nim, [need a prove]	3	Notes to	[34]			4
UVA 10165	game theory, nim	2		[34]			3
PKU 2975	game theory, nim, direct, standard	2		[34]			2
<u>CF102394-gym-G</u>	game theory, nim, k-nim, gaussian elimination, bitmasks %3		Sol	[34]	р3		1
CODECHEF KNIGHT01	game theory, grundy or pattern	9.5		[35]			
CODECHEF G3	game theory, grundy	9		[35]			
CODECHEF GTH	game theory, grundy	9		[35]			
CODECHEF WPLAY	game theory, grundy	8.5		[35]			
SRM384-D1-1000	game theory, grundy, compound games, WTIA	8.5		[35]			
CODECHEF ASTRGAME	game theory, grundy	8		[35]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF BIGPIZA	game theory, grundy	8		[35]			
CODECHEF CHEFBRO	game theory, grundy	8		[35]			
CODECHEF TUZGMBR	game theory, grundy	8		[35]			
COJ 1822	game theory, grundy, smallest # steps	8		[35]			
<u>CF1037-D12-G</u>	game theory, grundy, dp, [Interesting way to reduce dp states]	7.75	Sol	[35]	р5		3
Atcoder087-ARC-C	game theory, grundy, trie, [https://github.com/farmerboy95/CompetitiveProgrammir	6.8	<u>Sol</u>	[35]	p4		4
SRM561-D1-500	game theory, grundy, trees, geometry	6.75	<u>Sol</u>	[35]	p2		4
AtCoder043-AGC-C	game theory, grundy	6.5		[35]	p4		1
<u>CF101908-GYM-B</u>	game theory, grundy	6.5	<u>Sol</u>	[35]	p4		3
CODECHEF GHVSSI	game theory, grundy or dp_games	6.5	<u>Sol</u>	[35]	p4		4
AtCoder017-AGC-D	game theory, grundy, graph	6.5		[35]	p4		2
<u>CF305-D2-E</u>	game theory, grundy	6.5		[35]	р3		5
<u>UVA 1378</u>	game theory, grundy, [https://github.com/MetalBall887/Competitive-Programming/b	6.5	<u>Sol</u>	[35]	р3		1
UVA 11840	game theory, grundy, [tricky cases]	6.25	<u>Sol</u>	[35]	р3		2
SRM389-D1-1000	game theory, grundy, bitmasks, [independence property - 2d grid]	6.25	<u>Sol</u>	[35]	р3		4
CODEJAM 19-R1C-C	game theory, grundy, datastructures	6.25		[35]	p2		5
<u>CF851-D2-E</u>	game theory, grundy, bitset	6.1		[35]	р3		3
<u>CF256-D1-C</u>	game theory, grundy, dp on segment tree	6		[35]	p4	1	12
<u>CF604-D2-E</u>	game theory, grundy	6		[35]	р3		3
<u>CF87-D1-C</u>	game theory, grundy	6	<u>Sol</u>	[35]	р3		9
TIMUS 1540	game theory, grundy	6	<u>Sol</u>	[35]	р3	2	5
CF102058-GYM-F	game theory, grundy, [=SRM624-D2-1000]	6	SI	[35]	р3		2
SPOJ TRIOMINO	game theory, grundy, mex sub-states first, cases analysis, impl, [~SPOJ CHAOS_(	6	Sol	[35]	р3		5
CODECHEF ADAPWNS	game theory, grundy, observations	6		[35]	р3		3
HACKR digits-square-board-1	game theory, grundy, primes	5.75		[35]	p2	2	5
<u>CF88-D2-E</u>	game theory, grundy, dp on segment tree	5.5		[35]	р3	1	8
<u>CF15-D12-C</u>	game theory, grundy, xor properties or games	5.5		[35]	р3		6
UVA 11927	game theory, grundy, graph	5.5	Sol	[35]			
CODECHEF PSHTBRTH	game theory, grundy, segment tree	5		[35]	р5		4
HACKER prime-game-1	game theory, grundy, sieve	5		[35]	p1		2
UVA 11859	game theory, grundy, seive	4.5		[35]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
PKU 2311	game theory, grundy, mex sub-states first	4		[35]	v2		5
<u>CF768-D12-E</u>	game theory, grundy, dp or formula	4		[35]			9
UVA 1482	game theory, grundy, recursive pattern	4		[35]			4
SPOJ SYNC13C	game theory, grundy, pattern	3		[35]	v1		4
SPOJ QCJ3	game theory, grundy	3		[35]	р3		6
<u>CF100500-GYM-E</u>	game theory, grundy	3		[35]			4
CODECHEF LAMQUGAM	game theory, wythoff's game	9.5		[36]			
<u>CF100379-GYM-G</u>	game theory, wythoff's game	9		[36]			
<u>CF282-D2-D</u>	game theory, wythoff's game or dp	6		[36]			3
HDU 2177	game theory, wythoff's game, winner first action	5.5		[36]			
<u>CF98-D1-C</u>	geometry	9		[37]		1	2
HACKR hard-homework	geometry, trigonometry	9		[37]			
HACKR n-letter	geometry, trigonometry, bf, counting	9		[37]			
LIVEARCHIVE 7581	geometry, ad-hoc	8.75		[37]			
CODECHEF RUBBER	geometry	8.5		[37]			1
UVA 11784	geometry	8.5		[37]		1	1
LIVEARCHIVE 5223	geometry, bf, [pack cyclinders in triangles]	8.5	NO SOL	[37]			
LIVEARCHIVE 4790	geometry, trianges, search, [contour lines, closed form to avoid TLE]	8.5		[37]			
HACKR count-triangles	geometry, trigonometry, counting	8.5		[37]			
<u>CF420-D1-E</u>	geometry	8		[37]	р3		
<u>CF213-D1-D</u>	geometry	8		[37]			1
UVA 12603	geometry	8		[37]			
LIVEARCHIVE 6775	geometry, binary search, [cp, dp]	8		[37]			
<u>CF46-D12-G</u>	geometry	7.75		[37]			
<u>CF67-D12-E</u>	geometry	7.75		[37]			
<u>CF82-D12-E</u>	geometry	7.75		[37]			
<u>CF30-D12-D</u>	geometry, greedy	7.75		[37]			
<u>CF1071-D1-E</u>	geometry, binary search, impl	7.5		[37]	р3		1
<u>CF55-D12-E</u>	geometry	7.5		[37]			
<u>CF13-D12-D</u>	geometry, dp	7.5		[37]			
<u>CF62-D12-C</u>	geometry, impl, sortings	7.5		[37]		1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10206	geometry	7.25		[37]			
UVA 922	geometry	7.25		[37]			
UVA 11277	geometry, binary search	7.25		[37]			
UVA 11373	geometry, binary search, circles	7.25		[37]			
UVA 11562	geometry, binary search, tangents	7.25		[37]			
SRM414-D2-1000	geometry, canonicalize, 3d, bf	7.25		[37]			
LIVEARCHIVE 7579	geometry, impl, bf, [clock segments, hardcode shapes, many ignored in contest]	7.25		[37]			1
UVA 883	geometry, rectangles	7.25		[37]			
UVA 10864	geometry, rectangles, rectangles intersection, dfs or ad-hoc	7.25	<u>Sol</u>	[37]			
UVA 12945	geometry, search, some search technique, ??	7.25		[37]			
UVA 11529	geometry, triangles	7.25		[37]			
UVA 13213	geometry, impl, polygon cut? or voronoi	7		[37]	p4		
<u>CF559-D1-D</u>	geometry, probability, [ignore small probabilities trick ]	7		[37]	р3		1
SRM585-D2-1000	geometry	7		[37]		1	2
UVA 11880	geometry	7		[37]			
UVA 12483	geometry	7		[37]			
UVA 12535	geometry	7		[37]			
UVA 578	geometry	7		[37]			
<u>CF100015-GYM-E</u>	geometry, [ElSaghier: O(n^2 log n). Package solution with hashmaps and sets O(n	7		[37]			
UVA 12954	geometry, analysis, equations, binary search	7		[37]			
UVA 10468	geometry, angles	7		[37]			
UVA 10725	geometry, angles	7		[37]			
UVA 11509	geometry, angles	7		[37]			
SRM278-D1-500	geometry, bf	7		[37]		1	2
CF592-D2-E	geometry, binary search, hard to impl	7		[37]			1
SRM332-D1-500	geometry, constructive	7		[37]			
HACKR isosceles-triangles	geometry, counting or fft, [seems easy with fft]	7	<u>Sol</u>	[37]		2	3
UVA 12630	geometry, formula	7		[37]			
UVA 316	geometry, gcd	7		[37]			
SRM217-D1-500	geometry, math, simulation	7		[37]			
UVA 10768	geometry, planarity	7		[37]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10697	geometry, precision	7		[37]			
UVA 11106	geometry, segments. impl	7		[37]			
UVA 11894	geometry, transformation, impl, cases	7		[37]			
LIVEARCHIVE 4276	geometry, triangles	7		[37]			
UVA 12123	geometry, triangles	7		[37]			
UVA 12301	geometry, triangles	7		[37]			
UVA 1510	geometry, triangles	7		[37]			
UVA 12404	geometry, triangles, angles	7		[37]			
UVA 11123 [5]	geometry, angles, sorting, [how many trapezoids], [https://morris821028.github.io/2	6.75	<u>Sol</u>	[37]	p4		1
CF1159-D2-F	geometry	6.75		[37]	р3		2
SPOJ EQBOX	geometry, plane, [rotate rectangle to fit]	6.75	<u>Sol</u>	[37]	р3	2	4
<u>CF667-D2-E</u>	geometry, ternary search, constructive or geometry	6.75	<u>Sol</u>	[37]	р3		2
UVA 10709	geometry	6.75		[37]			
UVA 11281	geometry	6.75		[37]			
UVA 11601	geometry	6.75		[37]			
UVA 12178	geometry	6.75		[37]			
UVA 1602	geometry	6.75		[37]			
UVA 609	geometry	6.75		[37]			
UVA 10517	geometry, angles	6.75		[37]			
UVA 11186	geometry, angles	6.75		[37]			
UVA 1447	geometry, angles, binary search	6.75		[37]			
UVA 358	geometry, angles, binary search	6.75		[37]			
UVA 10175	geometry, area, volume	6.75		[37]			
UVA 10159	geometry, dp	6.75	sol at	[37]			
SRM326-D1-500	geometry, triangles	6.75		[37]		1	1
SRM433-D1-500	geometry, pattern, <b>impl</b>	6.5	<u>Sol</u>	[37]	v3	1	4
SPOJ IITKWPCC	geometry, [Nqrt(N)log(N)], [#right angle triangles]	6.5	web sol	[37]	p4		
<u>CF76-D12-F</u>	geometry, angles, binary search	6.5		[37]	p2	1	1
UVA 10495	geometry	6.5		[37]			
UVA 10713	geometry	6.5		[37]			
UVA 11116	geometry	6.5		[37]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 415	geometry	6.5		[37]			
UVA 428	geometry, ad-hoc	6.5		[37]			
UVA 11355	geometry, angles	6.5	Sol	[37]			
UVA 10351	geometry, ellipse	6.5		[37]			
SRM323-D1-500	geometry, physics	6.5		[37]			1
UVA 12115	geometry, rectangles	6.5		[37]			
UVA 12395	geometry, triangles, angles	6.5		[37]			
LIVEARCHIVE 3270	geometry, vornoi diagram, shortest path, [yasser sol use no voronoi]	6.5		[37]			1
LIVEARCHIVE 2377	geometry, angles, bf, rotate, [try every 0.01, rotate path of points]	6.25		[37]	р3	1	2
TIMUS 1451	geometry, bfs	6.25	<u>Sol</u>	[37]	p2	2	4
SRM432-D2-1000	geometry, search	6.25		[37]	p2	2	5
UVA 1333	geometry, triangles, angles, parallelogram law, quadratic equations	6.25	Sol - Tex	[37]	p1 v3	2	6
<u>UVA 11178</u>	geometry, angles, intersections	6.25	Sol	[37]		1	1
UVA 427	geometry, bf, baby step	6.25		[37]			
<u>CF281-D2-C</u>	geometry, rectangles, multiview, impl	6.25	Sol	[37]		1	2
AtCoder016-AGC-C	geometry, rectangles, math	6.1		[37]			2
<u>CF1270-D12-E</u>	geometry, constructive, observation	6		[37]	p4		3
<u>CF23-D12-D</u>	geometry, math, [middle points reflection]	6		[37]	p3 v2	1	4
HACKER flying-square	geometry	6		[37]	р3	1	1
CF100935-GYM-I	geometry, binary search	6		[37]	p3		1
<u>CF703-D2-C</u>	geometry, binary search	6		[37]	р3		2
CF101726-gym-J	geometry, datastructures, intersection	6		[37]	p3	1	1
UVA 11648	geometry, trapezoid formula, binary search or analytical	6	Sol	[37]	p2 v2	2	6
LIVEARCHIVE 4043	geometry, ad-hoc or min-cost-max-flow	6	Sol	[37]	p2	1	2
<u>CF1074-D1-C</u>	geometry, dp	6		[37]	p2	1	1
SRM331-D1-1000	geometry, rectangles, bf	6		[37]	p2		3
TIMUS 1647	geometry, triangles	6	Sol	[37]	p2	1	4
UVA 1331	geometry, triangulation, intersections, dp, [is diagonal functionality]	6	Sol	[37]	p2	1	4
SRM521-D2-1000	geometry, rectangles, sorting	6		[37]	p1 v3	2	3
<u>CF600-D12-D</u>	geometry	6		[37]	p1		2
UVA 11130	geometry, angles, physics	6	Sol	[37]	p1	1	4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 1606	geometry, angles, sorting, impl	6	Sol	[37]	p1		1
<u>CF346-D1-D</u>	geometry	6		[37]			1
UVA 1249	geometry, angles	6		[37]			1
UVA 12575	geometry, angles	6		[37]			1
LIVEARCHIVE 3273	geometry, angles, [sum coverage of apartments]	6		[37]			1
UVA 11314	geometry, formula, calculus or lagrange multiplier	6		[37]			1
SPOJ TRICENTR	geometry, triangles or ternary search, [ts https://apps.topcoder.com/forums/?modul	6	Sol	[37]		2	2
UVA 11524	geometry, [high school]	5.75	Sol	[37]	p2		2
UVA 10228	geometry, points	5.5	Sol	[37]	v3	2	3
UVA 11579	geometry, triangles, hero's formula, sorting	5.5	Sol - Pro	[37]	p3 v2		6
SPOJ WRONG	geometry	5.5	Sol	[37]	р3		3
<u>CF100112-GYM-E</u>	geometry, binary search, dijsktra	5.5	Sol	[37]	р3		1
<u>CF1064-D2-E</u>	geometry, binary search, Interactive	5.5		[37]	р3		8
AtCoder001-AGC-B	geometry, gcd	5.5		[37]	р3	1	2
CODECHEF MANRECT	geometry, ad-hoc, math, interactive	5.5		[37]	p2		4
<u>CF101917-D12-E</u>	geometry, [ppl scared in contest, but easy], [bad statement?]	5.5	<u>ol</u>	[37]	p1		3
<u>CF100531-gym-H</u>	geometry, binary search, bfs or dijkstra	5.5	Sol	[37]	p1		3
<u>CF101177-GYM-D</u>	geometry	5.5	Sol	[37]		1	4
UVA 10210	geometry	5.5		[37]		1	2
LIVEARCHIVE 2688	geometry, bf	5.5	Sol	[37]		1	2
<u>CF1030-D12-D</u>	geometry, triangles	5.5		[37]			3
UVA 11909	geometry, angles	5	Sol	[37]	v3	2	7
TIMUS 1084	geometry, angles	5	Sol	[37]	v2		3
SPOJ BILLIARD	geometry, angles, physics	5	<u>Sol</u>	[37]	v2	2	5
CF101064-gym-A	geometry, equations	5	Sol	[37]	v2		4
<u>CF342-D2-C</u>	geometry	5		[37]	р3	1	14
IFHLC19-C3-I	geometry	5	<u>Sol</u>	[37]	р3		1
<u>CF552-D2-D</u>	geometry, bf, counting, treemaps	5		[37]	р3		14
<u>CF101864-GYM-L</u>	geometry, binary search or bf, greedy	5	<u>Sol</u>	[37]	р3	1	8
<u>CF97-D12-B</u>	geometry, bf or d&c	5		[37]	p2	2	4
<u>CF1016-D2-E</u>	geometry, binary search	5		[37]	p2		3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 12957	geometry, grid compress, [like a sweep, count rectangles have no pts], [can be dor	5	Sol	[37]	p2		4
UVA 1342	geometry, plane graph, euler	5	Sol	[37]	p2	1	8
<u>CF1058-D2-D</u>	geometry, triangles, number theory, constructive	5		[37]	p2		5
UVA 10545	geometry, quadrilateral, Brahmagupta's formula	5	Sol	[37]	p1		
UVA 10250	geometry, translation, parallelogram	5	Sol	[37]	p1		6
UVA 11326	geometry	5		[37]		1	3
UVA 1643	geometry	5	Sol	[37]		1	3
<u>CF101726-GYM-F</u>	geometry, angles	5	Sol	[37]			2
UVA 10678	geometry, area of an ellipsis, pythagoras' theorem	5	Sol	[37]			4
<u>CF598-D12-C</u>	geometry, atan2, [high precision sensitive problem]	5		[37]			3
SRM538-D1-500	geometry, dp	5		[37]			2
<u>CF404-D2-B</u>	geometry, mod	5		[37]			
SRM621-D1-250	geometry, probability	5		[37]			3
SRM280-D1-500	geometry, rectangles, bf or greedy	5	Sol	[37]			5
PKU 3251	geometry, square, 2d grid, [hard text]	5		[37]		1	6
SPOJ KOLICA	geometry	4.5		[37]	p4		
HACKR a-circle-and-a-square	geometry, ccw, parametric equ, in circle	4.5		[37]	р3	1	9
<u>CF659-D2-D</u>	geometry, impl, [very nice, o(1) and o(n) solutions]	4.5		[37]	р3		12
<u>CF707-D2-C</u>	geometry, triangles, formula	4.5		[37]	p2		4
SPOJ PIR	geometry, formula or matrix determinant	4.5	Sol	[37]	p1	5	14
CF100531-GYM-J	geometry	4.5		[37]			2
UVA 10927	geometry, angles, [angle sort]	4.5	Sol	[37]			3
AtCoder151-ABC-F	geometry	4.25		[37]			1
<u>CF618-D12-C</u>	geometry, impl, area from 3 points	4	Sol	[37]	v3	1	6
SRM493-D2-1000	geometry, search	4		[37]	v2		3
ZOJ 1041	geometry, angles	4		[37]	v1		6
<u>CF1100-D2-C</u>	geometry	4		[37]	p2		4
<u>CF560-D2-C</u>	geometry	4		[37]	p2	1	9
HACKR xrange-and-pizza	geometry, ad-hoc	4	Sol	[37]	p2	1	10
CF60-D12-C	geometry, binary search, physics, [EPS handling: read editorial]	4		[37]	p2		2
SPOJ FACENEMY	geometry, angles, precision	4	Sol	[37]	p1 v1	1	9

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF100495-GYM-K	geometry	4		[37]			2
CF101435-GYM-B	geometry	4	Sol	[37]			1
<u>CF275-D2-C</u>	geometry	4		[37]			12
<u>CF336-D2-B</u>	geometry	4		[37]			1
<u>CF409-D1-B</u>	geometry	4		[37]			1
SPOJ DISTANCE	geometry	4		[37]			3
SRM237-D1-250	geometry	4		[37]			1
UVA 837	geometry	4		[37]			1
UVA 815	geometry, [hard text?]	4	Sol with	[37]			2
<u>CF407-D1-A</u>	geometry, [tricky cases]	4		[37]			1
<u>CF257-D2-C</u>	geometry, angles	4		[37]		1	13
UVA 10991	geometry, angles, [heron]	4	Sol	[37]			3
LIVEARCHIVE 7150	geometry, angles, [impl, short code]	4		[37]		1	4
UVA 11519	geometry, angles, simulation, [precision]	4	Sol	[37]			2
<u>CF14-D2-C</u>	geometry, bf, impl	4		[37]			5
<u>CF590-D1-B</u>	geometry, binary search, physics	4		[37]			4
UVA 10215	geometry, calculus, quadratic equation	4		[37]			1
<u>CF651-D2-C</u>	geometry, datastructures	4		[37]			12
UVA 10897	geometry, great circle distances	4		[37]			1
UVA 10316	geometry, great circle distances, brute force	4	Read ME	[37]			2
UVA 697	geometry, greedy, [annoying output]	4		[37]			3
<u>CF1096-D12-C</u>	geometry, math	4		[37]			4
ZOJ 3194	geometry, or equations	4	Sol	[37]			4
CF1080-D2-C	geometry, rectangles intersect, impl	4		[37]			7
TIMUS 1235	geometry, rectangles, bf	4	Sol	[37]			3
<u>UVA 201</u>	geometry, squares, ad-hoc or floyd	4		[37]			2
UVA 143	geometry, triangles, [precision]	4	Sol	[37]		1	3
UVA 10734	geometry, trinagles, bfs, simulation	4	Sol	[37]			2
<u>CF474-D2-C</u>	geometry, check square, point rotation, bf	3.5	My video	[37]	p2		18
<u>UVA 460</u>	geometry	3.5		[37]			8
UVA 634	geometry	3.5		[37]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10466	geometry, angles	3.5	<u>Sol</u>	[37]			2
<u>CF136-D2-D</u>	geometry, impl	3.5		[37]		1	8
UVA 638	geometry, rectangles, bf	3.5		[37]			3
HACKR hyperspace-travel	geometry, [meeting point]	3		[37]	v1		3
SRM436-D2-500	geometry, [slopes comparison]	3		[37]	p1		2
<u>CF101492-GYM-F</u>	geometry	3		[37]			2
<u>CF135-D1-B</u>	geometry	3		[37]			2
<u>CF498-D1-A</u>	geometry	3		[37]			1
<u>CF559-D1-A</u>	geometry	3		[37]			3
SPOJ CISTFILL	geometry	3		[37]			2
SRM431-D2-500	geometry	3		[37]			1
TIMUS 1020	geometry	3	<u>Sol</u>	[37]			2
TIMUS 1405	geometry	3	<u>Sol</u>	[37]		1	3
TJU 3044	geometry	3		[37]			1
UVA 10283	geometry	3		[37]		1	2
<u>UVA 476</u>	geometry	3		[37]			5
UVA 920	geometry	3		[37]			2
<u>CF617-D2-C</u>	geometry, bf	3		[37]			17
<u>CF908-D12-C</u>	geometry, impl	3	<u>Sol</u>	[37]			2
<u>CF667-D2-A</u>	geometry, physics	3		[37]			2
UVA 142	geometry, rectangles, bf	3		[37]			4
UVA 11639	geometry, rectangles, rectangles intersection	3		[37]			1
UVA 587	geometry, simulation	3		[37]			1
HACKR baby-step-giant-step	geometry, triangles, triangle inequality	3		[37]			1
<u>UVA 10242</u>	geometry, vectors addition	3		[37]		1	31
UVA 11207	geometry	2		[37]	v1	1	14
UVA 11345	geometry, rectangles, [overlap area, =UVA 460]	2		[37]	v1		24
<u>UVA 10865</u>	geometry	2		[37]	p1		12
SRM237-D2-500	geometry	2		[37]			2
UVA 10221	geometry	2		[37]			2
UVA 10574	geometry	2	Text Note	[37]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
HACKR polar-angles	geometry, angles, [sort based on angles]	2		[37]			9
SRM668-D2-500	geometry, angles, squares, bf	2		[37]			2
<u>CF706-D2-A</u>	geometry, bf	2		[37]			1
UVA 10167	geometry, bf	2		[37]			1
SPOJ ANTTT	geometry, dsu	2		[37]			4
ZOJ 1496	geometry, greedy	2	Sol	[37]			3
HACKR points-on-rectangle	geometry, rectangles	2		[37]			1
<u>CF593-D2-B</u>	geometry, sortings	2		[37]			2
<u>CF671-D1-A</u>	geometry, sortings	2		[37]			1
LIVEARCHIVE 4120	geometry, circles, tangents, [intersections, long impl]	9		[38]			
SRM346-D1-1000	geometry, circles	8.5		[38]			
LIVEARCHIVE 2999	geometry, circles, [annoying precision]	8.1		[38]			
<u>CF442-D1-E</u>	geometry, circles or voronoi, [tourist voronoi http://codeforces.com/contest/442/sub	8		[38]			1
UVA 313	geometry, circles, tangents, lines, lines intersection	7.5	Sol	[38]	p3 v3	2	5
UVA 10969	geometry, circles	7.25		[38]			
UVA 11681	geometry, circles, bitmasks	7.25		[38]			
LIVEARCHIVE 4448	geometry, circles, search, easy idea hard impl or hard idea easy impl	7.25		[38]		1	1
UVA 10834	geometry, circles, sector area, binary search	7.25		[38]			
ZOJ 2318	geometry, circles, dfs, ad-hoc	7	Sol	[38]	p4	2	10
SRM183-D1-500	geometry, circles or min enclosing circle, recheck??	7		[38]			1
LIVEARCHIVE 6076	geometry, circles, binary search	7		[38]			
UVA 12302	geometry, circles, intersections	7		[38]			
UVA 11731	geometry, circles, intersections, angles	7		[38]			
UVA 11646	geometry, circles, sector, angles, bad statement?	7		[38]			2
UVA 12304	geometry, circles, tangents	7		[38]			
UVA 10320	geometry, circles	6.75		[38]			
UVA 10011	geometry, circles, tangents	6.75		[38]			
CF2-D12-C	geometry, circles, lines, intersections, impl	6.5	Sol	[38]	p3 v3	4	9
<u>CF101630-gym-A</u>	geometry, circles, observation, stl or segment tree	6.5		[38]	рЗ	1	1
CF100200-GYM-C	geometry, circles, planer graph, [eps prune]	6.25	Sol	[38]	v3	3	5
UVA 10792	geometry, circles, rotation	6.25	Sol	[38]	рЗ	1	3
LIVEARCHIVE 3411	geometry, circles	6	Sol	[38]	v3	2	3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10136	geometry, circles	6	Sol	[38]	p2 v3	2	8
HACKR house-location	geometry, circles, algebra, impl	5.75	Sol	[38]	р3	1	7
UVA 10577	geometry, circles, rotation or ad-hoc, generation	5.5		[38]	v3	1	12
UVA 10180	geometry, circles, tangents, point on segment, precision, [https://github.com/Zeyad	5.5	Sol	[38]	p3 v3	3	11
<u>CF1059-D2-D</u>	geometry, circles, binay search or ternary search	5.5		[38]	р3		9
<u>UVA 10005</u>	geometry, circles, polygon, [polyon inside poly]	5	<u>Sol</u>	[38]	p4 v3	2	21
CF102021-GYM-B	geometry, circles	5	<u>Sol</u>	[38]	р3		1
SRM473-D1-500	geometry, circles, triangles, thales' theorem, search	5		[38]	р3		18
SPOJ ALIENS	geometry, circles, min enclosing circle, [=SPOJ QCJ4]	5	Sol - Pra	[38]	p2	3	12
UVA 10439	geometry, circles	5	<u>Sol</u>	[38]	p1		1
TJU 1916	geometry, circles, distances, triangles	5		[38]			4
SRM162-D1-500	geometry, circles, triangles	5		[38]			6
UVA 10823	geometry, circles	4.5	Sol	[38]			1
CF140-D12-A	geometry, circles	4		[38]	v2	1	17
<u>CF199-D2-B</u>	geometry, circles, impl	4		[38]	v2	2	16
UVA 12240	geometry, circles, [max points in the circle circumf]	4	<u>Sol</u>	[38]			5
UVA 11515	geometry, circles, bitmasks	4	<u>Sol</u>	[38]			5
<u>CF84-D2-C</u>	geometry, circles, impl	4		[38]		1	9
UVA 477	geometry, circles	3.5	<u>Sol</u>	[38]			11
HACKR circle-city	geometry, circles, bf	3		[38]	v1		4
<u>UVA 10301</u>	geometry, circles, dsu	3	<u>Sol</u>	[38]	p1		18
<u>UVA 356</u>	geometry, circles	3		[38]		3	26
<u>UVA 438</u>	geometry, circles	3	Sol	[38]			8
HACKR sherlock-and-geometry	geometry, circles, [segment-circle intersection]	2.5		[38]			6
UVA 453	geometry, circles, [direct circle intersection, but precision]	2	<u>Sol</u>	[38]	v3	1	4
<u>UVA 12748</u>	geometry, circles, distances	2	<u>Sol</u>	[38]			11
LIVEARCHIVE 3269	geometry, lines, intersections, [long impl]	8.5		[39]			
PKU 1070	geometry, lines, intersections, rotate	8.5		[39]			
LIVEARCHIVE 6168	geometry, lines, distances, binary search, dfs	7.75		[39]			
LIVEARCHIVE 4113	geometry, lines, intersections	7.75		[39]			
CF249-D1-A	geometry, lines, [russian editorial only]	7.5		[39]		2	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM394-D1-500	geometry, lines, intersections, symmetry	7.5		[39]			1
LIVEARCHIVE 4124	geometry, lines, ternary search or math, [approximate the polynomial curve from 2	7.5		[39]			
UVA 11836	geometry, lines, distances	7.25		[39]			
UVA 11016	geometry, lines, intersections	7.25		[39]			
UVA 149	geometry, lines, angles	7.1		[39]	v3	5	6
UVA 527	geometry, lines, ccw	7		[39]			
SRM545-D1-500	geometry, lines, combinatrocis	7		[39]			1
LIVEARCHIVE 3928	geometry, lines, intersections	7		[39]			
<u>CF101606-GYM-L</u>	geometry, lines, LIS	7	<u>Sol</u>	[39]			1
UVA 10674	geometry, lines, tangents, impl	7		[39]			
UVA 432	geometry, lines	6.75		[39]			
UVA 10744	geometry, lines, distances	6.75		[39]			
SRM313-D1-1000	geometry, lines, floyd, hard to impl	6.5	<u>Sol</u>	[39]	р3	1	2
SRM355-D1-500	geometry, lines, triangles	6.25	<u>Sol</u>	[39]	р3	3	12
UVA 754	geometry, lines, intersections	6.25	<u>Sol</u>	[39]	p2 v3	2	5
SPOJ WIJGT	geometry, lines, dijkstra, impl, [https://github.com/LeTrongDat/CompetitiveProgram	6.25	<u>Sol</u>	[39]	p2		3
UVA 11796	geometry, lines, distances, shrink	6.25	<u>Sol</u>	[39]	p2	1	2
SRM244-D1-500	geometry, lines, [reflection trick]	6	Sol. See	[39]	p4	4	10
CSA33-D	geometry, lines, [perpendicular bisectors]	6		[39]	p2	1	3
<u>CF248-D2-C</u>	geometry, lines, binary search or ad-hoc, [need high school background: poin refle	6	<u>Sol</u>	[39]	p1 v5	3	6
UVA 12173	geometry, lines, distances, projection	6		[39]			
SRM528-D2-1000	geometry, lines, precision, math, [ternary fails]	5		[39]	v2	1	7
<u>CF100112-GYM-G</u>	geometry, lines	5	<u>Sol</u>	[39]	р3		1
<u>CF961-D12-D</u>	geometry, lines, slopes	5		[39]	р3		5
UVA 10514	geometry, lines, distances, floyd	4.5	<u>Sol</u>	[39]	p2	1	13
UVA 11437	geometry, lines, intersection, triangles	4		[39]	v3	1	18
SRM373-D2-1000	geometry, lines, lines intersection, rectangles, bf	4	<u>Sol</u>	[39]	v3	1	18
SPOJ GEOM	geometry, lines	4		[39]	v2	2	8
UVA 866	geometry, lines, intersections	4	<u>Sol</u>	[39]	v2		9
SRM368-D1-500	geometry, lines, polyline intersection, bf, NA??	4		[39]	v2	2	14
UVA 737	geometry, lines, intersections	4	<u>Sol</u>	[39]	v1		10

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 833	geometry, lines, distances, ad-hoc	4		[39]	р3	3	17
HACKR stars	geometry, lines	4		[39]	p1	1	6
<u>UVA 10790</u>	geometry, lines, intersections, counting, formula, [incremental thinking]	4	Sol	[39]	p1		12
UVA 10961	geometry, lines, impl, [boring]	4	Sol	[39]			2
LIVEARCHIVE 3000	geometry, lines, intersections	4		[39]			1
<u>UVA 378</u>	geometry, lines	3.5		[39]		1	8
UVA 10902	geometry, lines, bf	3.5	<u>Sol</u>	[39]		1	5
LIVEARCHIVE 3381	geometry, lines, dfs, impl	3.5	<u>Sol</u>	[39]			4
UVA 11783	geometry, lines, lines intersection	3.5	SI	[39]			6
<u>UVA 10263</u>	geometry, lines, distances, [=uva 460]	3		[39]	р3	1	31
UVA 270	geometry, lines, line up	3	Don't cod	[39]	р3		35
<u>UVA 11473</u>	geometry, lines, distances, impl	3	<u>Sol</u>	[39]	p2 v2	1	11
<u>UVA 273</u>	geometry, lines, intersection, shortest path	3	Sol	[39]	p2	1	14
HACKR jim-beam	geometry, lines	3		[39]		1	9
ZOJ 1560	geometry, lines intersection	3	Sol	[39]			2
SPOJ SICRANO	geometry, lines, [in videos]	3		[39]			2
UVA 10357	geometry, lines, distances	3	<u>Sol</u>	[39]			6
<u>CF617-D2-D</u>	geometry, lines, impl	3		[39]		1	8
<u>UVA 191</u>	geometry, lines, intersections	3	<u>Sol</u>	[39]		2	36
UVA 11343	geometry, lines, intersections, [=uva 273??]	3	<u>Sol</u>	[39]			12
TJU 1567	geometry, lines, intersections	2		[39]			4
SRM674-D2-500	geometry, lines, slope	2		[39]			1
LIVEARCHIVE 3275	geometry, polygon	8.5		[40]			
LIVEARCHIVE 6399	geometry, polygon, analysis	8.5		[40]			
LIVEARCHIVE 5134	geometry, polygon, circles, dp	8.5		[40]			
LIVEARCHIVE 6781	geometry, polygon, dijkstra	8.5		[40]			
UVA 11460	geometry, polygon, centroid	8	Sol at	[40]			
LIVEARCHIVE 7151	geometry, polygon, polygon intersection, ternary search	8		[40]			
HACKR polygons	geometry, polygon, formula, combinatorics, [regular polygon counting]	7.5	<u>Sol</u>	[40]	р3	1	3
SRM300-D1-1000	geometry, polygon, lines, intersections	7.5		[40]			
LIVEARCHIVE 2397	geometry, polygon, pip, segments, visibility, dijkstra, binary search	7.5		[40]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10335	geometry, polygon, angles, intersections	7.25		[40]			
UVA 11177	geometry, polygon, circle-convex poly intersection	7.25		[40]			
UVA 11759	geometry, polygon, pip, bfs or dfs	7.25		[40]			
<u>UVA 13009</u>	geometry, polygon, segments, bit	7.25	Sol	[40]			
SRM566-D2-1000	geometry, polygon, triangles, ccw, dp	7.25		[40]			
UVA 1340	geometry, polygon	7		[40]			
UVA 132	geometry, polygon or triangles or convex hull	7	Sol	[40]		1	3
HACKR good-point	geometry, polygon, [polygons-ellipse intersections]	7		[40]			
LIVEARCHIVE 4589	geometry, polygon, centroid, polyhedron	7		[40]		1	1
LIVEARCHIVE 6772	geometry, polygon, centroid, precision	7		[40]			1
LIVEARCHIVE 2479	geometry, polygon, construtive algorithm, sub-polygons, dijkstra, [compute covere	c 7		[40]			1
CODECHEF BALANPOL	geometry, polygon, dp	7		[40]			
LIVEARCHIVE 8039	geometry, polygon, observations, bf, impl, tricky, precision, [~=UVA 10867]	7	Sol	[40]			1
UVA 11030	geometry, polygon, pip	7		[40]			
UVA 10907	geometry, polygon, pip, intersections	7		[40]			
LIVEARCHIVE 6402	geometry, polygon, polygon-cut-circle	7		[40]			1
SRM360-D1-1000	geometry, polygon, search	7		[40]		1	2
UVA 11447	geometry, polygon	6.75		[40]			1
LIVEARCHIVE 5138	geometry, polygon, angles, rotations	6.75		[40]		1	1
UVA 225	geometry, polygon, backtrack	6.75		[40]			
UVA 10575	geometry, polygon, online code WA	6.75		[40]			
<u>CF278-D2-D</u>	geometry, polygon, constructive	6.5		[40]	р3		2
UVA 10406	geometry, polygon, lines, intersections	6.5	Sol	[40]	р3	2	6
<u>CF975-D2-E</u>	geometry, polygon, centroid, rotations, precision	6.5		[40]			1
UVA 10256	geometry, polygon, pip	6.5		[40]			
UVA 10348	geometry, polygon, pip, lines, intersections	6.5		[40]			
<u>CF1075-D2-E</u>	geometry, polygon, Manhattan2DRotation, greedy	6.25		[40]	р3		4
CF101142-GYM-I	geometry, polygon, countings, shoelace formula or harder impl	6.1	Sol	[40]	р3		5
<u>CF166-D2-B</u>	geometry, polygon, sortings, multiview	6		[40]	p2		3
PKU 3449	geometry, polygon, triangles, lines, intersections	6	Sol	[40]	p1 v3	1	2
SRM235-D1-500	geometry, polygon, centriod, hard to understand?	6		[40]		1	1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CSA34-E	geometry, polygon, combinatorics	6	Sol	[40]			3
<u>UVA 137</u>	geometry, polygon, pip, intersections, impl or convex hull or polygon cut	5.5	Sol	[40]	p3 v3	2	9
SRM739-D2-1000	geometry, polygon, [cases]	5.5		[40]			2
<u>CF1017-D12-E</u>	geometry, polygon, convex, kmp, [mix of 2 concepts]	5.5		[40]			1
<u>CF340-D2-B</u>	geometry, polygon, bf, [polygon area]	5		[40]	p2	1	8
<u>CF801-D2-D</u>	geometry, polygon, binary search	5	Sol	[40]	p2		13
UVA 659	geometry, polygon, pip, circles, tangets, segments, bf	5		[40]		1	1
UVA 10585	geometry, polygon, centroid	4.5	SI	[40]	v2	1	6
UVA 881	geometry, polygon, pip, polygons inside polygons	4.5	Sol	[40]	р3		10
TIMUS 1599	geometry, polygon, pip, winding numbers, [precision: use int as possible, bad state	4.5	Sol	[40]	p2		11
LIVEARCHIVE 5108	geometry, polygon, [may use shoelace formula]	4.5	Sol	[40]	p1		7
UVA 12300	geometry, polygon, angles, [long doubles?]	4	Sol	[40]	v3	1	9
ZOJ 2157	geometry, polygon, perimeter	4	Sol	[40]	v2	1	6
<u>CF408-D2-C</u>	geometry, polygon	4		[40]	p1	1	5
UVA 11665	geometry, polygon, pip, polygons intersection, dsu	4	Sol	[40]			8
CF1-D12-C	geometry, polygon, [bad precision]	3		[40]			1
SRM278-D2-500	geometry, polygon, area, [just triangle areas]	2		[40]			3
UVA 1396	geometry, polygon, polygon cut, binary search	7.5	Other so	[41]		1	1
LIVEARCHIVE 3112	geometry, polygon, polygon cut	7	Code so	[41]		1	1
SPOJ BAC	geometry, polygon, polygon cut, lines	6.75		[41]			
UVA 10445	geometry, polygon, polygon cut, pip, convex hull, ccw	6.75		[41]			
UVA 11072	geometry, polygon, polygon cut, pip, convex hull, is convex	6.75		[41]			
PKU 1279	geometry, polygon, polygon cut	6.6	Sol	[41]	p2	1	2
UVA 11265	geometry, polygon, polygon cut, lines, pip, convex hull	6.5	Sol	[41]	р3		3
UVA 10117	geometry, polygon, polygon cut, backtrack, impl	6.5	Sol	[41]		1	2
<u>UVA 588</u>	geometry, polygon, polygon cut or ad-hoc	6	Use poly	[41]	p5	1	19
TJU 1537	geometry, polygon, polygon cut or ad-hoc, triangles	6	Solve us	[41]	р3		1
UVA 10321	geometry, polygon, polygon cut or pip, intersections or convex hull	6		[41]	р3		1
UVA 10084	geometry, polygon, polygon cut, lines	6		[41]			
LIVEARCHIVE 2831	geometry, polygon, polygon cut	4	Use poly	[41]			5
SPOJ RUNAWAY	geometry, polygon, polygon cut or ad-hoc. [largest empty circle]	4		[41]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
HACKR elastic-rope	geometry, polygon, convex hull, dijkstra	9		[42]			
HACKR best-sum	geometry, polygon, convex hull, [domain reinterpretion]	8		[42]			
CF101982-gym-M	geometry, polygon, convex hull, [mapping to points, optimize x*y]	8	<u>Notes</u>	[42]			
LIVEARCHIVE 5219	geometry, polygon, convex hull, [pack polygon in rectangle]	8	Web sol	[42]			
SRM173-D1-1000	geometry, polygon, convex hull, polygon area, dp	8		[42]			
UVA 675	geometry, polygon, convex hull	7.25		[42]			
UVA 11919	geometry, polygon, convex hull, distances, dp, impl	7.25	Sol (no e	[42]			
UVA 12307	geometry, polygon, convex hull, pip, intersections, [Min Enclosing Rectangle]	7.25	Sol [6]	[42]			
<u>CF70-D12-D</u>	geometry, polygon, convex hull	7.1	Sol	[42]	p4		2
SPOJ GCPC11G	geometry, polygon, convex hull, circles, [fence length]	7.1	ONLINE	[42]			
<u>CF682-D2-E</u>	geometry, polygon, convex hull, triangle area, two pointers	7	Sol	[42]	р3		3
<u>CF536-D1-C</u>	geometry, polygon, convex hull	7	Sol	[42]		1	3
SPOJ AXIS	geometry, polygon, convex hull	7		[42]			
UVA 596	geometry, polygon, convex hull	7		[42]			
LIVEARCHIVE 4450	geometry, polygon, convex hull, dp, angles	7		[42]			2
UVA 10173	geometry, polygon, convex hull, pip, intersections	7		[42]			
UVA 12901	geometry, polygon, convex hull, segments, angles, binary search	7		[42]			
SPOJ SPOINTS	geometry, polygon, convex hull, pip, pip logn, intersections, lines	6.75	Sol	[42]	p5		1
UVA 11122	geometry, polygon, convex hull, ad-hoc	6.75		[42]			
CF1143-D2-F	geometry, polygon, convex hull, monotone chain	6.6		[42]	р3		2
SRM250-D1-1000	geometry, polygon, convex hull, polygon intersection, pip	6.6		[42]			
UVA 10135	geometry, polygon, convex hull, impl	6.5		[42]	р3		1
SPOJ TFOSS	geometry, polygon, convex hull, integer ternary search, rotating calipers	6.5	Sol	[42]	p2		3
UVA 312	geometry, polygon, convex hull	6.5		[42]			
CODECHEF ADADET	geometry, polygon, convex hull, impl	6.5		[42]			1
<u>UVA 12048</u>	geometry, polygon, convex hull, pip, pip logn	6.5	Sol	[42]			
UVA 10652	geometry, polygon, convex hull, rotate, polygon cut	6		[42]			2
SPOJ VMILI	geometry, polygon, convex hull	5	Sol	[42]	p1	1	2
UVA 109	geometry, polygon, convex hull	5	Sol	[42]	p1		2
<u>CF101484-GYM-E</u>	geometry, polygon, convex hull or ad-hoc	5	Sol	[42]			5
SPOJ DOORSPEN	geometry, polygon, convex hull, [polygons intersection]	5		[42]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
TIMUS 1185	geometry, polygon, convex hull, circles	5		[42]			3
UVA 11168	geometry, polygon, convex hull, distances	5	Sol	[42]			3
UVA 361	geometry, polygon, convex hull, pip	5		[42]			1
SRM365-D2-1000	geometry, polygon, convex hull, pip, [standard]	5		[42]		2	7
UVA 681	geometry, polygon, convex hull, polygon area	5		[42]			
UVA 811	geometry, polygon, convex hull, tree	5		[42]			1
LIVEARCHIVE 4558	geometry, polygon, convex hull	4.5	<u>Sol</u>	[42]			2
UVA 11626	geometry, polygon, convex hull, [print CH]	4.5	Sol	[42]			1
SPOJ BSHEEP	geometry, polygon, convex hull	4	Sol	[42]			3
UVA 10002	geometry, polygon, convex hull, centroid, [close ideas of area/preimeter UVA 218,	2	<u>Sol</u>	[42]			3
LIVEARCHIVE 2395	geometry, polygon, pick's theorem	7		[43]			4
HACKR polygon	geometry, polygon, pick's theorem, ??	7	NO SOL	[43]			
LIVEARCHIVE 4884	geometry, polygon, pick's theorem	6	Sol (no e	[43]			
USACO FENCE9	geometry, polygon, pick's theorem	5.75	Sol at	[43]			
UVA 10088	geometry, polygon, pick's theorem, gcd	5	Sol	[43]	p3		8
UVA 1641	geometry, polygon, pick's theorem or pattern	4.5	Sol	[43]	v2		3
TJU 1011	geometry, polygon, pick's theorem	4.5	Sol	[43]	p1	1	7
LIVEARCHIVE 2482	geometry, sweep line	9		[44]			
LIVEARCHIVE 3809	geometry, sweep line	9		[44]			
LIVEARCHIVE 4125	geometry, sweep line, bbst	8.5		[44]			
LIVEARCHIVE 2725	geometry, sweep line, polygon	8.5		[44]			
SPOJ VCIRCLES	geometry, sweep line, impl, [total circles area]	7.5	Sol	[44]	p4	1	2
UVA 1308	geometry, sweep line, circles, lines, intersections	7.5	Sol	[44]	p1	2	3
LIVEARCHIVE 3905	geometry, sweep line	7.5		[44]			1
LIVEARCHIVE 8050	geometry, sweep line	7.5		[44]			3
LIVEARCHIVE 6034	geometry, sweep line, bit or segment tree	7.5		[44]			
<u>CF35-D2-E</u>	geometry, sweep line, polyline, [MLE]	7.5		[44]			1
TC(CORNERSDECODING)	geometry, sweep line	7.25	Sol	[44]			1
LIVEARCHIVE 8042	geometry, sweep line, polygons or ad-hoc, d&c, [can use seg tree with sweep]	7.25		[44]			
LIVEARCHIVE 5136	geometry, sweep line, segment tree, binary search	7.25		[44]			
<u>CF685-D1-D</u>	geometry, sweep line	7		[44]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 4127	geometry, sweep line, lines, intersections, triangles	7		[44]			1
SPOJ RAIN1	geometry, sweep line, segments, topological sort, hard to impl	6.6	Sol	[44]	p3 v3	3	5
UVA 10043	geometry, sweep line or datastructures or dsu, greedy, bf [largest rectangle (empty	6.5	Sol	[44]	p4	1	5
SPOJ CERC07C	geometry, sweep line, angular sweep, [fixed circle radius contains max points], [htt	6.5	Editorial	[44]	p4		1
UVA 12226	geometry, sweep line, angular sweep, polygon, constructive, [build polygon], [https	6.5	Sol	[44]	p4		1
<u>CF845-D12-E</u>	geometry, sweep line, binary search, datastructures	6.5		[44]	р3		3
UVA 303	geometry, sweep line, pip, lines, intersections, angles	6.5	Sol	[44]	p2 v3	2	4
LIVEARCHIVE 5795	geometry, sweep line, segments	6.5	Sol (no e	[44]			
<u>UVA 10613</u>	geometry, sweep line, circles, [covered grid pos]	6.3	<u>Sol</u>	[44]	р3		1
UVA 1468	geometry, sweep line	6.25	Sol	[44]	р3	1	4
<u>UVA 11704</u>	geometry, sweep line, angular sweep, two pointers, [line splits points equally], [http	6.25	Sol	[44]	р3		1
CSA67-D	geometry, sweep line, segment tree, lazy	6.25		[44]	р3		2
LIVEARCHIVE 6348	geometry, sweep line, rectangles, dp, [simple sweep with little smart dp]	6.25	<u>Sol</u>	[44]			1
SPOJ WILD	geometry, sweep line, sets	6.25	<u>Sol</u>	[44]		1	4
<u>CF1284-D12-D</u>	geometry, sweep line or hasing or rmq	6		[44]	р3		4
<u>Livearchive 3525</u>	geometry, sweep line, [may solve SPOJ NICEDAY]	6	Sol	[44]	р3		
SPOJ SHORTCUT	geometry, sweep line, impl or bf	6	Sol	[44]	р3		11
SRM322-D1-1000	geometry, sweep line	6		[44]			1
SPOJ WIRELESS	geometry, sweep line or ad-hoc	6		[44]			2
<u>CF101147-GYM-I</u>	geometry, sweep line, circles	5.5	<u>Sol</u>	[44]	р3	2	15
<u>CF1278-D12-D</u>	geometry, sweep line, greedy or bit, binary search	5.5		[44]	р3		2
CF1046-D12-A	geometry, sweep line, grid compress	5.5		[44]	р3		2
<u>CF496-D2-E</u>	geometry, sweep line, binary search	5.5		[44]	p2		2
UVA 10483	geometry, sweep line	5.5		[44]			
SRM206-D1-500	geometry, sweep line or ad-hoc or bf	5.5	Don't sol	[44]			4
TIMUS 1469	geometry, sweep line, [standard], [video, direct on segments]	5.5		[44]			
CF100622-GYM-C	geometry, sweep line, [https://github.com/YazanZebak/CompetitiveProgramming/bl	5.4	<u>Sol</u>	[44]	р3	1	10
ZOJ 2694	geometry, sweep line, circles	5		[44]	v3	2	5
SPOJ RIGHTTRI	geometry, sweep line, radical sweep or ad-hoc, slope, map, [simple version UVA 12	5	<u>Sol</u>	[44]	p2	2	6
PKU 1177	geometry, sweep line or segment tree, [rectangles primeter]	4.5	Sol	[44]	p3 v3	2	14
SPOJ CEPC08B	geometry, sweep line, polyline or greedy, [TLE]	4.5	Sol	[44]	p2		11

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF1000-D12-C	geometry, sweep line	4.5		[44]	p1		3
SPOJ NKMARS	geometry, sweep line, [rectangles area, in video]	4	Sol must	[44]	р3		11
UVA 11378	geometry, sweep line, closest pair, [~=SPOJ CLOPPAIR]	4	Sol	[44]			1
HACKR cloudy-day	geometry, sweep line	3.5		[44]			
UVA 10750	geometry, sweep line, closest pair, [~=URI 1295]	3.5	<u>Sol</u>	[44]			8
<u>CF845-D12-C</u>	geometry, sweep line or ad-hoc	3		[44]			10
<u>UVA 105</u>	geometry, sweep line or greedy	3	Use swe	[44]			7
LIVEARCHIVE 6035	geometry, 3d, circles intersection, graph	9.5		[45]			
LIVEARCHIVE 4447	geometry, 3d, trinagles, dfs, hard impl	8.5		[45]			
SRM401-D1-500	geometry, 3d, cylinder	8		[45]			
SRM333-D1-1000	geometry, 3d, integration, simpson	8		[45]			
<u>CF89-D1-D</u>	geometry, 3d	7.75		[45]			
LIVEARCHIVE 4795	geometry, 3d	7.75		[45]			
LIVEARCHIVE 2995	geometry, 3d, counting, impl, [no knolwedge needed]	7.5		[45]	p5	1	3
UVA 11769	geometry, 3d, convex hull	7.25		[45]			
Timus 1075	geometry, 3d	7		[45]			
UVA 11275	geometry, 3d	7		[45]			
LIVEARCHIVE 7153	geometry, 3d, binary search	7		[45]			
LIVEARCHIVE 4792	geometry, 3d, dijkstra	7		[45]			
UVA 13011	geometry, 3d, floodfill	7		[45]			
UVA 10425	geometry, 3d	6.75		[45]			
UVA 1473	geometry, 3d, ternary search or convex hull, ad-hoc	6.75		[45]			
ZOJ 2369	geometry, 3d, integration, simpson, [cylinder]	6	<u>Sol</u>	[45]		1	2
LIVEARCHIVE 2474	geometry, 3d, sphere, bf, next_permutation	6		[45]		1	2
UVA 11232	geometry, 3d, [differentiation needed for proof]	5.5	<u>Sol</u>	[45]		1	4
CF203-D2-D	geometry, 3d, impl, math, [physics, kinematics], [independence property on dimens	5		[45]	р3	2	7
CF65-D12-C	geometry, 3d, lines, distances, binary search, precision, [line segment in 3D plane]	5		[45]	p1		6
CF1237-D12-C2	geometry, 3d, sorting, ad-hoc, constructive	4.5		[45]	р3		3
LIVEARCHIVE 2233	geometry, 3d, sphere, floyd	4.5		[45]			2
SPOJ BLCONE	geometry, 3d, binary search	4		[45]			1
UVA 10297	geometry, 3d, cones, volumes, formula	4	<u>Sol</u>	[45]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 11817	geometry, 3d, great circle distance	4		[45]			2
HACKR spheres	geometry, 3d, ternary search	3.5	Sol	[45]			2
LIVEARCHIVE 2235	graph	9		[46]			
SRM184-D1-1000	graph, cycles, [=UVA 11446]	9		[46]			
<u>CF528-D1-C</u>	graph, cycles	8.5		[46]			
AtCoder001-AGC-F	graph, datastructures, [smallest topological labelling]	8.5		[46]			
<u>CF995-D1-E</u>	graph, mods, randomization	8		[46]	р3		2
<u>CF641-D12-G</u>	graph	8		[46]			
CSA21-H	graph, ad-hoc, impl	8		[46]			
<u>CF724-D12-G</u>	graph, trees, math	8		[46]			2
<u>CF101968-gym-E</u>	graph, cc, cycles, [cases]	7.75	Sol	[46]			
AtCoder010-AGC-E	graph, coprimes, dfs	7.75		[46]			
SPOJ QTREE4	graph, datastructures or centroid-decomposition, TLEs	7.75	Sol	[46]		2	2
AtCoder004-AGC-F	graph, tree, cycles, impl	7.75		[46]			
<u>CF297-D1-D</u>	graph, bicoloring, ad-hoc constructive	7.5		[46]	р3		2
CF1218-D12-H	graph, trees, [small-to-large trick]	7.5	Sol	[46]	р3		1
<u>CF1129-D1-E</u>	graph, trees, binary search, interactive	7.5		[46]	р3		2
AtCoder008-AGC-E	graph, cycles, dp_counting, [cases]	7.5	Sol	[46]	p2		1
CF101669-GYM-L	graph	7.5	Sol	[46]			1
SRM571-D1-500	graph, clique	7.5		[46]			
CF100513-gym-L	graph, dominator tree	7.5		[46]			1
CODECHEF GRAPHCNT	graph, dominator tree	7.5		[46]			
<u>CF101726-GYM-A</u>	graph, math	7.5	Sol	[46]			1
SRM303-D1-1000	graph, steiner tree, floyd	7.5		[46]			
<u>CF79-D12-D</u>	graph, matchings, dp_bitmasks, [misc]	7.25		[46]	p5	1	9
CODEJAM 18-R3-B	graph, matrices, constructive, matrix pow	7.25	Sol	[46]	p5	4	9
<u>CF1104-D2-E</u>	graph, trees, constructive	7.25		[46]	р3		3
SRM530-D2-1000	graph, greedy	7.25		[46]			
SRM559-D2-1000	graph, greedy	7.25		[46]			
UVA 10863	graph, steiner tree	7.25	NO SOL	[46]			
AtCoder103-ARC-F	graph, tree, math, constructive	7.1		[46]	p4		6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODEJAM 18-R2-D	graph, bf, dfs, ad-hoc	7	Sol	[46]	p5	2	8
<u>CF748-D12-F</u>	graph, ad-hoc, constructive, center of tree, [centroid-decomposition for the proof]	7		[46]	p4		5
<u>CF879-D2-E</u>	graph, binary search, [scc related]	7		[46]	р3		2
<u>CF1113-D2-E</u>	graph, Cayley's formula, combinatorics	7		[46]	р3	1	2
SRM530-D1-500	graph, greedy	7		[46]	р3		2
<u>CF1168-D1-D</u>	graph, tree compress	7		[46]	р3		1
UVA 12786	graph, binary search, [Erdos–Gallai theorem]	7		[46]			
SPOJ MENMARS	graph, clique, bitmasks	7	Author m	[46]			
SRM365-D1-1000	graph, greedy	7		[46]			1
SRM358-D1-1000	graph, max flow	7		[46]			1
AtCoder016-AGC-D	graph, xor, euler, impl	7		[46]		1	2
<u>CF405-D2-E</u>	graph, constructive, dfs	6.8		[46]	p4 v2	3	12
CF1209-D12-F	graph, datastructures, hashing	6.8		[46]	р3		2
CODECHEF CYCLECOL	graph, bipartite graph, 4-Coloring	6.75	Sol	[46]	p2		2
SRM364-D1-1000	graph, permutation, constructive or pattern	6.7	Prove yo	[46]	р5	1	9
AtCoder025-AGC-D	graph, constructive, pigeonhole principle, [decompose]	6.7		[46]	р3		4
<u>CF986-D1-C</u>	graph, math, bitmasks, cc, greedy	6.6		[46]	p5 v1		14
Livearchive 8257	graph, d&c, coptimes, [find tree of specific properties], [https://github.com/s-nandi/(	6.5	Sol	[46]	p5		2
TIMUS 1040	graph, greedy, gcd, $[gcd(x, x + 1) = 1]$	6.5	Sol	[46]	р3		9
<u>CF1098-D1-C</u>	graph, tree, greedy, binary search	6.5		[46]	р3		2
<u>CF538-D12-E</u>	graph, trees, dfs or dp	6.5		[46]	р3		2
<u>CF1091-D12-E</u>	graph, math, impl, [based on erdos galli theorem]	6.5		[46]	p2		3
CF100729-GYM-D	graph, max flow	6.5	Sol	[46]			1
CF101939-gym-K	graph, tree, datastructures, [small-to-large]	6.4	Sol	[46]	p4		8
SRM460-D2-1000	graph, cc, prufer_codes, [Cayley's formula], or mst, bf, bitmasks	6.3	must rea	[46]	p5		5
<u>CF782-D2-E</u>	graph, trees, constructive	6.3		[46]	р3		3
<u>CF742-D2-E</u>	graph, bicoloring	6.25	Sol	[46]	p4 v2	1	14
AtCoder099-ARC-C	graph, bipartite, dp, [theory]	6.25	Sol	[46]	p4 v2		10
CF1199-D2-E	graph, ad-hoc or randimization	6.25	Sol (!edi	[46]	p4		9
<u>CF101484-GYM-H</u>	graph, max flow, [https://github.com/shashank0107/CompetitiveProgramming/blob/	6.25	Sol	[46]	p4		5
<u>CF1243-D2-E</u>	graph, cycles, dp_bitmasks	6.25	Sol	[46]	р3		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM531-D1-500	graph, simulation, graph cycle, [prove skills, may use scc]	6.25	Prove yo	[46]	р3		5
SRM587-D2-1000	graph, bf	6.25		[46]			1
CODECHEF CHANGNUM	graph, combinatorics	6.25	Sol	[46]			2
CF100513-GYM-L	graph, dominator tree	6.25		[46]			1
SPOJ SPCE	graph, math, [prove using Cayley's formula]	6.1	Sol	[46]	p4	2	7
<u>CF272-D2-E</u>	graph, constructive, combinatorics, dfs, bipartite graph, cycle	6.1		[46]	p3 v2		6
<u>CF708-D1-C</u>	graph, trees, centroid or dp_trees	6.1		[46]	p3 v2	2	7
<u>CF769-D12-C</u>	graph, greedy, flood-fill	6.1		[46]	р3		1
<u>CF794-D12-D</u>	graph, hashing	6		[46]	p4	1	3
<u>CF412-D12-D</u>	graph, impl	6	Reading	[46]	р3		1
<u>CF1092-D3-E</u>	graph, tree, constructive	6		[46]	р3		5
<u>CF960-D12-D</u>	graph, trees, bf	6		[46]	р3		4
<u>CF746-D2-G</u>	graph, trees, constructive	6		[46]	р3		5
<u>CF402-D2-E</u>	graph, adjacency matrix or scc	6		[46]	p2 v2		5
CODECHEF F2NDMAX	graph, greedy, datastructures, [cases]	6		[46]	p2		1
<u>CF155-D2-E</u>	graph, hashing on graph, [easy but need careful values for collision]	6		[46]	p2		2
<u>CF510-D2-E</u>	graph, max flow	6		[46]	p2		4
<u>CF362-D2-D</u>	graph, probability	6		[46]	p1		1
CF101142-GYM-C	graph	6		[46]			1
<u>CF315-D2-D</u>	graph, ad-hoc	6		[46]			3
UVA 165	graph, bf, ad hoc	6		[46]			1
LIVEARCHIVE 3278	graph, bf, bitmasks, cover	6		[46]			4
<u>CF27-D2-D</u>	graph, bicoloring, is bipartite or 2-sat	6		[46]			4
<u>CF101490-GYM-E</u>	graph, binary search on graph	6		[46]			1
<u>CF389-D2-D</u>	graph, construction, [construction for graphs using binary numbers]	6		[46]			1
UVA 11202	graph, counting or pattern	6	Sol	[46]			4
<u>CF542-D1-C</u>	graph, cycle, gcd	6		[46]		1	2
UVA 12118	graph, euler	6	Sol	[46]		1	3
SRM398-D1-1000	graph, gcd	6		[46]			1
<u>CF368-D2-E</u>	graph, greedy	6		[46]			1
<u>CF332-D2-D</u>	graph, math	6		[46]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF101615-GYM-G</u>	graph, sortings	6	Sol	[46]			2
TJU 1526	graph, sp or bfs	6		[46]			1
SRM405-D1-500	graph, strings	6		[46]			1
CF101191-GYM-G	graph, trees	6		[46]		1	2
<u>CF275-D2-D</u>	graph, trees, dfs, impl	6		[46]			2
SRM608-D2-1000	graph, bf, floyd or max flow or matrix pow	5.75	Sol	[46]	p4		14
AtCoder103-ARC-E	graph, tree, constructive	5.75	Sol	[46]	p3 v1		7
<u>CF1311-D3-E</u>	graph, tree, constructive algorithm	5.75		[46]	p2		1
<u>CF486-D2-D</u>	graph, trees, dfs, prefix sum or dp_trees, cases	5.5		[46]	p4 v2	2	21
<u>CF1041-D2-E</u>	graph, trees, greedy, constructive	5.5		[46]	p4		10
<u>CF1269-D2-D</u>	graph, bipartite, tilling	5.5		[46]	р3		1
LiveArchive 7616	graph, cliques, np-hard	5.5	Sol	[46]	р3	1	3
<u>CF233-D2-C</u>	graph, cycle, cnstructive	5.5		[46]	р3	1	8
<u>CF154-D1-C</u>	graph, hashing	5.5		[46]	р3		5
<u>CF797-D12-D</u>	graph, trees, ranges on binary tree	5.5		[46]	р3		6
FbHkrCup 18-R2-B	graph, trees, dp	5.5		[46]	p1		1
<u>CF664-D2-D</u>	graph, bicoloring or 2-sat, dsu	5.5		[46]			2
SRM210-D1-500	graph, impl, tricky	5.5		[46]			1
<u>CF557-D2-D</u>	graph, is bipartite	5.5		[46]			4
SRM452-D2-1000	graph, math	5.5		[46]			1
SPOJ TICKET	graph, steiner tree, kruskal is slow?	5.5		[46]			
AtCoder005-AGC-C	graph, tree, impl	5.5		[46]			2
<u>CF1003-D3-E</u>	graph, trees, constructive algorithm, [cases]	5.5		[46]			3
SRM396-D1-500	graph, search	5		[46]	v3		2
CF125-D12-C	graph, constructive, ad-hoc	5	Sol	[46]	р3		1
<u>CF550-D2-D</u>	graph, constructive, prove using e.g. scc	5		[46]	р3	2	12
<u>CF1146-D12-D</u>	graph, dijsktra, reminders, math	5		[46]	р3		2
<u>CF1060-D12-D</u>	graph, greedy	5		[46]	р3	1	10
UVA 10982	graph, greedy, [close to max cut]	5	Sol	[46]	р3		8
<u>CF102001-GYM-G</u>	graph, binary search, greedy	5	Sol	[46]	p2		2
AtCoder-Tenka118-D	graph, constructive	5		[46]	p2		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1082-D12-D</u>	graph, constructive, observations	5		[46]	p2		8
<u>CF1296-D3-F</u>	graph, trees	5		[46]	p2		1
CF1189-D2-D2	graph, trees, observation	5		[46]	p2		2
UVA 11550	graph, incidence matrix verification, [WAs]	5		[46]	p1 v1		7
<u>CF430-D2-C</u>	graph, bf	5		[46]		1	9
<u>CF741-D1-C</u>	graph, bicoloring	5		[46]			1
TJU 1077	graph, bicoloring, is bipartite	5		[46]			2
FbHkrCup 18-R2-A	graph, constructive	5		[46]			2
<u>CF363-D2-D</u>	graph, cycle, greedy	5		[46]			11
SRM583-D2-1000	graph, greedy, search	5		[46]			3
<u>CF1277-D2-E</u>	graph, math	5		[46]			1
SRM429-D2-1000	graph, math, strings	5		[46]		1	4
SRM392-D1-500	graph, search	5		[46]			
UVA 1264	graph, trees, pascal triangle	5		[46]			
TJU 2798	graph, trees, math, generate pattern	4.5		[46]	p2		1
SRM256-D1-500	graph, bf	4.5		[46]			2
<u>CF764-D2-C</u>	graph, impl	4		[46]	р3		1
<u>CF902-D2-C</u>	graph, tree isomorphism	4		[46]	р3		1
CF102035-GYM-H	graph	4		[46]	p2		1
<u>CF1068-D2-C</u>	graph, ad-hoc	4		[46]	p2		5
<u>CF61-D2-D</u>	graph, greedy, longest path	4		[46]	p2	1	6
<u>UVA 615</u>	graph, trees	4		[46]	p1		5
<u>CF106-D2-D</u>	graph	4		[46]			4
<u>CF246-D2-D</u>	graph	4		[46]			5
<u>CF586-D2-D</u>	graph	4		[46]		1	3
CSA41-D	graph	4		[46]			1
SRM484-D2-1000	graph, bf	4		[46]			2
UVA 656	graph, complete search	4	Sol	[46]			
UVA 12132	graph, cycles, [bad text]	4		[46]			4
TIMUS 1069	graph, datastructures	4	<u>Sol</u>	[46]			4
SRM195-D1-500	graph, impl	4		[46]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF839-D2-B	graph, math	4		[46]			4
SPOJ XYI	graph, observations or dfs, long code	4	<u>FB</u>	[46]			4
SRM350-D2-1000	graph	3		[46]			16
<u>UVA 10452</u>	graph	3		[46]			2
UVA 11615	graph, complete binary tree	3		[46]			4
UVA 11414	graph, greedy	3		[46]			1
UVA 122	graph, trees	3		[46]			6
<u>CF441-D2-C</u>	graph, bicoloring	2		[46]			4
CF102394-gym-A	graph, adhoc, [transform the linear inequalities to the graph problem]		<u>Sol</u>	[46]	р3		1
CF1225-D12-F	graph, trees, greedy, constructive, [monovariant depth]			[46]	р3		1
SPOJ SEGMENTS	graph, bellmanford, [all guys got WA, avoid[	8.5		[47]		2	2
LIVEARCHIVE 3002	graph, bellmanford, difference constraints, geometry	8.5		[47]			
LIVEARCHIVE 4885	graph, bellmanford, difference constraints	7.75		[47]			
SPOJ SPRING	graph, bellmanford, difference constraints	7.5	NO SOL	[47]			
PKU 3169	graph, bellmanford or spfa, difference constraints ??	7		[47]	p2		
LIVEARCHIVE 2438	graph, bellmanford	7		[47]			
LIVEARCHIVE 4131	graph, bellmanford	7		[47]			
UVA 11478	graph, bellmanford, difference constraints, Minimum Mean Weight Cycle or karp al	6.75		[47]			
UVA 11090	graph, bellmanford, Minimum Mean Weight Cycle or karp algorithm, [=SPOJ WOR	6.25	<u>Sol</u>	[47]	p4		13
CF101498-GYM-L	graph, bellmanford, [~CODECHEF BESTPATH]	6	<u>Sol</u>	[47]	p4		7
SRM270-D1-500	graph, bellmanford, bfs or floyd, negative cycles. tricky	6	Sol	[47]	р3		3
UVA 11721	graph, bellmanford, scc	6	<u>Sol</u>	[47]	p2		6
LIVEARCHIVE 4509	graph, bellmanford	5.5	Sol	[47]	v2	1	2
CODECHEF AVGSHORT	graph, bellmanford, cycles	5.5		[47]			
UVA 558	graph, bellmanford	4		[47]			2
UVA 515	graph, bellmanford, difference constraints	4		[47]			
UVA 10557	graph, bellmanford	3.5		[47]	v1		2
UVA 10449	graph, bellmanford	3		[47]	v1		3
LIVEARCHIVE 2240	graph, bfs	9		[48]			
SRM524-D1-500	graph, bfs, binary search	8		[48]			2
<u>CF29-D2-E</u>	graph, bfs	7.75		[48]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF591-D2-E</u>	graph, bfs	7.75		[48]			1
<u>CF1031-D12-F</u>	graph, bfs, [observations from bf]	7.5		[48]	р3		1
CODECHEF BLOCKDRO	graph, bfs, state hashing, optimizations	7.5		[48]	p2	1	1
SRM376-D1-1000	graph, bfs	7.5		[48]			1
LIVEARCHIVE 3807	graph, bfs, impl [direct, state representation using ints]	7.25		[48]		1	3
SRM422-D1-500	graph, bfs, math	7.25		[48]			2
UVA 11643	graph, bfs, dp, tps, Knight's tours, Warnsdorf's rule, [see new CP book]	7		[48]	р3	1	1
<u>CF716-D2-D</u>	graph, bfs	7		[48]			
SRM238-D1-500	graph, bfs	7		[48]		1	1
UVA 12858	graph, bfs	7		[48]			
UVA 10770	graph, bfs or dfs, state, tricky encoding	7		[48]			
<u>CF414-D1-D</u>	graph, bfs, 2 pointers, math	7		[48]			2
UVA 12274	graph, bfs, bits, dsu, cycles or scc	7		[48]			
UVA 12860	graph, bfs, build graph, greedy, long code, almost direct?	7		[48]			1
<u>CF354-D1-D</u>	graph, bfs, impl	7		[48]			1
USACO LASERS	graph, bfs, line sweep, shortest path, [0/1 bfs trick for 0/1 graphs]	7	Study bf	[48]			1
UVA 715	graph, bfs, topological sort, all topological sorts, misc	7		[48]		1	1
<u>CF789-D2-E</u>	graph, bfs, math, observations	6.8	Sol	[48]	р3		7
<u>TIMUS 2034</u>	graph, bfs	6.75	Sol	[48]	р3		3
<u>CF369-D2-D</u>	graph, bfs, dp	6.75		[48]			
UVA 10748	graph, bfs, hashing, impl, const opt, [knights infinite chessboard], [can it be only bf:	6.5	Sol	[48]	р3	1	4
SRM425-D1-500	graph, bfs	6.5		[48]		1	1
<u>CF651-D2-E</u>	graph, bfs, greedy, sorting, [WAs]	6.5		[48]			1
UVA 12466	graph, bfs, topological sort, dp	6.5		[48]			
<u>CF1037-D12-E</u>	graph, bfs, greedy or ad-hoc	6.25		[48]	р3		7
<u>CF187-D1-C</u>	graph, bfs, impl or dijkstra	6.25		[48]	p2		3
UVA 652	graph, bfs, state, hash or IDA	6.25		[48]	p2		1
UVA 521	graph, bfs, scc, [floyd]	6.25		[48]			
UVA 1604	graph, bfs, state	6.25		[48]			
<u>CF679-D1-C</u>	graph, bfs, 2d predix sum, [good impl]	6	Sol	[48]	р3		4
<u>CF1262-D2-E</u>	graph, bfs, binary search, impl	6		[48]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10985	graph, bfs	6	<u>Sol</u>	[48]	p2		1
<u>CF269-D1-C</u>	graph, bfs	6		[48]			4
SRM233-D1-500	graph, bfs	6		[48]			1
SRM729-D1-500	graph, bfs	6		[48]			1
UVA 10968	graph, bfs	6		[48]			1
UVA 12130	graph, bfs	6		[48]			1
CF359-D2-E	graph, bfs or dfs	6		[48]			1
LIVEARCHIVE 7155	graph, bfs, [=CF677-D2-D]	6		[48]			2
TIMUS 1314	graph, bfs, [2 bfs]	6		[48]			2
SRM374-D2-1000	graph, bfs, [hard text]	6		[48]			1
LIVEARCHIVE 3564	graph, bfs, [tricky state]	6		[48]		1	2
<u>CF225-D2-D</u>	graph, bfs, bitmasks, impl	6		[48]			1
UVA 10917	graph, bfs, dp	6		[48]			1
CF525-D2-D	graph, bfs, greedy	6		[48]			2
UVA 775	graph, bfs, hamilton	6		[48]			1
<u>CF1065-D12-D</u>	graph, bfs, impl, [chess, many states, boring]	6		[48]		2	7
CF59-D12-E	graph, bfs, state space search	6		[48]			7
CF821-D2-D	graph, bfs	5.75		[48]	р3	1	4
UVA 11329	graph, bfs, bitmasks or dp	5.5		[48]	v2	1	2
CF1005-D3-F	graph, bfs	5.5		[48]	p4		5
<u>CF877-D2-D</u>	graph, bfs	5.5		[48]	р3		
SPOJ MULTII	graph, bfs, [BFS over numbers (K*10+d)%N]	5.5	<u>Sol</u>	[48]	р3		1
<u>CF1206-D2-D</u>	graph, bfs, bf, bitmasks	5.5		[48]	р3		5
UVA 10937	graph, bfs, dp	5.5		[48]	р3		2
UVA 12544	graph, bfs, cycles, [cycle with smallest number of vertices]	5.5	<u>Sol</u>	[48]	p2		3
<u>CF787-D2-C</u>	graph, bfs, cyclic games or dp_games	5.5		[48]	p2		6
LIVEARCHIVE 2040	graph, bfs	5.5		[48]			2
SRM211-D1-500	graph, bfs	5.5		[48]			1
UVA 12160	graph, bfs	5.5		[48]			2
UVA 985	graph, bfs	5.5		[48]			1
UVA 11405	graph, bfs, dp_bitmasks, sp preocess then dp	5.5	Sol	[48]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 11198	graph, bfs, permutations or dfs	5.5		[48]			1
UVA 11573	graph, bfs, 0/1 bfs, [CF1064-D2-D, CF877-D2-D, SPOJ KATHTHI]	5	Sol - mus	[48]	p4		12
SPOJ ADV04F1	graph, bfs	5		[48]	р3		
HACKER pasha-jumps-on-a-permutation	graph, bfs, 0-1 bfs	5		[48]	р3		1
UVA 10888	graph, bfs, dp or weighted matching	5		[48]	р3		1
SPOJ PUCMM223	graph, bfs, grid	5		[48]	р3		
<u>CF1105-D2-D</u>	graph, bfs, impl	5		[48]	р3		6
<u>CF811-D2-D</u>	graph, bfs, interactive, impl	5		[48]	р3		12
SPOJ A_W_S_N	graph, bfs, masks, tsp or dp_bitmasks, bfs	5	Sol	[48]	р3	1	1
UVA 10422	graph, bfs or dfs, state	5		[48]	p2	1	5
<u>CF253-D2-C</u>	graph, bfs or greedy, [search in 2d grid]	5		[48]	p2		6
<u>CF131-D2-D</u>	graph, bfs, cycle	5		[48]	p2		4
<u>CF786-D1-A</u>	graph, bfs	5		[48]	p1		1
SRM221-D1-500	graph, bfs, [bfs body part of complexity]	5		[48]	p1		1
SRM487-D2-1000	graph, bfs, sieve, mod, [iterate fast on edges]	5		[48]	p1		4
SRM222-D1-500	graph, bfs	5		[48]			1
SRM308-D1-500	graph, bfs	5		[48]			3
SRM374-D1-500	graph, bfs	5		[48]			2
SRM385-D1-500	graph, bfs	5		[48]			
UVA 10682	graph, bfs	5		[48]			2
UVA 928	graph, bfs	5		[48]			1
SPOJ MLASERP	graph, bfs or dp	5	<u>Sol</u>	[48]			6
SRM341-D1-500	graph, bfs, ad-hoc, [hard impl]	5		[48]			1
<u>CF667-D2-D</u>	graph, bfs, bf	5		[48]			3
UVA 11974	graph, bfs, bitmasks	5		[48]			1
LIVEARCHIVE 5216	graph, bfs, hard impl	5		[48]			2
UVA 10085	graph, bfs, hashmap	5		[48]			1
<u>CF954-D2-D</u>	graph, bfs, shortest path	5		[48]			4
SPOJ ANARC08A	graph, bfs, trie, hashing or meet in middle	5	Sol	[48]		1	11
<u>CF242-D2-C</u>	graph, bfs	4.5		[48]	v2		8
SPOJ CERC07K	graph, bfs, bitmask	4.5		[48]	p2	1	10

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF676-D2-D</u>	graph, bfs, impl	4.5		[48]	p2		7
SPOJ QUEEN	graph, bfs	4.5		[48]	p1	1	10
<u>CF404-D2-C</u>	graph, bfs	4.5		[48]			4
<u>CF489-D2-D</u>	graph, bfs	4.5		[48]			4
TIMUS 1643	graph, bfs	4.5		[48]			2
UVA 11792	graph, bfs	4.5		[48]			1
UVA 859	graph, bfs	4.5		[48]			1
SPOJ CATM	graph, bfs or ad-hoc	4.5	Sol	[48]			6
CF230-D2-D	graph, bfs, binary search or dijkstra	4.5		[48]		1	5
SPOJ CLEANRBT	graph, bfs, bitmask or bfs preprocess then dp	4.5		[48]			12
SRM376-D2-1000	graph, bfs, math	4.5		[48]			4
SRM524-D2-1000	graph, bfs, math	4.5		[48]			4
UVA 11730	graph, bfs, primes	4.5		[48]			1
UVA 11513	graph, bfs, print, [start from final state]	4.5		[48]			2
SRM618-D2-1000	graph, bfs or dfs	4		[48]	v3	1	15
SRM467-D2-1000	graph, bfs	4		[48]	v2		3
<u>CF1183-D3-E</u>	graph, bfs	4		[48]	р3		1
UVA 571	graph, bfs	4		[48]	p1		6
AtCoder005-ARC-C	graph, bfs, 0-1 bfs	4	Sol	[48]	p1		
TIMUS 1096	graph, bfs, simulation, [WAs]	4		[48]	p1		2
<u>CF35-D2-C</u>	graph, bfs	4		[48]			6
SPOJ TOE1	graph, bfs	4		[48]			5
SPOJ TOE2	graph, bfs	4		[48]			4
SRM241-D1-500	graph, bfs	4		[48]			2
SRM354-D1-500	graph, bfs	4		[48]			2
SRM556-D2-500	graph, bfs	4		[48]			1
UVA 11049	graph, bfs	4		[48]			1
UVA 12460	graph, bfs	4		[48]			1
UVA 1600	graph, bfs	4		[48]			1
SRM198-D1-500	graph, bfs or bellmanford, [long statement]	4		[48]			1
CF174-D2-D	graph, bfs or dfs, [unclear text]	4		[48]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ CLOCKS	graph, bfs, bitmasks	4		[48]			1
UVA 12135	graph, bfs, bitmasks	4		[48]			2
<u>UVA 439</u>	graph, bfs, chess or dfs	4		[48]			5
SRM166-D1-500	graph, bfs, greedy	4		[48]			1
SPOJ CHMAZE	graph, bfs, bitmasks	3.5		[48]	v2	2	9
UVA 10356	graph, bfs or dijkstra	3.5		[48]			2
SRM509-D2-1000	graph, bfs	3		[48]	v2		6
SRM541-D2-1000	graph, bfs or bf	3		[48]	v2		4
SPOJ BITMAP	graph, bfs, multisrc, multidest	3		[48]	р3		18
SPOJ DCEPC706	graph, bfs	3	Sol	[48]	p2		
<u>CF199-D2-D</u>	graph, bfs	3		[48]			4
<u>CF330-D2-D</u>	graph, bfs	3		[48]			2
SPOJ EQDIV	graph, bfs	3		[48]			1
SPOJ POUR1	graph, bfs	3		[48]		1	6
UVA 10009	graph, bfs	3		[48]			1
UVA 11906	graph, bfs	3		[48]			1
SPOJ CCHESS	graph, bfs or dijkstra	3		[48]			1
UVA 388	graph, bfs, floyd	3		[48]			1
TIMUS 1291	graph, bfs, gcd	3		[48]			2
SPOJ LUCKYNUM	graph, bfs, mod, divisibility, print path or math or backtrack	3		[48]			4
UVA 1148	graph, bfs	2		[48]			1
<u>CF911-D12-F</u>	graph, bfs, tree diameter, [find/remove diam, prove why], [involves LCA?]	6.5		[49]	p4		5
UVA 11695	graph, bfs, tree diameter	5.75		[49]	p2	1	8
<u>CF592-D2-D</u>	graph, bfs, tree diameter or dp_trees	5.5	<u>Sol</u>	[49]	p4 v3		15
<u>CF734-D2-E</u>	graph, bfs, tree diameter, greedy or dp_bitmasks, binary search	5.5		[49]	p4 v2		18
<u>CF1182-D2-D</u>	graph, bfs, tree diameter	5.5		[49]	р3		1
<u>CF14-D2-D</u>	graph, bfs, tree diameter or dp_trees	5.5		[49]	p2		16
<u>CF456-D2-E</u>	graph, bfs, tree diameter	5.25		[49]			1
AtCoder001-AGC-C	graph, bfs, tree diameter or bf, optimizations	5.25	Sol. See	[49]		1	2
SPOJ LABYR1	graph, bfs, tree diameter	5		[49]			
UVA 10459	graph, bfs, tree diameter	4.5	Sol	[49]	р3	2	12

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
TIMUS 1463	graph, bfs, tree diameter	4		[49]			1
UVA 12379	graph, bfs, tree diameter or dfs	4	<u>Sol</u>	[49]			9
SRM301-D1-500	graph, bfs, tree diameter or floyd	3		[49]	v2		3
TJU 1743	graph, bfs, tree diameter or dp, [hard text]	3		[49]	p2		3
TIMUS 1056	graph, bfs, tree diameter	3		[49]			1
UVA 10308	graph, bfs, tree diameter	3	<u>Sol</u>	[49]			10
SPOJ PT07Z	graph, bfs, tree diameter, [in video]	3	<u>Sol</u>	[49]			4
LIVEARCHIVE 3566	graph, dfs	8.5		[50]			
LIVEARCHIVE 4453	graph, dfs	8.5		[50]			
LIVEARCHIVE 4454	graph, dfs	8.5		[50]			
LIVEARCHIVE 4789	graph, dfs, dp	8.5		[50]			
LiveArchive 6584	graph, dfs	8	Web sol?	[50]	p5		
CF430-D2-E	graph, dfs, datastructures	8		[50]			
<u>CF671-D1-D</u>	graph, dfs, dfs order, segment tree, dp	8		[50]			1
CF858-D12-F	graph, dfs	7.5	Reading	[50]	р3		
LIVEARCHIVE 4815	graph, dfs, cycles	7.5		[50]	p2		1
<u>CF406-D1-C</u>	graph, dfs	7.5		[50]			
<u>CF73-D12-D</u>	graph, dfs, greedy	7.5		[50]			
CODECHEF TAPAIR	graph, dfs, lstm, xor or scc, biconnected components	7.5		[50]			
CF982-D2-F	graph, dfs, tree, cycles	7.25	<u>Sol</u>	[50]	p4		1
AtCoder024-AGC-D	graph, dfs	7.25		[50]	р3	1	1
AtCoder018-AGC-D	graph, dfs, cycles, centroid, hamilton path	7.25		[50]	р3		1
UVA 11745	graph, dfs	7.25		[50]			
<u>CF1103-D2-C</u>	graph, dfs	7		[50]	р3	1	2
<u>CF19-D12-E</u>	graph, dfs, dfs tree, bipartite or datastructures or dp_trres	7	Reading	[50]	р3		1
AtCoder009-AGC-D	graph, dfs, greedy, [centroid-dec seems might be used for some better order?]	7	<u>Sol</u>	[50]	р3	1	3
CF860-D1-D	graph, dfs	7		[50]			1
CODECHEF EXACTWAL	graph, dfs	7	Sol	[50]			2
SPOJ MROADS	graph, dfs, binary search	7		[50]			1
<u>CF605-D1-D</u>	graph, dfs, datastructures, [boring]	7		[50]			1
UVA 10463	graph, dfs, iterative dfs, bfs, sieve bitmasks	7		[50]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF85-D12-C</u>	graph, dfs, like lca, probability	7		[50]		1	1
<u>CF348-D1-B</u>	graph, dfs, math	7		[50]			3
UVA 519	graph, dfs, prune, impl	7		[50]			2
<u>CF506-D1-D</u>	graph, dfs, bf or sqrt decomposition	6.75	Sol	[50]	р3	1	4
AtCoder155-ABC-F	graph, dfs, binary search, xor	6.75		[50]	р3		1
LIVEARCHIVE 4449	graph, dfs, dfs using stack or dp	6.75		[50]	р3		3
CF101806-gym-X	graph, dfs, impl	6.75	Sol	[50]	р3		1
AtCoder079-ARC-F	graph, dfs	6.75	Sol	[50]	p2		2
UVA 10728	graph, dfs or ad-hoc	6.75		[50]			
<u>CF190-D2-E</u>	graph, dfs, datastructures	6.75		[50]			4
UVA 10181	graph, dfs, iterative dfs or A*, permutation rank, [solve UVA 652 first]	6.75		[50]		1	1
UVA 529	graph, dfs, iterative deepening, prune or backtrack, prune, heuristics	6.5	Sol	[50]	p4	5	10
<u>CF659-D2-F</u>	graph, dfs or bfs or dsu, [easy if solved similar ideas]	6.5		[50]	р3		8
<u>CF1159-D2-E</u>	graph, dfs, cycle checking, math, datastructures	6.5		[50]	р3		3
<u>CF1174-D2-F</u>	graph, dfs, d&c, interactive or centroid-decomposition, hld	6.5		[50]	р3		4
UVA 1343	graph, dfs, iterative deepening, [nice but rare]	6.5	Sol	[50]	р3		3
TIMUS 1229	graph, dfs	6.5		[50]		1	1
UVA 10998	graph, dfs	6.5		[50]		1	1
UVA 208	graph, dfs	6.5		[50]			1
<u>CF135-D1-D</u>	graph, dfs, bfs	6.5		[50]			1
<u>CF441-D2-D</u>	graph, dfs, math or dsu	6.5		[50]			4
LIVEARCHIVE 4793	graph, dfs, prune or dp, counting, [Hamiltonian]	6.25		[50]	p4	2	5
<u>CF686-D2-D</u>	graph, dfs, datastructure, merging sets trick, inequalities	6.25	Compute	[50]	р3		4
SPOJ AMR10J	graph, dfs, [DAG with cycles]	6.1	Sol	[50]	p4	1	7
SPOJ CAC	graph, dfs, [Find all cycles in cactus]	6.1	Sol	[50]	p4	1	7
CF1076-D12-E	graph, dfs or dp or dsu-on-tree, [similar to CF101992-GYM-M from ECPC2018]	6		[50]	р3		13
<u>CF701-D2-E</u>	graph, dfs or dp, trees	6		[50]	р3		3
<u>CF22-D2-E</u>	graph, dfs or scc	6		[50]	р3		2
CF846-D12-E	graph, dfs, [overflow]	6		[50]	p3		3
<u>CF707-D2-D</u>	graph, dfs, bitset or persistent segment tree	6	Sol	[50]	р3	4	22
<u>CF117-D12-C</u>	graph, dfs, cycles	6		[50]	p3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF920-D2-E</u>	graph, dfs, datastructures, greedy	6	Try to Pr	[50]	р3		13
<u>CF604-D2-D</u>	graph, dfs, fermat, [rearangement propperty or congruence]	6	Sol	[50]	р3	2	17
<u>CF101102-GYM-K</u>	graph, dfs or segment tree, topo sort, [speed topo using segment - dfs sol is smart	6	Sol	[50]	p2 v3		7
<u>CF653-D12-E</u>	graph, dfs	6		[50]	p2		2
SRM600-D2-1000	graph, dfs, bitmasks, bf, impl	6		[50]	p2		6
<u>CF506-D1-B</u>	graph, dfs, cycles or scc	6		[50]	p2	1	4
SoundHound 18-E	graph, dfs, number theory	6		[50]	p1		1
<u>CF100517-GYM-L</u>	graph, dfs	6	Sol	[50]			1
<u>CF596-D2-E</u>	graph, dfs	6		[50]			2
SPOJ GALOU	graph, dfs	6		[50]			1
<u>CF1147-D1-D</u>	graph, dfs, combinatorics, [standard]	6		[50]			1
SRM357-D2-1000	graph, dfs, cycle	6		[50]			3
TIMUS 1253	graph, dfs, cycle detection	6		[50]			2
<u>CF859-D12-E</u>	graph, dfs, trees	6		[50]			7
<u>UVA 707</u>	graph, dfs or dp	5.75	Sol	[50]	р3	3	13
<u>CF197-D2-D</u>	graph, dfs	5.75		[50]		2	9
LiveArchive 6590	graph, dfs	5.5	Sol	[50]	p4		
CF915-D12-D	graph, dfs, cycles	5.5		[50]	p4	1	3
<u>CF1187-D12-E</u>	graph, dfs, rerooting	5.5		[50]	р3		1
<u>CF237-D2-D</u>	graph, dfs, greedy	5.5		[50]	p1	3	7
SPOJ LEGO	graph, dfs, binary search, optimize, [counting number of components problem]	5.5	Sol	[50]			2
AtCoder004-AGC-D	graph, dfs, constructive	5.5		[50]			1
<u>CF1006-D3-E</u>	graph, dfs, dfs_order	5.5		[50]			2
SPOJ HOLI	graph, dfs or centroid-decomposition	5	Sol	[50]	р3	1	2
<u>CF1093-D12-D</u>	graph, dfs, bipartite, combinatorics	5		[50]	р3		8
<u>CF711-D2-D</u>	graph, dfs, combinatorics, formula	5		[50]	р3	2	11
<u>CF1075-D2-D</u>	graph, dfs, interactive	5	Prove	[50]	р3		6
<u>CF1056-D12-D</u>	graph, dfs, tree, greedy	5		[50]	р3		14
CF861-D12-F	graph, dfs	5		[50]	p2		2
SPOJ BIA	graph, dfs or directed articulation points algorithm	5	Sol	[50]	p2	1	2
<u>CF1027-D2-D</u>	graph, dfs, [disjoint cycles]	5		[50]	p2		7

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF101064-GYM-G</u>	graph, dfs	5		[50]			2
<u>CF263-D2-D</u>	graph, dfs	5		[50]			5
SPOJ CDOWN	graph, dfs	5		[50]		1	6
UVA 387	graph, dfs or algorithm x	5		[50]			2
<u>CF219-D2-D</u>	graph, dfs or dp_trees	5		[50]			11
<u>CF101484-GYM-F</u>	graph, dfs, [dfs order, complete binary tree]	5	<u>Sol</u>	[50]			2
<u>CF939-D2-D</u>	graph, dfs, cc	5		[50]			11
<u>CF1282-D2-E</u>	graph, dfs, tree	5		[50]			2
<u>CF194-D2-C</u>	graph, dfs, ad-hoc	4.5		[50]	p2 v3		5
UVA 872	graph, dfs	4.5		[50]	p2		3
<u>CF378-D2-C</u>	graph, dfs, [reverse thinking]	4.5		[50]	p1		4
<u>UVA 10113</u>	graph, dfs, impl	4.5		[50]	p1		4
<u>CF540-D2-C</u>	graph, dfs	4.5		[50]			4
<u>CF982-D2-C</u>	graph, dfs	4.5		[50]			3
TIMUS 1218	graph, dfs	4.5		[50]			5
TIMUS 1437	graph, dfs	4.5	Sol	[50]			3
TIMUS 1250	graph, dfs, [internal connected components in board]	4.5		[50]			2
<u>CF742-D2-D</u>	graph, dfs, cc, dp knapsack	4.5		[50]			7
<u>CF25-D2-C</u>	graph, dfs	4		[50]	p2		7
<u>CF546-D2-C</u>	graph, dfs	4		[50]	p2		5
<u>CF580-D2-C</u>	graph, dfs	4		[50]	p2		6
<u>CF116-D2-C</u>	graph, dfs	4		[50]	p1		4
<u>CF216-D2-B</u>	graph, dfs	4		[50]			2
<u>CF327-D2-D</u>	graph, dfs	4		[50]			6
<u>CF979-D2-C</u>	graph, dfs	4		[50]			4
SRM350-D1-500	graph, dfs	4		[50]			2
UVA 11283	graph, dfs	4		[50]			2
UVA 11474	graph, dfs or dsu	4		[50]			3
LIVEARCHIVE 2887	graph, dfs, cc	4		[50]			5
<u>CF382-D2-D</u>	graph, dfs, cycles	4		[50]			3
<u>CF699-D2-D</u>	graph, dfs, cycles	4		[50]			6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF682-D2-C</u>	graph, dfs	3.5		[50]			5
SRM368-D2-1000	graph, dfs or dp	3.5		[50]			2
LIVEARCHIVE 3200	graph, dfs, enumerate path, sorting, [unclear text]	3.5		[50]			6
SPOJ LEXSTR	graph, dfs	3	Sol	[50]	p2		1
UVA 10461	graph, dfs, [finish computation times]	3		[50]	p1		2
UVA 1261	graph, dfs	3		[50]			3
LIVEARCHIVE 8047	graph, dfs or bfs or floyd	3		[50]			2
TJU 2241	graph, dfs or lca	3		[50]			3
UVA 211	graph, dfs, [dominoes], [little annoying output]	3		[50]			2
UVA 10938	graph, dfs, [lca if bigger limits]	3		[50]			2
LIVEARCHIVE 2244	graph, dfs, bfs, [unclear constraints]	3	Sol	[50]			2
UVA 10687	graph, dfs, cc	3	Sol	[50]			1
UVA 12186	graph, dfs	2		[50]			1
UVA 10637	graph, dfs, gcd	2		[50]			2
LIVEARCHIVE 3272	graph, dijkstra, cards, A*	8.5		[52]			
LIVEARCHIVE 7582	graph, dijkstra, linear porgramming	8.5		[52]			
LIVEARCHIVE 3570	graph, dijkstra, pattern, tricky, [weak test cases]	8.5	TC forum	[52]		2	2
LIVEARCHIVE 6032	graph, dijkstra, dsu, binary search	8		[52]			
<u>CF360-D1-E</u>	graph, dijkstra	7.75	Read edi	[52]	p4		3
LIVEARCHIVE 2885	graph, dijkstra, geometry, lines, intersections	7.75		[52]			
SRM479-D1-500	graph, dijkstra, binary search	7.5		[52]			1
<u>CF827-D12-F</u>	graph, dijkstra	7.25		[52]	p4	1	1
CODECHEF CROCDILE	graph, dijkstra or dp	7		[52]			
LIVEARCHIVE 2475	graph, dijkstra, observations, [Used Dijkstra to avoid DP cyclic dependencies]	7		[52]			2
SPOJ CONNECT	graph, dijkstra, kth sp (general)	6.75	NO sol	[52]			
<u>CF913-D12-E</u>	graph, dijkstra, [hard txt ?]	6.5		[52]	p2	1	6
LIVEARCHIVE 2476	graph, dijkstra, binary search, dijkstra like or dp	6.5		[52]	p1		2
UVA 10266	graph, dijkstra or spfa	6.5		[52]			
UVA 12794	graph, dijkstra, cycles	6.5		[52]			
LIVEARCHIVE 7583	graph, dijkstra, dp	6.5		[52]			
<u>CF715-D1-B</u>	graph, dijkstra, binary search or dp	6.25		[52]	p2	1	6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF141-D2-D</u>	graph, dijkstra, sparse graph or segment tree, impl	6.1	Sol	[52]	р3		4
LIVEARCHIVE 4128	graph, dijkstra or spfa, [direct problem, hard text]	6		[52]	v3		5
UVA 11883	graph, dijkstra, differentiation, math or binary search or ternary search	6	Sol	[52]	р3		9
<u>CF567-D2-E</u>	graph, dijkstra, dp, hashing	6		[52]	р3		4
UVA 11693	graph, dijkstra, binary search	6		[52]	p2		2
<u>CF553-D1-D</u>	graph, dijkstra, binary search or other sp	6		[52]	p2		3
SRM197-D1-500	graph, dijkstra, backtrack, prune or bfs or dp	6		[52]	p1		2
LIVEARCHIVE 5854	graph, dijkstra	6	Sol	[52]			1
SRM461-D1-500	graph, dijkstra	6		[52]			
UVA 10841	graph, dijkstra or spfa	6		[52]			1
UVA 658	graph, dijkstra, hard text	6		[52]			2
LIVEARCHIVE 3561	graph, dijkstra, impl or spfa, [DP fails]	6		[52]			2
UVA 589	graph, dijkstra, nested dijkstra or bfs, [long impl]	6		[52]		1	2
SRM626-D2-1000	graph, dijkstra	5.6	<u>Sol</u>	[52]			3
<u>CF101666-gym-D</u>	graph, dijkstra, bfs	5.5	<u>Sol</u>	[52]	p4		2
UVA 10740	graph, dijkstra, kth sp. [k <= 10]	5.5	<u>Sol</u>	[52]	p4	1	12
LIVEARCHIVE 2728	graph, dijkstra or dp	5.5		[52]	р3		5
UVA 10342	graph, dijkstra, kth SP (k=2) or floyd	5.5	Sol - rea	[52]	р3	1	9
<u>CF100182-GYM-G</u>	graph, dijkstra, multisource	5.5	<u>Sol</u>	[52]	р3		6
LIVEARCHIVE 2730	graph, dijkstra or dp, binary search	5.5		[52]			2
UVA 10389	graph, dijkstra, floyd, [just impl, bad statement?]	5.5		[52]			1
<u>CF96-D2-D</u>	graph, dijkstra, 2 dijkstra	5.25		[52]	p2	4	12
UVA 12047	graph, dijkstra	5	<u>Sol</u>	[52]	р3	1	6
<u>CF1076-D12-D</u>	graph, dijkstra	5		[52]	p2		9
UVA 11635	graph, dijkstra	5	<u>Sol</u>	[52]	p2		7
CF100959-gym-l	graph, dijkstra	5		[52]			3
<u>CF450-D2-D</u>	graph, dijkstra	5		[52]			6
UVA 10758	graph, dijkstra	5	Sol	[52]			1
UVA 11833	graph, dijkstra	5		[52]			1
UVA 12070	graph, dijkstra	5		[52]			2
LIVEARCHIVE 2166	graph, dijkstra or dp	5		[52]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10525	graph, dijkstra or floyd	5	Video So	[52]			3
UVA 12144	graph, dijkstra or spfa	5	Sol	[52]			1
<u>CF938-D12-D</u>	graph, dijkstra, [many sources]	5		[52]			6
<u>CF507-D2-E</u>	graph, dijkstra, dp or bfs	5		[52]			5
AtCoder064-ARC-C	graph, dijkstra, grid compress	5		[52]			4
SPOJ MELE3	graph, dijkstra	4.5	Sol	[52]	v2		5
SPOJ ROADS	graph, dijkstra or dp	4.5	<u>Sol</u>	[52]	р3		14
<u>CF144-D2-D</u>	graph, dijkstra	4.5		[52]	p2	1	9
SRM335-D1-500	graph, dijkstra, [precision or force integers]	4.5		[52]	p1		4
UVA 10537	graph, dijkstra	4.5		[52]			1
<u>UVA 10801</u>	graph, dijkstra	4.5		[52]		1	10
<u>UVA 341</u>	graph, dijkstra or bfs or floyd	4.5		[52]			4
UVA 429	graph, dijkstra or bfs or floyd	4.5		[52]			4
UVA 10967	graph, dijkstra or spfa	4.5		[52]			1
SPOJ GONDOR	graph, dijkstra, [bad text]	4.5	<u>Sol</u>	[52]			5
Codechef CLIQUED	graph, dijkstra	4		[52]	р3		4
HACKER synchronous-shopping	graph, dijkstra	4		[52]			1
SRM675-D2-500	graph, dijkstra	4		[52]			3
TIMUS 1325	graph, dijkstra	4		[52]			1
UVA 762	graph, dijkstra or bfs	4		[52]			8
UVA 11813	graph, dijkstra or spfa, 2 dijkstra or sp preocess then dp	4	<u>Sol</u>	[52]			4
UVA 11374	graph, dijkstra, impl	4	<u>Sol</u>	[52]			3
UVA 10806	graph, dijkstra, kth SP (k=2) or min-cost-max-flow	4		[52]			2
SPOJ HIGHWAYS	graph, dijkstra	3.5		[52]			7
UVA 721	graph, dijkstra or spfa, 2 dijkstra	3.5		[52]			3
SPOJ SHOP	graph, dijkstra	3		[52]			17
UVA 10986	graph, dijkstra	3		[52]			13
UVA 1247	graph, dijkstra	3		[52]			3
TIMUS 1930	graph, dijkstra or bfs	3		[52]			3
UVA 11338	graph, dijkstra or spfa, geometry	3		[52]			2
UVA 1112	graph, dijkstra	2		[52]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 11280	graph, dijkstra	2		[52]			1
UVA 929	graph, dijkstra, [cost on node]	2		[52]			5
SPOJ SHPATH	graph, dijkstra, [direct]	2		[52]			3
LIVEARCHIVE 6776	graph, dsu, greedy	8.5		[53]			
<u>CF444-D1-E</u>	graph, dsu, trees, binary search	8		[53]	р3		2
<u>CF36-D12-E</u>	graph, dsu, impl	8		[53]			
<u>CF46-D12-F</u>	graph, dsu	7.5		[53]			
<u>CF92-D2-E</u>	graph, dsu, math, [may be not so interesting]	7.3		[53]		1	1
<u>CF1236-D2-E</u>	graph, dsu, binary search, [optimization trick]	7.1		[53]	p4		4
<u>CF875-D1-F</u>	graph, dsu, [Maximum cactus-forest]	7		[53]	р3		4
<u>CF87-D1-D</u>	graph, dsu, impl, [how many paths have a certain edge as the edge with maximum	7		[53]	р3		2
<u>CF101194-GYM-G</u>	graph, dsu, presistent, [small-to-large], [=LiveArchive 7903]	7	<u>Sol</u>	[53]	р3		2
Eolymp 3077	graph, dsu, ad-hoc dsu	7		[53]	p2	1	1
LIVEARCHIVE 5713	graph, dsu	7		[53]			1
UVA 12232	graph, dsu	7		[53]			1
<u>CF687-D1-D</u>	graph, dsu, 2-sat with xor	7		[53]			1
<u>CF156-D1-D</u>	graph, dsu, combinatorics	7		[53]			1
<u>CF884-D12-E</u>	graph, dsu, [sparse memory]	6.5		[53]	p4		4
CF1166-D2-F	graph, dsu, [small-to-large]	6.5		[53]	р3		2
AtCoder012-AGC-D	graph, dsu, greedy, combinatorics	6.5	<u>Sol</u>	[53]	р3		5
<u>CF1075-D2-F</u>	graph, dsu, map	6.5		[53]	р3		1
<u>CF60-D12-D</u>	graph, dsu, math	6.5	sol (not a	[53]	р3		3
HACKR landslide	graph, dsu, dynamic, bit, hashing, [make use of it being tree for easier code]	6.5	<u>Sol</u>	[53]			1
CF723-D2-F	graph, dsu, greedy, impl	6.5		[53]			5
<u>CF160-D2-D</u>	graph, dsu, [For each edge in MST determine if it must be a part of any MST, some	6.3		[53]	р5	1	8
CF915-D12-F	graph, dsu, paths	6.25		[53]	p4		5
CF260-D2-D	graph, dsu, greedy, trees	6.25		[53]	p3 v2	1	3
MAUC 18-brokers-predictions	graph, dsu, trees, dfs, offline	6.25	Sol	[53]	p2		1
CF1040-D2-E	graph, dsu	6.25		[53]			2
<u>CF101669-GYM-D</u>	graph, dsu, llnear dependence in a matrix	6.1	Sol	[53]	р3	1	3
CF102299-GYM-G	graph, dsu or dfs, rmq, segment tree	6	Sol	[53]	р3		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ CHAIN	graph, dsu	6	Sol	[53]	p2 v4	3	9
TIMUS 1682	graph, dsu, math, observation	6	Sol	[53]	p1	1	5
LIVEARCHIVE 6070	graph, dsu	6		[53]			1
SPOJ INVENT	graph, dsu	6	<u>Sol</u>	[53]			1
LIVEARCHIVE 8028	graph, dsu, dynamic, impl, [ACPC 16]	6	Sol	[53]			1
ECPC17-D	graph, dsu, number theory	6		[53]			1
<u>CF433-D2-D</u>	graph, dsu, prefix sum	6		[53]			1
<u>CF366-D2-D</u>	graph, dsu, binary search	5.75		[53]	p4		7
<u>CF1243-D2-D</u>	graph, dsu, datastructures	5.75	Sol	[53]	р3		2
<u>CF1012-D1-B</u>	graph, dsu	5.75		[53]	p2	3	8
SPOJ SQDANCE	graph, dsu	5.75		[53]			1
<u>CF292-D12-D</u>	graph, dsu, [Main a prefix and suffix of DSU's then for each query between [L,R], y	5.5	Don't use	[53]	р3		15
UVA 12128	graph, dsu, dijkstra like or binary search, bfs	5.5	<u>Sol</u>	[53]	р3	2	11
<u>CF101915-GYM-J</u>	graph, dsu, geometry	5.5	<u>Sol</u>	[53]			1
<u>CF437-D2-D</u>	graph, dsu, math	5	<u>Sol</u>	[53]	v2		9
<u>CF766-D2-D</u>	graph, dsu, [offline processing]	5		[53]	р3	2	9
FbHkrCup 19-R2-B	graph, dsu, dp	5		[53]	р3		5
<u>CF1131-D2-F</u>	graph, dsu	5		[53]	p2		3
<u>CF1245-D2-D</u>	graph, dsu, observation	5		[53]	p2		1
AtCoder120-ABC-D	graph, dsu	5		[53]			1
CF100923-gym-H	graph, dsu	5	<u>Sol</u>	[53]			2
TIMUS 1701	graph, dsu	5		[53]		1	2
<u>CF100570-GYM-D</u>	graph, dsu or 2-sat	5	<u>SI</u>	[53]			1
SPOJ RELINETS	graph, dsu or dfs	5	<u>Sol</u>	[53]			4
UVA 11987	graph, dsu	4.5	<u>Sol</u>	[53]	р3		5
<u>CF104-D2-C</u>	graph, dsu	4.5		[53]			4
<u>UVA 10685</u>	graph, dsu	4.5		[53]		1	12
<u>UVA 10178</u>	graph, dsu or dfs, cycles	4	Read fire	[53]	p2		7
<u>CF278-D2-C</u>	graph, dsu	4		[53]			6
TJU 2561	graph, dsu	4		[53]			3
UVA 11503	graph, dsu	4		[53]			10

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 11966	graph, dsu	4		[53]			1
UVA 1329	graph, dsu	4		[53]			2
SPOJ FRNDCIRC	graph, dsu, direct, [fast io]	4		[53]			1
<u>CF25-D2-D</u>	graph, dsu	3.5		[53]			4
SPOJ FOXLINGS	graph, dsu, grid compress	3		[53]	v1		10
SPOJ IITWPC4I	graph, dsu	3	Sol	[53]			1
UVA 1160	graph, dsu	3		[53]			2
UVA 912	graph, dsu	3		[53]			4
SPOJ IITKWPCI	graph, dsu, permutation, [unclear text]	3	Test case	[53]			3
SRM215-D1-500	graph, dsu, trie or ad-hoc, sorting	3		[53]			5
UVA 1174	graph, dsu	2	<u>Sol</u>	[53]			2
TJU 3780	graph, dsu or dfs, [count CCs]	2		[53]			3
<u>CF547-D1-D</u>	graph, euler tour or flow	8		[54]	р3		2
<u>UVA 13246</u>	graph, euler tour, [lexicographically minimum euler tour]	7.5		[54]	p4	3	3
<u>CF1012-D1-E</u>	graph, euler tour, dsu	7.5		[54]	p4		5
<u>CF101666-gym-H</u>	graph, euler tour, planer, dsu, geom	7.25		[54]	р3		
<u>CF101650-gym-I</u>	graph, euler tour properties, ad-hoc, [cases]	7.25	<u>Sol</u>	[54]	p2		1
SRM322-D1-500	graph, euler tour	7		[54]			
<u>CF358-D2-E</u>	graph, euler tour or dfs	6.75		[54]			1
SRM533-D1-500	graph, euler tour, np-complete-special-case	6.5		[54]	p4		3
<u>CF102001-Gym-C</u>	graph, euler tour, De Bruijn, [solve first UVA 10040]	6.5	<u>Sol</u>	[54]	р3		1
<u>CF1132-D12-G</u>	graph, euler tour, segment tree	6.5		[54]	р3	1	3
<u>CF723-D2-E</u>	graph, euler tour or scc, biconnected components or min-cost-max-flow	6.25		[54]	p4		9
<u>CF1038-D2-E</u>	graph, euler tour, ad-hoc, bitmask	6.25		[54]	p4		5
UVA 10040 [7]	graph, euler tour, De Bruijn or greedy, pattern	6.1	<u>Sol</u>	[54]	p4	2	9
SRM298-D1-500	graph, euler tour, [solve first SRM268-D1-500]	6.1	<u>SolTMe</u>	[54]	р3		8
<u>CF789-D2-D</u>	graph, euler tour, math, [required a solid understanding of euler tours]	6		[54]	p4		10
<u>CF367-D1-C</u>	graph, euler tour, greedy	6		[54]	р3		5
<u>CF62-D12-D</u>	graph, euler tour or scc, biconnected components	6		[54]		1	3
SPOJ CODE	graph, euler tour, [high limits, =CF508-D2-D - reasonable limits]	6		[54]			1
<u>CF1062-D2-D</u>	graph, euler tour, math or sum of divisors	5.5	Sol - mu	[54]	p4		15

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF21-D12-D</u>	graph, euler tour, dp_bitmasks	5.5	<u>Sol</u>	[54]	р3	1	4
CF508-D2-D	graph, euler tour, stack, [solve SRM298-D1-500 first]	5.5		[54]			5
SRM268-D1-500	graph, euler tour, handshaking lemma, cc	5	Prove yo	[54]	p2		4
SRM185-D1-500	graph, euler tour	5		[54]		1	3
UVA 302	graph, euler tour	5		[54]			2
UVA 10054	graph, euler tour, print	5		[54]			3
UVA 10129	graph, euler tour	4	<u>Sol</u>	[54]	р3		2
UVA 10203	graph, euler tour, [unclear text]	3.5		[54]	v1		9
UVA 10596	graph, euler tour, [is there euler cycle?]	3.5		[54]	p2		3
UVA 117	graph, euler tour, dijkstra	3.5		[54]	p2		3
TIMUS 1137	graph, euler tour, [directed]	3.5	<u>Sol</u>	[54]			3
LIVEARCHIVE 4455	graph, floyd, successive floyd, suffixes, mapping, analysis	8		[55]			1
LIVEARCHIVE 6393	graph, floyd, transitive closure, cycles, geometry	6.75		[55]	р3		3
SRM581-D2-1000	graph, floyd or bf	6.25		[55]			2
<u>CF416-D2-E</u>	graph, floyd, bf	6.1		[55]	p4		5
SPOJ RDNWK	graph, floyd, nodes order	6	Author m	[55]			2
<u>UVA 104</u>	graph, floyd	5.75	<u>Sol</u>	[55]	p2	2	17
UVA 125	graph, floyd, paths counting	5.5	<u>Sol</u>	[55]	p5		16
UVA 10987	graph, floyd, antifloyd	5.5	<u>Sol</u>	[55]	р3		13
<u>UVA 10448</u>	graph, floyd, dp, [complexity may confuse: 99%, we don't count # of test cases in o	5.5	<u>Sol</u>	[55]	р3		9
UVA 10354	graph, floyd	5.5		[55]	p1		2
UVA 11047	graph, floyd	5.5		[55]			1
UVA 10075	graph, floyd, great-circle distances	5.5		[55]			2
UVA 925	graph, floyd, topological sort	5.5		[55]			1
<u>CF295-D1-B</u>	graph, floyd, nodes order, [solve SPOJ RDNWK first], [UVA 13211]	5		[55]	p4		24
<u>CF1196-D3-F</u>	graph, floyd	5		[55]	р3	1	2
<u>CF189-D2-D</u>	graph, floyd	5	<u>Sol</u>	[55]	р3	5	18
<u>CF296-D2-D</u>	graph, floyd	5		[55]	р3		6
AtCoder143-ABC-E	graph, floyd, bfs	5		[55]	р3		1
<u>CF400-D2-D</u>	graph, floyd, dfs	5		[55]	p2	1	7
CF301-D1-B	graph, floyd	5		[55]			4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10793	graph, floyd	5		[55]			
UVA 1198	graph, floyd	5	Sol	[55]			2
SPOJ INGRED	graph, floyd or dp_bitmasks	5		[55]			1
SRM170-D1-500	graph, floyd or mst	5		[55]			1
SRM475-D2-1000	graph, floyd or sp	5		[55]			2
UVA 10331	graph, floyd, counting, [WA from Hugo Garcia]	5		[55]		1	1
<u>UVA 534</u>	graph, floyd, minimax or dsu	4.5	Sol	[55]	p4		13
<u>UVA 10816</u>	graph, floyd, binary search	4.5	Sol	[55]	p2		6
<u>CF100341-GYM-J</u>	graph, floyd	4.5	Sol	[55]			5
<u>UVA 334</u>	graph, floyd	4.5		[55]		1	8
CF602-D2-C	graph, floyd or bfs	4.5		[55]			5
UVA 523	graph, floyd or dijkstra, [printed additional line at the end]	4.5	<u>Sol</u>	[55]			3
LIVEARCHIVE 4739	graph, floyd, topological sort	4.5	See com	[55]			2
SRM447-D2-1000	graph, floyd, topological sort	4.5		[55]			2
SRM383-D2-1000	graph, floyd, impl or sp	4		[55]	v2		6
UVA 186	graph, floyd, path print	4	<u>Sol</u>	[55]	р3		9
FbHkrCup 19-R1-A	graph, floyd	4		[55]	p2		4
SRM269-D1-500	graph, floyd or mst	4		[55]	p1		1
UVA 12319	graph, floyd or bfs	4	<u>Sol</u>	[55]			2
LIVEARCHIVE 3569	graph, floyd or bfs, multisource	4		[55]			5
SRM551-D1-500	graph, floyd or dijkstra	4		[55]			4
UVA 1233	graph, floyd or dijkstra	4	Sol	[55]			2
UVA 10724	graph, floyd, [tricky statement]	4		[55]			5
UVA 11874	graph, floyd, cycles or bellmanford	4	Sol	[55]			4
SRM375-D1-500	graph, floyd	3.5		[55]			2
LIVEARCHIVE 2241	graph, floyd	3	Use Floy	[55]			1
SRM225-D1-500	graph, floyd	3		[55]			4
LIVEARCHIVE 5221	graph, floyd or bfs	3		[55]			2
UVA 274	graph, floyd, transitive closure or ad-hoc	3		[55]			2
SPOJ ANARC08F	graph, floyd	2		[55]			3
SRM184-D2-1000	graph, floyd or dfs	2		[55]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF ANUBTT	graph, max-flow	9.5		[56]			
CODECHEF CAKE2AM	graph, max-flow	9.5		[56]			
CODECHEF ORDERAAM	graph, max-flow	9.5		[56]			
LIVEARCHIVE 8048	graph, max-flow, [double capacity]	9.5		[56]			
LIVEARCHIVE 3709	graph, max-flow, [AVOID, max density subgraph, need knowledge, rare]	9		<del>[56]</del>		2	2
<u>CF704-D1-D</u>	graph, max-flow, [flow with dependencies, dinic	8.5		[56]	р3		1
CODECHEF PARADE	graph, max-flow	8.5		[56]			
CODECHEF LONGART	graph, max-flow, ??	8.5		[56]			
LIVEARCHIVE 5131	graph, max-flow, min-circluation	8.5		[56]			
CF101873-GYM-F	graph, max-flow	8	Dol	[56]	p4		1
CF101606-GYM-K	graph, max-flow, constructing solution	8	Sol	[56]			1
<u>CF708-D1-D</u>	graph, max-flow, flow circulation or simplex	8	Walid Sir	[56]			1
UVA 11757	graph, max-flow, vertex constraints, min-cut, circles	8		[56]			
CF513-D12-F2	graph, max-flow	7.75		[56]	р3		1
<u>CF101656-GYM-K</u>	graph, max-flow	7.5	Sol	[56]			1
CF101908-GYM-G	graph, max-flow, binary search on answer	7.5	Sol	[56]			1
TJU 2616	graph, max-flow, circulation problem	7.5	Sol	[56]		1	2
SRM575-D1-1000	graph, max-flow, tripartite graph	7.5		[56]			
SPOJ NWERC11D	graph, max-flow, tripartite graph or 2-sat	7.25	Sol	[56]	p2		2
CF1082-D12-G	graph, max-flow, [capacity scaling trick]	7		[56]	p4		6
LIVEARCHIVE 6395	graph, max-flow, edge-disjoint paths, dijkstra, [tricky complexity]	7		[56]	p4		3
SPOJ PROFIT	graph, max-flow	7	Sol	[56]	p3	2	5
SRM422-D1-1000	graph, max-flow, tripartite graph	7	Sol	[56]	p2		3
CF101128-GYM-F	graph, max-flow	7	Sol	[56]			2
CF101201-GYM-G	graph, max-flow	7	Sol	[56]			2
UVA 12668	graph, max-flow	7		[56]			1
CODECHEF SEAGRP	graph, max-flow, [Edmond's Blossom Algortihm for finding the maximum matching	7	Sol	[56]			1
LIVEARCHIVE 4259	graph, max-flow, binary search or min-cost-max-flow	7		[56]			1
UVA 11167	graph, max-flow, impl	7		[56]			4
CF1252-D12-L	graph, max-flow, dfs, impl	6.5	Sol	[56]	p3	1	3
UVA 1376	graph, max-flow, [Max flow on planar graph	6.5		[56]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF GNUM	graph, max-flow, gcd, [TLEs, from GCD build graph]	6.4	Sol	[56]	p5 v1	1	7
PKU 3308	graph, max-flow, log/exp, [min vertex cover]	6.25	Sol	[56]	р3		5
TIMUS 1736	graph, max-flow	6.25		[56]			1
UVA 10983	graph, max-flow, binary search	6.1		[56]			3
UVA 10779	graph, max-flow	6	Sol	[56]	v1		4
CF1184-D12-B3	graph, max-flow	6		[56]	р3	1	3
<u>CF546-D2-E</u>	graph, max-flow	6		[56]	р3		10
SPOJ AMR12A	graph, max-flow, binary search	6		[56]	р3	1	1
SPOJ NETADMIN	graph, max-flow, binary search	6	Sol	[56]	р3		5
SRM589-D1-500	graph, max-flow, maximum independant set	6	Sol	[56]	р3	1	4
LIVEARCHIVE 5804	graph, max-flow, dijkstra, [two classical problems combined]	6	Sol	[56]	p2	1	7
ZOJ 2760	graph, max-flow, sp, [paths count]	6	Sol	[56]	p1		2
SPOJ DISJPATH	graph, max-flow	6		[56]		1	3
TJU 1047	graph, max-flow	6		[56]		1	1
TJU 2057	graph, max-flow	6		[56]		1	2
UVA 10511	graph, max-flow, vertex constraints, [print sol], [https://github.com/goswami-rahul/c	5.75	Sol	[56]	p5	1	11
<u>CF653-D12-D</u>	graph, max-flow, binary search	5.75		[56]	p1		7
SPOJ IM	graph, max-flow, [vertex disjoint path/ super sink / vertex split]	5.5	Sol	[56]	p4	1	16
<u>UVA 563</u>	graph, max-flow, vertex constraints, sparse graph, escape problem	5.5	Sol	[56]	p4		13
SPOJ ADACITY	graph, max-flow, dijkstra	5.5		[56]	р3	1	1
UVA 1242	graph, max-flow, [disjoint paths]	5.5		[56]			2
TJU 2842	graph, max-flow, primes [use Dinic to avoid TLE]	5.5	<u>Sol</u>	[56]		1	2
UVA 11380	graph, max-flow	5.1		[56]			3
TJU 2823	graph, max-flow	5	Sol	[56]	p4		3
UVA 12125	graph, max-flow, vertex constraints	5	Sol	[56]	p2		11
LIVEARCHIVE 3397	graph, max-flow	5		[56]	p1		2
<u>CF302-D2-E</u>	graph, max-flow	5		[56]			2
SPOJ SHOP2	graph, max-flow	5		[56]			1
UVA 11082	graph, max-flow	5	Sol	[56]			4
SRM360-D1-500	graph, max-flow or ad-hoc	5		[56]			1
CF101845-GYM-F	graph, max-flow, [https://github.com/goswami-rahul/competitive-coding/blob/maste	5	Sol	[56]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 2617	graph, max-flow, matrix rotate and reflect or search, bf	5		[56]			1
SRM399-D1-1000	graph, max-flow	4.5		[56]	p4		2
UVA 10092	graph, max-flow, [direct bipartite is slow]	4.5		[56]	р3		12
SPOJ FASTFLOW	graph, max-flow, [Ford TLE, use dinic]	4.5	Sol	[56]	p2		3
TJU 1692	graph, max-flow or dfs, binary search, [unclear text[	4.5		[56]			2
<u>UVA 10330</u>	graph, max-flow, vertex constraints	4	Sol	[56]			14
SPOJ POTHOLE	graph, max-flow	3	Sol	[56]			7
LIVEARCHIVE 5220	graph, max-flow, [direct in video]	3		[56]			2
SPOJ MTOTALF	graph, max-flow, [direct]	2.5		[56]			3
Timus 2038	graph, max-flow, bipartite match, dfs, [min vertex cover in biparatite graph - a must	8.25	Sol	[58]	p4		
CODECHEF MATCH	graph, max-flow, bipartite match, expectation, hall's theorem, dp_bitmasks	8.25		[58]			
SRM678-D1-1000	graph, max-flow, bipartite match, [code https://community.topcoder.com/stat?c=pro	8	Some Ed	[58]	р3		
<u>CF101666-Gym-E</u>	graph, max-flow, bipartite match, [Maximal independent set]	8	Sol	[58]	р3		1
CF78-D2-E	graph, max-flow, bipartite match	8		[58]			
LIVEARCHIVE 6778	graph, max-flow, bipartite match	8		[58]		1	1
TC(RookAttack)	graph, max-flow, bipartite match	8		[58]			
<u>CF499-D2-E</u>	graph, max-flow, bipartite match, factorization	8		[58]			
CODECHEF TWOCOMP	graph, max-flow, bipartite match, Ica, [TLE, maximum weighted independent in bipa	8		[58]			
<u>CF512-D1-C</u>	graph, max-flow, bipartite match	7.75		[58]			
LIVEARCHIVE 7152	graph, max-flow, bipartite match	7.6		[58]			
UVA 10735	graph, max-flow, bipartite match, euler tour in a mixed graph	7.25	Sol	[58]	p5	1	3
CodeChef KPERFMAT	graph, max-flow, bipartite match, search, perfect matching, [original]	7.25	Sol	[58]			1
LIVEARCHIVE 2937	graph, max-flow, bipartite match, euler tour in a mixed graph	7.1	Sol	[58]	p5	1	5
AtCoder037-AGC-D	graph, max-flow, bipartite match, [Hall's marriage theorem]	7		[58]	р3		2
SRM397-D1-1000	graph, max-flow, bipartite match, geometry, [max indepndent set]	7	Sol	[58]	р3		2
CF1054-D12-F	graph, max-flow, bipartite match, impl	7		[58]	р3		3
SRM527-D1-500	graph, max-flow, bipartite match, lexographically smallest, greedy	7	Sol	[58]	р3		2
CODEJAM 09-R2-C	graph, max-flow, bipartite match, min path cover	6.75		[58]	p4	1	6
SRM539-D1-500	graph, max-flow, bipartite match, floyd	6.75		[58]			1
SPOJ DIVREL	graph, max-flow, bipartite match, min path cover	6.75		[58]		2	2
UVA 12549	graph, max-flow, bipartite match, min vertex cover	6.75		[58]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1139-D2-E</u>	graph, max-flow, bipartite match	6.5		[58]	р3		4
<u>CF387-D2-D</u>	graph, max-flow, bipartite match, impl	6.5		[58]	р3	1	4
CODEJAM 18-R2-C	graph, max-flow, bipartite match	6.5		[58]			2
LIVEARCHIVE 8041	graph, max-flow, bipartite match	6.5		[58]			5
UVA 12159	graph, max-flow, bipartite match, geometry, [direct	6.5		[58]			2
UVA 663	graph, max-flow, bipartite match, [essential edges], [https://github.com/shashank01	6.25	Sol	[58]	p4	1	6
SPOJ ADAPATH	graph, max-flow, bipartite match	6.25	Sol	[58]	р3	1	2
UVA 1221	graph, max-flow, bipartite match or bfs ??	6.25		[58]			
SOPJ ADABLOOM	graph, max-flow, bipartite match, [vertex split]	6	Sol	[58]	p4		3
UVA 11363	graph, max-flow, bipartite match, [fast impl]	6		[58]	р3	1	3
SRM557-D1-500	graph, max-flow, bipartite match, Dilworth's theorem	6		[58]	р3	1	1
<u>CF1152-D2-D</u>	graph, max-flow, bipartite match, dp, math or dp_trees	6		[58]	р3		4
<u>CF1034-D1-B</u>	graph, max-flow, bipartite match, greedy	6	ACE	[58]	р3		1
UVA 12168	graph, max-flow, bipartite match, konig's theorem	6	Sol	[58]	р3	1	7
SRM200-D1-1000	graph, max-flow, bipartite match, lexographically smallest	6		[58]	р3	1	3
<u>CF498-D1-C</u>	graph, max-flow, bipartite match	6		[58]	p2 v3		8
SRM351-D1-1000	graph, max-flow, bipartite match, lexioutput or greedy	6		[58]	p2		3
SPOJ OILCOMP	graph, max-flow, bipartite match, maximum independent set or dp, dp_bitmasks, m	6	Sol	[58]	p2		5
SRM303-D1-500	graph, max-flow, bipartite match, min vertex cover, [standard]	6		[58]	p1		2
CSA66-D	graph, max-flow, bipartite match	6		[58]		1	2
<u>CF166-D2-D</u>	graph, max-flow, bipartite match or dp, dp_build_output	6		[58]			2
UVA 10804	graph, max-flow, bipartite match, binary search	6		[58]		1	4
UVA 1194	graph, max-flow, bipartite match, min vertex cover, [Konig's theorem]	5.5	Sol	[58]	p4 v1		11
UVA 10349	graph, max-flow, bipartite match, max independent set or dp_bitmasks	5.5	<u>Sol - 2 w</u>	[58]	р3	2	17
SPOJ QUEST4	graph, max-flow, bipartite match, min vertex cover	5.5	Sol	[58]	p2		7
UVA 11159	graph, max-flow, bipartite match, max independent set or min-cut	5.5	Sol	[58]	p1		14
CF101047-GYM-H	graph, max-flow, bipartite match	5.5	Sol	[58]			3
UVA 11262	graph, max-flow, bipartite match or ad-hoc	5.5		[58]			1
SPOJ STEAD	graph, max-flow, bipartite match, [https://github.com/shashank0107/CompetitivePro	5.25	Sol	[58]	р3	1	5
LIVEARCHIVE 3752	graph, max-flow, bipartite match, min path cover or greedy or binary search	5	Easy gre	[58]	p4		9
UVA 670	graph, max-flow, bipartite match	5	Sol	[58]	р3		4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 1184	graph, max-flow, bipartite match, min path cover, [direct, =UVA 1201, UVA 12083]	5	<u>Sol</u>	[58]	p2		8
SRM477-D1-500	graph, max-flow, bipartite match	5		[58]			1
<u>UVA 753</u>	graph, max-flow, bipartite match	5	<u>Sol</u>	[58]			9
TIMUS 1872	graph, max-flow, bipartite match or greedy or segment tree	5	Sol. Don	[58]			4
SRM549-D1-250	graph, max-flow, bipartite match, triangles	5		[58]			1
SPOJ NITT4	graph, max-flow, bipartite match, chessboard matching	4.5	Sol	[58]	р3	1	2
SPOJ SCPC11H	graph, max-flow, bipartite match	4.5		[58]			1
UVA 259	graph, max-flow, bipartite match or impl	4.5	<u>Sol</u>	[58]			10
SRM236-D1-1000	graph, max-flow, bipartite match, bfs, binary search	4.5		[58]			1
UVA 10243	graph, max-flow, bipartite match, min vertex cover or dp	4.5		[58]			2
UVA 11045	graph, max-flow, bipartite match or dp	4	<u>Sol</u>	[58]	p1		2
LIVEARCHIVE 2038	graph, max-flow, bipartite match or dp, trees	4	Don't DP	[58]	p1		1
LIVEARCHIVE 3128	graph, max-flow, bipartite match or greedy, two pointers	4	<u>Sol</u>	[58]	p1	1	3
LIVEARCHIVE 2044	graph, max-flow, bipartite match	4		[58]			1
SPOJ TAXI	graph, max-flow, bipartite match	4		[58]			1
<u>UVA 10080</u>	graph, max-flow, bipartite match	4	<u>Sol</u>	[58]			9
UVA 11418	graph, max-flow, bipartite match or ad-hoc	4		[58]			1
SPOJ MATCHING	graph, max-flow, bipartite match, [Ford TLE]	4	<u>Sol</u>	[58]			2
UVA 11138	graph, max-flow, bipartite match	3		[58]			1
SPOJ ACHESS	graph, min-cost-max-flow, [chess, Author yasser yehia]	8		[59]			
LIVEARCHIVE 2238	graph, min-cost-max-flow, [Slow version = TLE]	8		[59]			1
CF802-D12-N	graph, min-cost-max-flow or binary search trick, [Mido: Ignore MCMF solution. Che	7.5	Study Do	[59]	p4		6
CF1288-D12-F	graph, min-cost-max-flow or flow-demands	7.5		[59]			1
LIVEARCHIVE 4102	graph, min-cost-max-flow, [correctness prove]	7.5		[59]		1	2
AtCoder034-AGC-D	graph, min-cost-max-flow	7.25		[59]	р5		2
CF316-D12-C2	graph, min-cost-max-flow, [AC spfa - TLE Dij]	7.2		[59]	р5	2	6
CF1107-D12-F	graph, min-cost-max-flow	7	<u>Sol</u>	[59]	р3	1	2
CODECHEF TREF	graph, min-cost-max-flow	7		[59]	р3		1
SPOJ TOURS	graph, min-cost-max-flow	7		[59]			1
CF863-D12-F	graph, min-cost-max-flow	6.75		[59]	p4		
LIVEARCHIVE 3276	graph, min-cost-max-flow or dp, dp_bitmasks	6.75		[59]	р3		5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF277-D1-E</u>	graph, min-cost-max-flow	6.75		[59]			4
<u>CF818-D12-G</u>	graph, min-cost-max-flow	6.5		[59]	р3		1
SRM506-D1-500	graph, min-cost-max-flow or max-flow	6.5		[59]	р3	1	3
HACKR cargo-delivery	graph, min-cost-max-flow, binary search	6.5	<u>Sol</u>	[59]			1
SRM465-D1-600	graph, min-cost-max-flow	6.3		[59]			1
TJU 2554	graph, min-cost-max-flow	6		[59]	p4		4
SPOJ CONTEST	graph, min-cost-max-flow	6		[59]			
TC(ANGELDEMONGAME)	graph, min-cost-max-flow	6		[59]			4
SPOJ BOXES	graph, min-cost-max-flow, [Harder version: SPOJ BOX]	5.75	<u>TC</u>	[59]			1
LIVEARCHIVE 3562	graph, min-cost-max-flow, max-cost, [WAs for precision]	5.5		[59]	р3	2	5
CF237-D2-E	graph, min-cost-max-flow	5.5		[59]			4
SRM372-D1-1000	graph, min-cost-max-flow or dp, search	5.5	Don't cod	[59]			
UVA 10594	graph, min-cost-max-flow	5		[59]			2
SPOJ GREED	graph, min-cost-max-flow or max-flow or dp, [direct]	5		[59]			2
PKU 3422	graph, min-cost-max-flow or max-flow, vertex split	5	<u>Sol</u>	[59]			1
SPOJ SCITIES	graph, min-cost-max-flow, weighted bipartite match	4.5		[59]			1
TJU 1636	graph, min-cost-max-flow	3.5		[59]	v2	1	1
UVA 10746	graph, min-cost-max-flow or dp_bitmasks, precision	3	Don't cod	[59]			1
LIVEARCHIVE 6026	graph, mst, kinetic spanning tree	8.25		[60]			
<u>CF240-D1-E</u>	graph, mst, [directed mst, Edmonds' algorithm] or dfs	8	One way	[60]			
CSA82-E	graph, mst, binary search, aliens_trick, [good MST understanding, solve kattis blaz	7.5	<u>Sol</u>	[60]	p5		7
UVA 11267	graph, mst	7.5		[60]			1
UVA 11865	graph, mst, modified mst, binary search, dfs	7.5		[60]			1
kattis blazingnewtrails	graph, mst, binary search, aliens_trick	7.25	<u>Sol</u>	[60]	p5		2
CF1023-D12-F	graph, mst, lca, [collpase edges, requires a deep understanding of kruskal - using l	7.25	Sol - not	[60]	p5	2	15
CF892-D2-E	graph, mst, [solving CF1108-D3-F helps]	7.25	<u>sol</u>	[60]	p4		3
<u>CF951-D1-D</u>	graph, mst, sorting. [mst properties]	7.25	<u>Sol</u>	[60]	р3		2
SPOJ MSTS	graph, mst, kirchhoff's theorem, determinant, crt, [count the number of MSTs], [http	7.1	<u>Sol</u>	[60]	р5	2	6
CF1051-D2-F	graph, mst, dijkstra	7		[60]	р3		2
UVA 10807	graph, mst, two msts simultanously, greedy, [https://github.com/peon-pasado/Com	7	Sol	[60]	р3		1
<u>CF266-D2-D</u>	graph, mst, minimum diameter spanning tree, optimizations	7		[60]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF891-D1-C</u>	graph, mst, sortings, [mst understanding]	6.8	<u>Sol</u>	[60]	p4		5
LIVEARCHIVE 3271	graph, mst, bitmasks, mask-all-subsets or bfs, bitmasks	6.75	Sol	[60]	p4	1	7
<u>CF141-D2-E</u>	graph, mst, constructive	6.75		[60]	p4		4
CF888-D12-G	graph, mst, boruvka or d&c on trees, trie	6.5		[60]	p4		8
UVA 10805	graph, mst, minimum diameter spanning tree	6.5	Sol	[60]	p3 v2		3
CODECHEF STMINCUT	graph, mst, guessing, math	6.5		[60]			2
<u>CF76-D12-A</u>	graph, mst, sorting	6.25		[60]	p4	3	8
UVA 1151	graph, mst	6.25	<u>Sol</u>	[60]	p2		2
LIVEARCHIVE 2721	graph, mst, construction, [tricky case]	6		[60]	р3		7
CF100283-Gym-B	graph, mst, observations, [I am author, ECPC13]	6	<u>Sol</u>	[60]	р3		3
HACKR johnland	graph, mst, dfs	6		[60]	p2		5
UVA 11354	graph, mst, lca or binary search, parallel	6	<u>Sol</u>	[60]	p2	1	10
CF1108-D3-F	graph, mst	5.5	Sol	[60]	p3		5
CF102021-GYM-M	graph, mst , lca	5.5	Sol	[60]	p3		1
<u>CF101286-GYM-E</u>	graph, mst	5.5	Sol	[60]	p1		1
LIVEARCHIVE 2478	graph, mst	5.5		[60]			1
TJU 3518	graph, mst, binary search	5.5		[60]			1
SRM470-D2-1000	graph, mst	5.25		[60]	p3		9
<u>CF1095-D3-F</u>	graph, mst	5.25		[60]	p2		5
SPOJ IITKWPCG	graph, mst	5	Sol	[60]	p3		1
SRM492-D2-1000	graph, mst	5		[60]	p3		10
SRM531-D2-1000	graph, mst	5		[60]	р3		10
CF472-D12-D	graph, mst, [cases], [validate tree]	5		[60]	p3	1	15
<u>CF606-D2-D</u>	graph, mst, [print edges]	5		[60]	p2		9
CF1081-D12-D	graph, mst, math	5		[60]	p2		13
UVA 1234	graph, mst, max spanning tree	5	Sol	[60]	p2		13
UVA 10369	graph, mst, prime fails	5		[60]	p2		9
UVA 1395	graph, mst	5	Sol	[60]	p1		5
SPOJ NITTROAD	graph, mst	5	Sol	[60]			2
SRM424-D2-1000	graph, mst	5		[60]			2
LIVEARCHIVE 4326	graph, mst, combinatorics, bf [idea seems repeated in other problems]	5		[60]		1	9

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF959-D2-E</u>	graph, mst, math	5		[60]			5
<u>UVA 10600</u>	graph, mst, 2nd mst	4.5	Sol	[60]	p1 v2		19
SPOJ ISLHOP	graph, mst, flood-fill	4.5	Sol	[60]			1
UVA 10843	graph, mst, # of spanning trees of complete graph, n^(n-2)	4	Theory r	[60]	p2		6
LIVEARCHIVE 4872	graph, mst	4		[60]			2
UVA 1235	graph, mst	4		[60]			3
UVA 10307	graph, mst, bfs	4	Sol	[60]			5
LIVEARCHIVE 3113	graph, mst	3.5		[60]			3
SRM356-D2-1000	graph, mst	3.5		[60]			6
TJU 2181	graph, mst	3		[60]			2
TJU 3073	graph, mst	3		[60]			2
UVA 10147	graph, mst	3		[60]			7
UVA 1208	graph, mst	3		[60]			2
SRM441-D1-500	graph, mst or dfs	3		[60]			2
UVA 10462	graph, mst, 2nd mst	3		[60]			5
UVA 11390	graph, scc, backtrack	7	Sol	[61]	p4	1	3
CF1065-D12-F	graph, scc, dp or dp_trees	6.75		[61]	р3		5
<u>CF1239-D1-D</u>	graph, scc	6.6		[61]	р3		3
SPOJ CHASE1	graph, scc, bfs, [cycles, bcc]	6.3	Sol	[61]	p4	2	3
<u>CF403-D1-C</u>	graph, scc, matrix or optimized bf, [using the Property of the Adjecency matrix for c	6.25		[61]	p5 v2	4	26
SRM495-D1-500 [8]	graph, scc, probability, [more about probability]	6.25		[61]	p3 v2	2	11
SPOJ BREAK	graph, scc, bitset, [https://github.com/shashank0107/CompetitiveProgramming/blol	6	Sol	[61]	р3		4
SRM391-D2-1000	graph, scc, dp, impl [~=CF894-D2-E]	6		[61]	р3	1	13
CODEJAM 16-R1A-B	graph, scc	5.75		[61]	р3		3
<u>CF950-D2-E</u>	graph, scc	5.75		[61]	p2		4
AtCoder142-ABC-F	graph, scc, dfs, cycles	5.5		[61]	р3		1
UVA 12167	graph, scc, [https://github.com/ahmedsamir221/CompetitiveProgramming/blob/mas	5	Sol	[61]	р3	1	9
UVA 11098 [9]	graph, scc, greedy	5	AC	[61]	р3		1
SRM312-D1-500	graph, scc, greedy, [component], [scc floyd]	5		[61]	р3		13
CF467-D2-D	graph, scc, hashing or dfs, impl	5		[61]	p2		11
SPOJ TFRIENDS	graph, scc, [direct] or ad-hoc	5		[61]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 11504	graph, scc or topological sort, [=uva 11770, ~=tju 2233]	4.5	Sol	[61]	p1		5
SPOJ CAPCITY	graph, scc	4.5		[61]		1	5
TJU 2233	graph, scc	4.5		[61]			2
UVA 1263	graph, scc	4.5	Sol	[61]			1
SPOJ TOUR	graph, scc or dfs	4		[61]	v1		5
SPOJ BOTTOM	graph, scc, [https://github.com/shashank0107/CompetitiveProgramming/blob/maste	3.5	Sol	[61]	р3		11
<u>UVA 10731</u>	graph, scc	3.5	Sol	[61]			8
UVA 11709	graph, scc	3.5		[61]			3
SPOJ MOWS	graph, scc, impl	3	Sol	[61]	p1		3
<u>CF427-D2-C</u>	graph, scc	3		[61]			8
UVA 247	graph, scc, circles, direct, [scc floyd]	3	Sol	[61]			2
UVA 11324	graph, scc, dfs, [clique]	3		[61]			2
CF538-D12-H	graph, scc, 2-sat, dfs	7.5	Can do i	[62]	р3		1
CF588-D2-F	graph, scc, 2-sat, binary search	7.5		[62]		1	1
<u>CF569-D2-E</u>	graph, scc, 2-sat, greedy, build lexi-output	7		[62]	p4		5
SPOJ TORNJEVI	graph, scc, 2-sat, topological sort, dp	7		[62]	р3		1
CF101128-GYM-B	graph, scc, 2-sat	7		[62]			1
CF101201-GYM-F	graph, scc, 2-sat	7		[62]			1
LIVEARCHIVE 5764	graph, scc, 2-sat	7	Sol	[62]			1
LightOJ 1251	graph, scc, 2-sat, [build output]	7	Sol	[62]			1
LightOJ 1407	graph, scc, 2-sat, [build output]	7	<u>Sol</u>	[62]			1
PKU 3683	graph, scc, 2-sat, [build output]	7	Sol	[62]			1
LIVEARCHIVE 4452	graph, scc, 2-sat, scc using floyd, [hard text]	7		[62]			3
<u>CF1215-D2-F</u>	graph, scc, 2-sat	6.75		[62]	p4		2
UVA 11294	graph, scc, 2-sat, [build output]	6.75	<u>Sol</u>	[62]	p4		6
UVA 1391	graph, scc, 2-sat, [build output]	6.5		[62]	p1		2
LIVEARCHIVE 2973	graph, scc, 2-sat	6.5	Sol	[62]			1
LIVEARCHIVE 6067	graph, scc, 2-sat	6.5	Sol	[62]			1
SRM464-D1-500	graph, scc, 2-sat	6.25		[62]			1
<u>CF469-D2-D</u>	graph, scc, 2-sat or dsu or greedy	6		[62]	p4		5
CF1218-D12-I	graph, scc, 2-sat	6		[62]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF ADAMTR	graph, scc, 2-sat	6		[62]	р3		3
CODECHEF ROBAGAIN	graph, scc, 2-sat or dp	6		[62]	р3		2
LIVEARCHIVE 5010	graph, scc, 2-sat	6	<u>Sol</u>	[62]			2
PKU 2723	graph, scc, 2-sat	6	Sol	[62]		1	2
PKU 3207	graph, scc, 2-sat	6	<u>Sol</u>	[62]			1
PKU 3678	graph, scc, 2-sat	6	<u>Sol</u>	[62]			1
UVA 10319	graph, scc, 2-sat	6		[62]			1
UVA 1146	graph, scc, 2-sat	6	<u>Sol</u>	[62]			1
<u>CF776-D2-D</u>	graph, scc, 2-sat	5.5		[62]		1	2
LIVEARCHIVE 4185	graph, scc, 2-sat	5	<u>Sol</u>	[62]		1	4
<u>CF228-D2-E</u>	graph, scc, 2-sat, dsu, topological sort or gaussian elimination	5		[62]			6
SPOJ BUGLIFE	graph, scc, 2-sat, [simple dfs, Bipartite graph]	4	<u>Sol</u>	[62]			2
LIVEARCHIVE 2884	graph, scc, 2-sat or greedy	3		[62]			1
UVA 10510	graph, scc, articulation point, cycles, classify_edges, [is cactus]	6.75	<u>Sol</u>	[63]	p4	2	14
LIVEARCHIVE 5135	graph, scc, articulation point, counting	6.5		[63]	р3	1	5
CF1250-D12-N	graph, scc, articulation point	6.25	ACE	[63]	р3		1
UVA 10765	graph, scc, articulation point or dsu, bf	4	Use SCC	[63]	v2		6
SPOJ SUBMERGE	graph, scc, articulation point	3		[63]	v1		5
UVA 10199	graph, scc, articulation point	3		[63]	р3		5
UVA 315	graph, scc, articulation point	3		[63]			3
LIVEARCHIVE 3514	graph, scc, biconnected components, bignum, [solve UVA 10510 first, graph cactus	7.75		[64]			1
SPOJ POLQUERY	graph, scc, biconnected components, bride tree algorithm?	7.25		[64]	p2	1	1
LIVEARCHIVE 7160	graph, scc, biconnected components	7.25		[64]			
<u>CF980-D2-F</u>	graph, scc, biconnected components, cactus, zabat	7.25		[64]			
SPOJ ONBRIDGE	graph, scc, biconnected components, d&c, compress cycles, [find Online Bridge]	7	<u>Sol</u>	[64]	р3		1
<u>CF700-D1-C</u>	graph, scc, biconnected components, min-cut	7		[64]	р3		4
<u>CF555-D1-E</u>	graph, scc, biconnected components	7		[64]			2
UVA 1364	graph, scc, biconnected components, odd cycles, is bipartite	6.75	Read if h	[64]	p5	1	10
UVA 12479	graph, scc, biconnected components	6.5		[64]			1
LIVEARCHIVE 4218	graph, scc, biconnected components, euler	6.5	Sol	[64]			1
<u>CF732-D2-F</u>	graph, scc, biconnected components	6.1		[64]	р3	1	7

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 12587	graph, scc, biconnected components, binary search	6		[64]	р3		1
SPOJ GRAFFDEF	graph, scc, biconnected components, bridge tree	6	Sol	[64]	р3		3
UVA 12363	graph, scc, biconnected components, Menger's Theorem, dsu	6	Sol	[64]	р3		6
<u>CF100676-gym-H</u>	graph, scc, biconnected components, tree diameter, [long code]	6	Sol	[64]	р3		4
CODECHEF LONCYC	graph, scc, biconnected components, math	6		[64]			1
<u>CF1220-D12-E</u>	graph, scc, biconnected components	5.5		[64]	р3	1	4
UVA 610	graph, scc, biconnected components, [=CF118-D2-E]	5.5	Sol	[64]	р3		6
CF1000-D12-E	graph, scc, biconnected components, [Diameter of the bridge tree	5.5		[64]	p2		9
CF1214-D12-D	graph, scc, biconnected components or dp, [dp https://github.com/QuickSorting/Co	5		[64]	р3		7
CF100342-GYM-I	graph, scc, biconnected components, [https://github.com/ahmedsamir221/Competi	5	Sol	[64]	р3	1	5
<u>CF101979-GYM-H</u>	graph, scc, biconnected components, interactive	5	Sol	[64]	p2		2
UVA 796	graph, scc, biconnected components	4		[64]			5
UVA 12783	graph, scc, biconnected components	3		[64]			1
CODECHEF TRIPS	graph, Ica, datastructures	7.5		[65]			1
LIVEARCHIVE 4296	graph, Ica, mst	7.25		[65]			1
UVA 12424	graph, Ica, segment tree	7.25		[65]			
<u>CF494-D1-D</u>	graph, lca, dp_tree, math	7		[65]			1
SPOJ DYNALCA	graph, Ica, dynamic or lin-cut	7		[65]			1
UVA 12655	graph, Ica, mst, dfs, dp	7		[65]			
<u>CF418-D1-D</u>	graph, Ica, rmq, hard impl	7		[65]		1	1
<u>CF916-D2-E</u>	graph, Ica, segment tree, linearize tree, dynamic root, euler or Ica, bit, [tricky to imp	6.75		[65]	р3		6
UVA 1674	graph, Ica, hld, rmq, lazy	6.75		[65]			
<u>CF406-D1-D</u>	graph, Ica, convex hull	6.5		[65]	р3		4
<u>CF593-D2-D</u>	graph, Ica, dsu	6.5		[65]	р3		2
<u>CF101908-GYM-L</u>	graph, Ica, tree distances or hld, lazy	6.5	Sol	[65]	р3		5
CF1000-D12-G	graph, lca, dp_sibling, [many details]	6.5		[65]	p1		1
CF101142-gym-G	graph, Ica, segment tree	6.4	Sol	[65]	р3	1	6
<u>CF165-D2-D</u>	graph, Ica or dynamic dsu	6.25		[65]	v1		5
<u>CF466-D2-E</u>	graph, Ica or dsu, offline queries	6.25		[65]	р3		8
<u>CF587-D1-C</u>	graph, lca, dp, binary lifting, impl or segment tree, persistent	6.25		[65]	p2	1	14
CF379-D12-F	graph, Ica, tree diameter	6.1		[65]	p3		6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1045-D1-C</u>	graph, lca, block-cut tree, [beautiful impl of block-cut]	6	Siol - mu	[65]	р3		4
<u>CF231-D2-E</u>	graph, lca, scc, cactus, impl	6		[65]	р3		3
<u>CF838-D12-B</u>	graph, lca, segment tree or bit or hld	6	Sol	[65]	р3		3
<u>CF100091-GYM-D</u>	graph, lca, condensation	6	Sol	[65]			1
<u>CF121-D1-C</u>	graph, lca, trees	6		[65]			1
TIMUS 1752	graph, lca, tree diameter, [~=KATTIS tourists]	5.75	Sol	[65]	р3	1	10
<u>CF609-D12-E</u>	graph, lca, 2nd mst	5.75		[65]		1	14
<u>CF102215-GYM-D</u>	graph, lca	5.5		[65]	р3		2
<u>CF191-D1-D</u>	graph, lca	5.5		[65]	р3		1
<u>CF101808-gym-K</u>	graph, lca, cycle, impl	5.5	Sol	[65]	р3		2
<u>CF519-D2-E</u>	graph, lca, lca on tree, rmq, impl	5.5		[65]	р3		20
SPOJ HACKERS	graph, lca, mst or floyd	5.5	Sol	[65]	р3		1
CODECHEF RRTREE	graph, lca, dp or hld	5.5		[65]	p1		1
SPOJ DISQUERY	graph, lca, dp, binary lifting, [educational], [https://ideone.com/KNILI1]	5.5	Sol	[65]		1	16
KATTIS tourists	graph, Ica, sieve	5.5	Sol	[65]			2
<u>CF33-D12-D</u>	graph, lca, geometry or bitset	5	<u>See</u>	[65]	p4		7
SPOJ DRTREE	graph, lca	5	Sol	[65]	р3	1	3
<u>CF192-D2-E</u>	graph, lca, [or with dp, binary lifting]	5	Sol	[65]	р3		13
HACKER roads-in-a-city	graph, lca, impl	5		[65]	р3		3
<u>CF832-D2-D</u>	graph, lca. math	5		[65]	р3	2	12
<u>CF102191-GYM-I</u>	graph, lca, preorder sorting	5	Sol	[65]	p2		1
SPOJ QTREE2	graph, Ica, [in video, ~=PKU 1986, LIVEARCHIVE 4805, TIMUS 1471]	4	Sol	[65]			7
SPOJ LCA	graph, lca, [direct, =LIVEARCHIVE 2045]	3		[65]			1
LIVEARCHIVE 4463	graph, stable marriage	8		[66]			
UVA 1175	graph, stable marriage	6.5		[66]			
LIVEARCHIVE 3837	graph, stable marriage	5.5		[66]			1
SPOJ NDS	graph, stable marriage or segment tree or binary search	5		[66]			1
SPOJ STABLEMP	graph, stable marriage	4		[66]			
UVA 904	grid compress, bf, counting	8.5		[67]			
SRM277-D1-1000	grid compress	8		[67]			
LIVEARCHIVE 3274	grid compress, dijkstra	7.75		[67]	р5	1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 4374	grid compress, dijkstra or A*	7.75		[67]			
UVA 12171	grid compress, flood-fill, impl, [TLEs]	7.5		[67]	р3	4	4
LIVEARCHIVE 4787	grid compress, flood-fill	7		[67]		1	6
UVA 12069	grid compress, flood-fill	7		[67]			
UVA 308	grid compress, flood-fill	6.5	Sol	[67]	р3	1	7
CF243-D1-C	grid compress, dfs or bfs	6.5		[67]	p2		5
UVA 870	grid compress, rectangles, dfs, counting or dsu, sweep line	6	Find grid	[67]	р3		4
<u>CF863-D12-E</u>	grid compress, prefix sum or segment tree	6		[67]	p2		9
ACMWF19-K	math	9		[68]			1
SRM391-D1-1000	math	9		[68]			
LIVEARCHIVE 6779	math, phsyics, sorting, [velocity]	9		[68]			
AtCoder003-AGC-F	math, ad-hoc	8.5		[68]			
AtCoder005-AGC-F	math, nnt, dfs, counting or fft	8.5		[68]			
SRM327-D1-500	math, quadratic equation	8.5		[68]			
<u>CF548-D2-C</u>	math	8		[68]			
<u>CF360-D1-D</u>	math, number theory, [multiplication under prime mod using primitive roots]	8		[68]		1	2
SRM376-D1-500	math, simulation	8		[68]			
CF73-D12-E	math	7.75		[68]			
AtCoder011-AGC-E	math, number repres, observations	7.6		[68]	р3		1
CF1086-D1-F	math, interpolation, observation	7.5		[68]	р3		1
<u>CF1030-D12-G</u>	math, number theory, greedy	7.5	Prove	[68]	p2		1
SRM319-D1-1000	math	7.5		[68]			
UVA 1451	math, greedy, queue	7.5	Sol	[68]		1	2
IPSCPrac03 -T	math, grey code	7.5		[68]			
HACKR randomness	math, randomization, substring counting	7.5		[68]			
SRM387-D1-1000	math, recursion	7.5		[68]			
SRM373-D1-500	math, simulation, analysis, impl	7.5		[68]			1
<u>CF1137-D1-D</u>	math, number theory, constructive	7.25		[68]	p2		1
SPOJ NTHPRIME	math, primes, binary search	7.25		[68]	p2		
UVA 12970	math, fraction	7.25		[68]			
CODECHEF BMASTER	math, pattern, periodic sequence	7.25		[68]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1064-D2-F</u>	math, bf, [tricky]	7.1		[68]	p4		4
<u>CF1100-D2-F</u>	math, d&c, gaussian elimination	7		[68]	р3	1	4
<u>CF518-D2-E</u>	math, impl	7		[68]	р3		2
<u>UVA 12407</u>	math, lagrange multiplier, [help understand lagrange]	7	<u>sOL</u>	[68]	р3		1
<u>CF758-D2-F</u>	math, number theory	7		[68]	р3		1
<u>CF488-D2-E</u>	math, number theory, primitive root, impl	7		[68]	р3		4
<u>CF641-D12-D</u>	math, precision, [sqrt(max(x, 0)) when x is close to 0]	7		[68]	р3		2
CF1101-D12-G	math, randomization or gaussian, xor	7		[68]	р3		5
SRM436-D2-1000	math, big integer	7	<u>Sol</u>	[68]	p2		2
<u>CF40-D12-C</u>	math	7		[68]			
SRM431-D2-1000	math	7		[68]		1	3
SRM536-D1-500	math	7		[68]			1
SRM539-D2-1000	math	7		[68]			1
SRM564-D2-1000	math	7		[68]		1	1
SRM712-D1-300	math, ad-hoc	7		[68]			1
<u>CF348-D1-D</u>	math, paths count on grid, linear algebra, [one way is wiki formula]	7		[68]			3
SRM445-D1-500	math, pattern	7		[68]			1
UVA 10732	math, quadratic equation, binary search	7		[68]			
UVA 10658	math, reccurance	7		[68]			
SRM500-D2-1000	math, simulation	7		[68]			2
SRM167-D1-500	math, sorting	7		[68]		1	1
SRM240-D1-500	math, geometry, interpolation or ternary search	6.75	<u>Sol</u>	[68]	р3	1	2
SRM314-D1-1000	math, greedy or ternary search	6.75		[68]	р3		2
SPOJ DCEPC203	math, prime-testing	6.75		[68]	р3		
SRM540-D2-500	math	6.75	Explanta	[68]			1
UVA 10889	math	6.75		[68]			
UVA 11109	math, maximising a product	6.75	NO SOL	[68]			
CF102028-GYM-J	math or dp	6.6	Sol(no e	[68]	p4		2
CF850-D1-B	math, number theory, ad-hoc, binary search, sieve	6.5		[68]	p4		7
CODECHEF COINPART	math, dp	6.5		[68]	р3		1
CF337-D2-E	math, number theory, bf, hard to impl	6.5	Sol	[68]	рЗ		4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF1285-D2-F</u>	math, number theory, stack	6.5		[68]	р3		2
SRM281-D1-1000	math, observations or ternary search	6.5		[68]	р3		2
<u>CF101741-gym-F</u>	math, randomization, factorization, probability	6.5	Sol	[68]	р3		1
<u>CF1119-D12-E</u>	math, greedy, dp	6.5		[68]	p2		2
CODECHEF ARIGEOM	math, geometric/arithmatic progression, observations	6.5		[68]		2	3
SRM507-D1-500	math, greedy	6.5		[68]			2
LIVEARCHIVE 7157	math, quadratic equation, [hard text, pen and paper work]	6.5		[68]			2
SRM438-D1-500	math, simulation	6.5		[68]			1
AtCoder147-ABC-F	math, observation, sorting	6.3		[68]	p4		3
<u>CF602-D2-D</u>	math, stack, ad-hoc, [Lipshitz], [to geometry view] or rmq	6.25	Sol (Ano	[68]	p5		5
<u>CF1088-D2-D</u>	math, ad-hoc, interactive, bitmasks	6.25		[68]	p4	2	15
CODEJAM 19-R1B-B	math, greedy, interactive	6.25		[68]	p4		2
CODEJAM 19-R1C-B	math, interactive	6.25		[68]	p4		2
<u>CF1130-D2-E</u>	math, bf, ad-hoc	6.25		[68]	р3		2
SRM697-D2-500	math	6.25		[68]		1	1
<u>CF225-D2-E</u>	math, bf, pattern, Mersenne exponents	6.25		[68]		1	3
<u>CF997-D1-B</u>	math, bf, [useless]	6.1		[68]			3
LIVEARCHIVE 4119	math, randomization, polynomials, equation evaluation	6		[68]	v3	3	6
<u>CF1186-D2-E</u>	math, d&c	6		[68]	p4		4
AtCoder043-AGC-B	math, math_adhock, lucas's theorem	6		[68]	p4		1
<u>CF1183-D3-F</u>	math, greedy	6		[68]	p3		1
<u>CF1104-D2-D</u>	math, implementation, interactive	6		[68]	р3		4
CODECHEF SWAPSIGN	math, number theory, [guy got WA]	6		[68]	p3	1	2
<u>CF994-D2-E</u>	math, randomization, bitset	6		[68]	p3	1	5
TIMUS 2063	math, randomization, unifrom dist	6	Sol	[68]	p3	1	6
HACKR balanced-sequence	math, ad-hoc, pattern, impl	6	Sol	[68]	p2		4
<u>CF1081-D12-E</u>	math, greedy, number theory or sweep line	6		[68]	p2		11
CODEJAM 19-R1B-A	math, impl	6		[68]	p2		1
CF1090-D12-F	math, interactive	6		[68]	p2	1	2
<u>CF919-D2-E</u>	math, fermat's little theorem, crt or baby step giant step	6	Sol to rea	[68]	p1		6
<u>CF509-D2-E</u>	math, strings, derive equations	6		[68]	p1		5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF216-D2-E</u>	math	6		[68]			4
SRM267-D1-500	math	6		[68]			1
SRM369-D2-500	math	6		[68]			1
SRM540-D2-1000	math	6		[68]			5
UVA 107	math	6		[68]		2	4
UVA 1648	math or binary search	6		[68]			
UVA 11042	math, complex numbers	6		[68]			
SPOJ FNRANK	math, faray sequence generation	6	Sol (link	[68]		1	3
SRM165-D1-500	math, fractions	6		[68]			1
<u>CF185-D1-B</u>	math, inequalities or ternary search	6	Read firs	[68]			2
<u>CF101615-GYM-C</u>	math, number theory	6	<u>Sol</u>	[68]			1
SRM596-D2-1000	math, number theory, divisors, ranges	6	<u>Sol</u>	[68]		1	2
SRM434-D1-500	math, sorting, strings	6		[68]		1	3
<u>CF1189-D2-E</u>	math	5.75		[68]	p2		3
<u>CF352-D2-D</u>	math or dp_expectation	5.5	<u>Sol</u>	[68]	р3	2	9
CODECHEF REMMAX	math, bf, binary search	5.5		[68]	р3		1
<u>CF1080-D2-D</u>	math, observations, constructive, cases	5.5		[68]	р3	1	8
<u>CF371-D2-E</u>	math, two pointer, ad-hoc	5.5		[68]	р3		7
<u>CF1271-D2-E</u>	math, binary search	5.5		[68]	p2		1
AtCoder156-ABC-F	math, observation	5.5		[68]	p2		1
CF1119-D12-D	math, sorting, prefix sum, binary search	5.5		[68]	p2		1
<u>CF975-D2-D</u>	math	5.5	<u>Sol</u>	[68]	p1		3
<u>CF359-D2-C</u>	math	5.5		[68]			6
CODECHEF GCDSUM	math	5.5		[68]			1
CF356-D1-B	math, greedy	5.5		[68]			
FbHkrCup 18-RQ-B	math, number theory	5.25	<u>ACC</u>	[68]	p1		2
<u>CF798-D2-C</u>	math	5		[68]	v2		5
<u>CF899-D2-D</u>	math	5		[68]	v2		4
SRM394-D2-1000	math, bf	5	Sol	[68]	v2	1	5
<u>CF1040-D2-D</u>	math, randomization, binary search, interactive	5	Read pos	[68]	p4		5
<u>CF349-D2-C</u>	math	5		[68]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF396-D2-C</u>	math	5		[68]	р3		
Codechef CHFING	math	5		[68]	р3		1
CODEJAM 19-Qualification-C	math	5		[68]	р3		2
FbHkrCup 19-R2-A	math	5		[68]	р3		3
CF633-D12-A	math, [Mido: Releated to Diophantine equation]	5	Read Ed	[68]	р3		3
<u>CF1220-D12-D</u>	math, ad-hoc	5		[68]	р3	1	4
<u>CF451-D2-D</u>	math, ad-hoc, palyndromes, [short code]	5		[68]	р3		15
<u>CF701-D2-D</u>	math, binary search, precision or ternary search	5	Sol (not	[68]	р3		8
CODECHEF INTXOR	math, constructive algorithm	5		[68]	р3	1	3
<u>CF1167-D12-F</u>	math, datastructures	5		[68]	р3		1
<u>CF1244-D2-C</u>	math, number theory	5		[68]	р3		2
<u>CF397-D2-D</u>	math, number theory	5		[68]	р3		1
<u>CF1016-D12-D</u>	math, xor, bitwise, constructive	5		[68]	р3		6
<u>CF1079-D2-D</u>	math	5		[68]	p2		4
<u>CF1185-D2-D</u>	math	5		[68]	p2	1	5
UVA 128	math, [hard text]	5	<u>Sol</u>	[68]	p2	1	6
CF1130-D2-D2	math, bf, simulation	5		[68]	p2		4
<u>CF535-D2-C</u>	math, binary search	5		[68]	p2		3
AtCoder140-ABC-E	math, binary search, rmq	5	<u>Sol</u>	[68]	p2		1
<u>CF451-D2-C</u>	math, equations, impl	5		[68]	p2	1	5
<u>CF955-D2-C</u>	math, number theory	5		[68]	p2		4
<u>CF45-D12-D</u>	math, randomization or max-flow	5	Sol (not	[68]	p2		5
<u>CF322-D2-C</u>	math, impl, [cases]	5		[68]	p1		3
<u>CF499-D2-C</u>	math, number theory, greedy	5		[68]	p1		5
AtCoder028-AGC-A	math	5		[68]			1
<u>CF1029-D3-D</u>	math	5		[68]			1
<u>CF199-D2-C</u>	math	5		[68]			3
<u>CF520-D2-C</u>	math	5		[68]			3
<u>CF676-D2-E</u>	math	5		[68]			1
CF803-D12-C	math	5		[68]			3
<u>CF957-D2-C</u>	math	5		[68]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF PRMDIV	math	5		[68]			1
SRM194-D1-500	math	5		[68]			1
SRM507-D2-1000	math	5		[68]		1	3
UVA 11246	math	5		[68]			2
UVA 12555	math	5		[68]			1
<u>UVA 126</u>	math	5	<u>Sol</u>	[68]		1	7
UVA 545	math, ad-hoc or logarithm, pow or exp	5	<u>Sol</u>	[68]			2
SRM483-D2-1000	math, bf, [precision]	5		[68]			5
<u>CF895-D2-D</u>	math, combinatroics	5		[68]			1
CF892-D2-D	math, constructive algorithsms	5		[68]			2
CF100459-GYM-B	math, expectation	5	Sol	[68]			1
UVA 10442	math, impl	5	<u>Sol</u>	[68]			1
<u>CF1062-D2-B</u>	math, number theory	5		[68]			8
CSA63-C	math, number theory	5		[68]			1
SRM305-D1-1000	math, number theory	5		[68]			1
CF101102-gym-J	math, number theory, prefix sum	5	Sol	[68]			1
AtCoder134-ABC-F	math, oeis	5		[68]		1	2
SRM552-D2-500	math, pattern	5	Sol	[68]			1
AtCoder016-AGC-B	math, pattern, observations, [cases],[do bf to detect pattern],[boring]	5		[68]		1	5
UVA 11129	math, pattern, search	5		[68]			6
UVA 11574	math, quadratic equations, geometry	5		[68]			1
SRM417-D1-500	math, simulation	5		[68]			1
<u>CF195-D2-D</u>	math, sortings	5		[68]		1	6
SPOJ SUBSHARD	math, number theory, strings, [dig*10^sufix*(choose sufix)*^Prefix]	4.5		[68]	p4		
<u>CF1186-D2-C</u>	math, xor	4.5		[68]	p4		2
CF1093-D12-C	math	4.5		[68]	р3		5
LiveArchive 8014	math, number theory	4.5		[68]	р3		
SPOJ KIMO1	math, number theory	4.5		[68]	р3	1	1
UVA 10025	math or binary search	4.5		[68]	p2	1	7
<u>CF844-D2-D</u>	math, randomization, interactive	4.5		[68]	p2		1
CF334-D2-C	math	4.5		[68]			4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF834-D2-C</u>	math	4.5		[68]			4
CF894-D2-B	math	4.5		[68]			3
CF936-D1-A	math	4.5		[68]			4
<u>CF94-D2-C</u>	math	4.5		[68]			5
CODEJAM 19-R1A-B	math	4.5		[68]			1
UVA 1388	math	4.5		[68]			2
UVA 538	math	4.5		[68]			3
UVA 12028	math or bit	4.5		[68]			4
SRM519-D2-1000	math, bitmasks	4.5		[68]			2
<u>CF353-D2-C</u>	math, bits	4.5		[68]			4
<u>CF716-D2-C</u>	math, constructive	4.5		[68]			2
<u>CF680-D2-C</u>	math, constructive, interactive	4.5		[68]			2
<u>CF727-D12-C</u>	math, interactive	4.5		[68]			
CF320-D2-C	math, pattern	4.5		[68]			2
<u>CF1239-D1-A</u>	math, pattern	4.25		[68]	р3		1
<u>CF816-D2-B</u>	math, prefix sum, [https://www.youtube.com/watch?v=S0nKXwwWG8Y&t=1s]	4		[68]	р5		1
<u>CF1059-D2-C</u>	math, constructive	4		[68]	р3		7
UVA 113	math, log, [double limits], [https://github.com/magdy-hasan/competitive-programmii	4	Sol	[68]	р3	1	6
CODECHEF GRIDTOUR	math, number theory	4		[68]	р3		1
<u>UVA 10706</u>	math	4		[68]	p2	1	7
<u>CF1143-D2-D</u>	math, cases. bf	4		[68]	p2		4
<u>CF577-D2-C</u>	math, impl	4		[68]	p2		3
<u>CF376-D2-C</u>	math, number theory	4		[68]	p2		3
UVA 10976	math, number theory	4		[68]	p1		7
<u>CF101864-GYM-M</u>	math, polynomial division	4	Sol	[68]	p1		1
<u>CF182-D2-D</u>	math	4		[68]			5
CF186-D2-C	math	4		[68]			2
<u>CF424-D2-C</u>	math	4		[68]			4
<u>CF588-D2-B</u>	math	4		[68]		1	5
UVA 10110	math	4		[68]			1
UVA 12485	math	4		[68]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF71-D2-C</u>	math or dp	4		[68]		2	6
SRM421-D2-500	math, [precision]	4		[68]			3
<u>CF978-D3-E</u>	math, [trivial]	4		[68]			1
CSA59-B	math, ad-hoc	4		[68]			2
<u>CF304-D2-C</u>	math, constructive	4		[68]			7
LIVEARCHIVE 3573	math, greedy	4		[68]			4
<u>CF488-D2-B</u>	math, impl	4		[68]			4
LIVEARCHIVE 6027	math, integration, binary search	4		[68]			1
SRM343-D1-1000	math, number theory	4		[68]			2
CF1076-D12-C	math, equations, bhaskara or binary search	3.5		[68]	p2		9
TIMUS 1247	math, observations	3.5		[68]		1	4
SRM529-D2-1000	math, simulation	3.5		[68]			2
CODECHEF GCDMOD	math,int128	3	Sol. Lear	[68]	р3		2
<u>CF534-D2-C</u>	math, greedy, careful impl	3		[68]	р3		5
CF102035-GYM-K	math	3		[68]	p2		1
CODECHEF MULTHREE	math, pattern, cycle, mod	3		[68]	p2		1
<u>CF785-D2-C</u>	math	3		[68]			6
<u>CF86-D12-A</u>	math	3		[68]			1
TIMUS 1209	math	3		[68]			5
UVA 1636	math	3		[68]			2
SPOJ TAP2014B	math, ad-hoc, recursion	3		[68]			2
ZOJ 2143	math, base conversions, bignum	3		[68]			2
<u>CF689-D2-C</u>	math, binary search	3		[68]			3
SRM146-D1-500	math, impl, counting	3		[68]			1
UVA 12205	math, intervals	3		[68]			3
UVA 10879	math, number theory	3		[68]			8
UVA 386	math, number theory	3		[68]			7
UVA 983	math, prefix sum, [direct 2d]	3	Sol	[68]			1
<u>CF900-D2-B</u>	math, [long division]	2		[68]	v1		5
LIVEARCHIVE 2557	math or bf	2	Find a fo	[68]	p1		1
UVA 10106	math	2		[68]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10469	math	2	Sol	[68]			8
UVA 713	math	2		[68]			2
UVA 12397	math, roman numerals	2		[68]			1
SRM230-D1-500	math, factorial, combinatorics, pascal	5		[70]	v2		4
<u>CF272-D2-D</u>	math, factorial, counting	5		[70]	p2 v2	1	10
LIVEARCHIVE 3498	math, factorial or dp_bitmasks	5	Sol	[70]	p1	1	5
SPOJ MIB	math, factorial, factoradic index, impl, bigint	5	Sol	[70]	p1		2
UVA 153	math, factorial, permutations, dublicates, factoradic index	4.5	Sol	[70]	р3		10
SRM498-D1-500	math, factorial, permutations	4.5		[70]			6
UVA 11415	math, factorial, factorization, binary search	4	Sol	[70]			4
SRM335-D2-500	math, factorial, overflow	3		[70]			1
TJU 2188	math, factorial	2		[70]			2
<u>CF194-D2-D</u>	math, fib, bf	6.5		[71]	p2		1
<u>CF554-D2-D</u>	math, fib, permutation or dp	6	Sol	[71]	р3		4
<u>CF551-D2-D</u>	math, fibonacci, linear algebra, matrix pow	6		[71]	р3	1	11
PKU 2116	math, fibonacci	6		[71]			
UVA 12041	math, fib, bf	5	Sol	[71]	p2	1	2
UVA 11582	math, fib, cycle detection	5	Sol	[71]	p1		3
UVA 12620	math, fib	2		[71]			4
UVA 10627	math, formula, gcd	6.75	Sol	[72]		1	1
AtCoder-YahooProcon-C	math, formula	6		[72]			1
UVA 11164	math, formula	6		[72]			
UVA 10339	math, formula, precision, [bad statement]	6		[72]		1	2
UVA 12725	math, formula	5.5		[72]			
UVA 12851	math, formula	5.5		[72]			
UVA 12853	math, formula	5.5		[72]			
UVA 12959	math, formula	5.5		[72]			
UVA 12992	math, formula	5.5		[72]			
UVA 12447	math, formula, bitmasks	5.5		[72]			
UVA 12869	math, formula	5	Sol	[72]	p2	1	3
CF143-D2-D	math, formula, [cases analysis]	5		[72]	p1 v3	2	14

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 11298	math, formula	5		[72]			1
UVA 12918	math, formula	5		[72]			1
UVA 10868	math, formula, simulation, physics	5		[72]			2
UVA 10751	math, formula	4.5		[72]			5
UVA 10209	math, formula, integration	4		[72]	v3	1	4
AtCoder004-AGC-A	math, formula, basic geometry	4		[72]			
UVA 10161	math, formula, pattern or bs	4		[72]			7
UVA 11847	math, formula, arithmetic	3.5		[72]			2
UVA 11112	math, formula	3		[72]	v1		5
UVA 12464	math, formula	3		[72]			1
UVA 1315	math, formula, counting swaps	2		[72]			10
<u>CF114-D2-E</u>	math, gcd	8		[73]			
<u>CF586-D2-E</u>	math, gcd	8		[73]			
UVA 12848	math, gcd	7.25		[73]			
UVA 12832	math, gcd, lcm	7.25		[73]			
UVA 12852	math, gcd, lcm	7.25		[73]			
<u>CF582-D1-C</u>	math, gcd	7.1		[73]	p4	2	8
CF509-D2-D	math, gcd	7		[73]			1
UVA 11256	math, gcd	7		[73]			
UVA 11522	math, gcd	7		[73]			
<u>CF417-D2-E</u>	math, gcd, constructive	6.75		[73]	р3		2
Atcoder038-AGC-C	math, gcd, lcm, [all lcm pairs, ECPC 18 D]	6.25		[73]	p4		3
<u>CF271-D2-E</u>	math, gcd, constructive	6.25		[73]			1
<u>CF1230-D2-E</u>	math, gcd, binary lifting	6.1		[73]	p3		4
<u>CF357-D2-D</u>	math, gcd, lcm	6.1		[73]	р3		3
UVA 11761	math, gcd, backtrack	6.1	<u>Sol</u>	[73]	p2 v2	2	3
UVA 493	math, gcd	6		[73]	v3	1	2
<u>CF492-D2-E</u>	math, gcd or dp	6		[73]	р3		6
SRM179-D1-500	math, gcd, [how many integer points are on a line segment, study pick theorem firs	6	<u>Sol</u>	[73]	р3	3	8
UVA 1642	math, gcd	6		[73]			1
UVA 12075	math, gcd, bf	6		[73]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM429-D1-500	math, gcd, lcm, graph	6		[73]		1	2
<u>CF918-D2-D</u>	math, gcd, Polynomials	6		[73]			3
LiveArchive 6582	math, gcd or rmq, binary search, [TLEs]	5.5	Sol - mus	[73]	p4		2
AtCoder026-AGC-B	math, gcd, mod, [cases]	5.5	Sol	[73]	p4	2	10
<u>CF1010-D1-C</u>	math, gcd, mod, number theory, Bezout's identity	5.5		[73]	p4		7
UVA 12792	math, gcd, lcm, cyclic permutation	5.5	Sol	[73]	р3		2
TIMUS 1286	math, gcd, [cases analysis]	5.5	<u>Sol</u>	[73]	p2		2
UVA 11971	math, gcd, bf	5.5		[73]			1
UVA 11633	math, gcd, bf, [LL]	5.5		[73]			3
<u>CF344-D2-C</u>	math, gcd	5		[73]	р3		4
CF1055-D12-C	math, gcd, Bezout's identity, observations	5		[73]	р3		5
CSA47-C	math, gcd, lcm	5		[73]	p1		3
UVA 11774	math, gcd, greedy	5		[73]			2
<u>CF236-D2-C</u>	math, gcd, lcm	5		[73]			8
SRM375-D2-1000	math, gcd, lcm, bfs or crt	5		[73]			2
UVA 12184	math, gcd, mod	5	Sol	[73]		1	2
SRM365-D1-500	math, gcd, search	5		[73]			2
CF1091-D12-C	math, gcd, Bezout's identity or patter, OEIS	4.5		[73]	р3		9
<u>CF592-D2-C</u>	math, gcd, lcm, [overflow]	4.5		[73]	р3	1	6
CF102035-GYM-I	math, gcd	4.5		[73]	p2		1
UVA 10892	math, gcd, lcm	4.5		[73]			7
UVA 10555	math, gcd, arithmetic, repeated squaring	4	Sol	[73]	v1		1
<u>CF894-D2-C</u>	math, gcd	4		[73]	р3		4
<u>CF88-D2-C</u>	math, gcd or ad-hoc	4		[73]	p2		7
UVA 10717	math, gcd, lcm	4	<u>Sol</u>	[73]		1	10
UVA 10273	math, gcd, lcm, data structures	4	Sol	[73]			1
TIMUS 1053	math, gcd or ad-hoc	3		[73]	v1		4
UVA 412	math, gcd	3		[73]			2
UVA 12060	math, gcd, arithmetic	3		[73]			2
UVA 369	math, gcd, comb formula	2		[73]			1
SPOJ IMPUNITS	math, gcd, lcm, multiply fractions	2		[73]			11

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM475-D1-500	math, mod	7.25		[74]			1
<u>CF902-D2-D</u>	math, mode 2 trick	6.5	Sol	[74]	p1	1	2
UVA 11087	math, mod, dp or ad-hoc	6.5		[74]			
<u>CF337-D2-C</u>	math, mod, pow, greedy	5		[74]	р3	1	10
<u>UVA 11155</u>	math, mod	5		[74]			9
TJU 1028	math, mod	4		[74]			1
<u>UVA 408</u>	math, mod	3		[74]			2
SPOJ INTEGER1	math, repeated squaring or binary search	7.5		[75]	p5	1	2
UVA 12253	math, repeated squaring	6.5		[75]			
<u>CF151-D2-D</u>	math, repeated squaring, graph	5.5		[75]	p4		7
<u>CF984-D2-C</u>	math, repeated squaring, mod	5		[75]	p1		1
UVA 11718	math, repeated squaring, combinatorics	5		[75]			3
HACKR extremely-dangerous-virus	math, repeated squaring	3		[75]			1
<u>UVA 374</u>	math, repeated squaring, mod, direct	3		[75]			3
SRM552-D2-1000	math, search	7		[76]		1	1
SRM369-D1-500	math, search	6.75		[76]			1
SRM212-D1-500	math, search	6.5		[76]		1	1
SRM453-D1-500	math, search	6.5		[76]			1
SRM529-D1-500	math, search, simulation	6		[76]			1
UVA 10799	math, summations, formula or bf	8		[77]		1	1
CODECHEF C2	math, summations, pow sum [1^k+2^k], [harder version CF622-D12-F needs Lagi	7.5		[77]	p5	4	5
UVA 13031	math, summations, ??	7		[77]			
UVA 11260	math, summations, reccurance or binary search, mod congruences, overflows	7	<u>Sol</u>	[77]			1
SRM231-D1-500	math, summations, factorial, log or ad-hoc or approximation formula for binomial di	6.75	Sol	[77]	p4	1	4
UVA 10694	math, summations, summation order, binomial, bignum	6.75		[77]			
LIVEARCHIVE 3521	math, summations, reminder summations	6.5	CF616E	[77]	p4		7
UVA 766	math, summations, gcd, power, gaussian elimination	6.25		[77]			
<u>CF616-D12-E</u>	math, summations	6		[77]	p2		3
<u>CF599-D2-D</u>	math, summations, bf, [overflow]	5.75		[77]	p2		13
<u>CF731-D2-F</u>	math, summations, mod	5.5		[77]			6
UVA 1730	math, summations, lcm	5	Sol	[77]	p4		5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF476-D2-C</u>	math, summations, in my videos	5	Watch if	[77]	p3 v3		20
UVA 10830	math, summations, factorization, divisors sum	5	Sol	[77]	p3 v2		7
<u>CF76-D12-E</u>	math, summations, [sum of squares of distances between all pairs]	5		[77]	р3		3
<u>CF201-D1-B</u>	math, summations, seperate summations or ternary or analytical, [bad texr]	5		[77]	p1		7
UVA 12517	math, summations, digits sum	5		[77]			2
HACKR jim-and-the-challenge	math, summations, geometry, manhatan	5		[77]		1	1
SPOJ AFS2	math, summations, sqrt	5		[77]			1
<u>CF227-D2-C</u>	math, summations, recursion	4.5		[77]	р3		2
UVA 655	math, summations, binary search	4.5	<u>Sol</u>	[77]			2
UVA 11538	math, summations, formula	4		[77]			1
UVA 11417	math, summations, gcd	3		[77]			1
UVA 12751	math, summations	2		[77]			2
UVA 12803	math, infix to postfix	7		[78]		1	1
UVA 288	math, infix to postfix	7		[78]			
UVA 533	math, infix to postfix	7		[78]		1	1
UVA 708	math, infix to postfix	6.25		[78]			
UVA 727	math, infix to postfix	4		[78]			4
UVA 11108	math, infix to postfix, expression parsing	3.5		[78]			2
UVA 12392	math, infix to postfix, expression parsing	3	<u>Sol</u>	[78]			2
UVA 11809	math, logarithm, [hard text?]	7		[79]			1
UVA 11666	math, logarithm, formula or binary search	4.5	<u>Sol</u>	[79]			3
UVA 11714	math, logarithm, formula	4		[79]		1	4
SPOJ ACPC10E	math, logarithm	3		[79]			2
UVA 10343	math, number base conversion	5		[80]		1	2
PKU 3191	math, number base conversion, -ve base	5	<u>Sol</u>	[80]		1	3
LIVEARCHIVE 4069	math, number base conversion, bf	4		[80]			3
SPOJ BHAT007	math, number base conversion, impl, basic bignum	3		[80]			4
<u>CF113-D1-E</u>	math, combinatorics, counting, repeated squaring	9.5		[82]			
<u>CF145-D1-D</u>	math, combinatorics, datastructures, bs, impl	9		[82]	p5		
<u>CF698-D1-F</u>	math, combinatorics, number theory	9		[82]	p5		1
HACKR value-of-all-permutations	math, combinatorics or FFT	9		[82]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
HACKR tile-painting-revisited	math, combinatorics, number theory	8.5		[82]			
SRM472-D1-500	math, combinatorics, counting, cycles, double-counting or dp	8	Sol	[82]	p4		2
<u>CF224-D2-E</u>	math, combinatorics	8		[82]		1	1
<u>CF1205-D1-E</u>	math, combinatorics	7.75		[82]	р3		1
AtCoder102-ARC-E	math, combinatorics	7.5		[82]	р3		1
<u>CF380-D1-D</u>	math, combinatorics	7.5		[82]	р3		2
<u>CF1261-D1-F</u>	math, combinatorics	7.5		[82]	p2		1
<u>CF288-D1-D</u>	math, combinatorics, dfs, trees	7.5		[82]			2
<u>CF653-D12-G</u>	math, combinatorics, sieve, formula, gcd	7.25	Sol - mu	[82]	p4		2
<u>CF102032-GYM-E</u>	math, combinatorics	7.25	<u>ASol</u>	[82]	р3		1
UVA 11261	math, combinatorics, counting or dp_diagonal	7.25		[82]	р3	1	1
<u>CF1109-D1-D</u>	math, combinatorics	7.25		[82]			1
SRM457-D1-500	math, combinatorics, counting, mod, backtrack	7.25		[82]			1
CODECHEF MDN	math, combinatorics	7		[82]	р3		1
<u>CF834-D2-E</u>	math, combinatorics, bf, impl	7		[82]	р3	1	2
UVA 12906	math, combinatorics, counting, overflow, ??	7		[82]			
UVA 1649	math, combinatorics, inv combinations	7		[82]			1
<u>CF833-D1-C</u>	math, combinatorics, ad-hoc, [new idea]	6.8		[82]	p4		5
HACKER influential-groups	math, combinatorics, [pascal's triangle, reduce to formula]	6.75		[82]	p4		3
<u>CF633-D12-E</u>	math, combinatorics, datastructures, two pointers or observations, dp	6.75	Solve in	[82]	р3		5
<u>CF305-D2-D</u>	math, combinatorics	6.75		[82]			
<u>CF1065-D12-E</u>	math, combinatorics	6.5		[82]	р3		6
UVA 11282	math, combinatorics, combinations	6.5		[82]			1
SRM565-D2-1000	math, combinatorics, counting	6.5		[82]			3
CF1262-D2-F2	math, combinatorics	6.4		[82]	р3		2
<u>CF336-D2-D</u>	math, combinatorics, pattern or dp_counting	6.25		[82]	p3 v2		4
CF691-D12-F	math, combinatorics, bf or dp	6.25	Sol	[82]			4
UVA 10883	math, combinatorics, logarithms	6.25		[82]			
<u>CF109-D1-C</u>	math, combinatorics, trees or dp_trees	6.1		[82]	р3		13
<u>CF893-D2-E</u>	math, combinatorics	6		[82]	р3		2
<u>CF1284-D12-E</u>	math, combinatorics, geometry, two pointers, sorting	6		[82]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF690-D12-D2	math, combinatorics, mod inv, [stars and bars]	6	Sol [10]	[82]	р3		5
AtCoder028-AGC-B	math, combinatorics, probability	6		[82]	р3	2	5
<u>CF938-D12-E</u>	math, combinatorics	6		[82]	p2		4
UVA 11027	math, combinatorics, Factorial number system, impl	6		[82]	p1		1
AtCoder154-ABC-F	math, combinatorics	6		[82]			1
<u>CF1014980-GYM-D</u>	math, combinatorics	6	Sol	[82]			1
SRM555-D1-500	math, combinatorics	6		[82]			1
SRM558-D1-500	math, combinatorics	6		[82]			1
UVA 11481	math, combinatorics, combinations	6		[82]			1
UVA 10733	math, combinatorics, counting, cubes, rotations or formula, Burnside Lemma	6		[82]			2
<u>CF340-D2-E</u>	math, combinatorics, inclusion-exclusion	6		[82]			4
CSA82-D	math, combinatorics, palindromes	6		[82]			1
UVA 11028	math, combinatorics, permutations, precalculation, impl	6		[82]			1
CODECHEF GMEDIAN	math, combinatorics, binary search or dp_counting	5.75		[82]	p4		5
<u>CF1091-D12-D</u>	math, combinatorics	5.75		[82]	р3		8
<u>CF294-D2-C</u>	math, combinatorics, [mov inv one sol]	5.5		[82]	р3	1	20
AtCoder150-ABC-E	math, combinatorics	5.25		[82]	p2		1
HACKR ajourney	math, combinatorics, first/last K digits 2^N, [=UVA 11029]	5		[82]	p4	1	6
<u>CF869-D2-C</u>	math, combinatorics or dp_counting	5		[82]	p3 v2	1	8
AtCoder132-ABC-D	math, combinatorics	5		[82]	р3		1
<u>CF758-D2-C</u>	math, combinatorics, [corner cases]	5		[82]	р3		6
<u>CF459-D2-C</u>	math, combinatorics, constructive	5		[82]	р3		14
<u>CF340-D2-C</u>	math, combinatorics, impl	5		[82]	р3		7
AtCoder156-ABC-E	math, combinatorics	5		[82]	p2		1
CF204-D1-A	math, combinatorics	5		[82]	p2		5
SRM302-D1-500	math, combinatorics or dp_digit	5		[82]	p2		3
UVA 10460	math, combinatorics, permutations, [big num??]	5	Sol	[82]	p2	1	6
<u>CF810-D2-C</u>	math, combinatorics	5		[82]			2
HACKR maximum-palindromes	math, combinatorics	5		[82]			1
SRM261-D1-500	math, combinatorics, bst	5		[82]			2
SRM504-D1-500	math, combinatorics, counting	5		[82]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF110-D2-E</u>	math, combinatorics, dfs, trees	5		[82]			4
TJU 1180	math, combinatorics, permutations, factoradics	5		[82]			1
UVA 11525	math, combinatorics, permutations, factoradics or segment tree ir bit, treap, bbst	5	Sol	[82]			2
SRM332-D1-1000	math, combinatorics, permutations, impl	5		[82]			1
SRM363-D1-500	math, combinatorics, search	5		[82]			1
SRM465-D2-500	math, combinatorics, basic geometry	4.5		[82]	р3		5
<u>CF289-D2-D</u>	math, combinatorics, bf or pattern	4.5		[82]			7
SRM203-D1-500	math, combinatorics, combinations, permutations	4.5		[82]			3
HACKR super-humble-matrix	math, combinatorics, factorial	4.5	Sol	[82]			2
UVA 12893	math, combinatorics, counting, gcd	4		[82]	р3		1
SPOJ ITRIX_E	math, combinatorics, formula, [AP sum formula and series sum formulas of sum of	4	Sol	[82]	р3		2
SPOJ PALACE	math, combinatorics, pow	4		[82]	p2		3
<u>CF131-D2-C</u>	math, combinatorics	4		[82]			6
CF152-D2-C	math, combinatorics	4		[82]			3
<u>UVA 11231</u>	math, combinatorics, counting	4		[82]			3
HACKR number-list	math, combinatorics, impl	4		[82]			1
<u>CF52-D12-B</u>	math, combinatorics, preprocessing	3.5		[82]	p2		1
HACKR a-chocolate-fiesta	math, combinatorics	3.5		[82]			1
HACKR picking-cards	math, combinatorics	3		[82]			1
UVA 12712	math, combinatorics, counting, mod	3		[82]			3
HACKR antipalindromic-strings	math, combinatorics, palindromes	2		[82]			2
<u>CF1254-D1-E</u>	math, combinatorics, trees			[82]	р3		1
SRM160-D1-1000	math, cyclic permutation, factorization, lcm	8		[84]			
LIVEARCHIVE 3641	math, cyclic permutation	7		[84]		2	2
TC(QUICKTABLEAU)	math, cyclic permutation	7		[84]		1	2
TC(SHUFFLEMETHOD)	math, cyclic permutation	7		[84]			
UVA 12642	math, cyclic permutation	7		[84]			
UVA 10570	math, cyclic permutation or ad-hoc	7	Sol	[84]			1
UVA 11630	math, cyclic permutation, ??	7		[84]			
SRM441-D2-1000	math, cyclic permutation, search, [no editorial]	7		[84]		2	2
LIVEARCHIVE 2481	math, cyclic permutation, [in video]	6.5		[84]	рЗ		4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 135	math, cyclic permutation, ?? revise	6.5		[84]			1
UVA 11330	math, cyclic permutation, greedy	6.5		[84]			
<u>CF584-D2-E</u>	math, cyclic permutation, greedy, constructive	6.1		[84]	p3 v3		6
SPOJ LEONARDO	math, cyclic permutation, graph cycles, even, odd	5.75	Sol	[84]	p4		2
SRM280-D2-1000	math, cyclic permutation or backtrack, prune, [backtrack https://github.com/racsosa	5.75	See Edite	[84]	р3		2
FbHkrCup 18-R1-B	math, cyclic permutation, dfs, trees	5.5		[84]	p2		3
SRM391-D1-500	math, cyclic permutation, stirling number of first kind, dp, probability, [how many pe	5		[84]	p2 v2	1	5
<u>CF986-D1-B</u>	math, cyclic permutation	5		[84]	p2		8
SRM379-D2-1000	math, cyclic permutation or backtrack, dsu	5	Understa	[84]			2
UVA 306	math, cyclic permutation	3		[84]			1
SRM572-D1-250	math, cyclic permutation or dfs	3		[84]			1
SPOJ FACT2	math, factorization, pollard rho	8		[85]			
SRM216-D1-500	math, factorization, bf	7.5		[85]			
<u>CF338-D1-C</u>	math, factorization, dp	7.5		[85]			
CF1072-D2-F	math, factorization, graph, impl, [boring?]	7.5		[85]			1
UVA 1635	math, factorization, sieve bitmasks, max pow divide	7	<u>Sol</u>	[85]	р3	1	5
SRM200-D1-500	math, factorization, search	7		[85]			
SPOJ INVDIV	math, factorization	6.75		[85]	р3		
UVA 12465	math, factorization	6.25		[85]			
UVA 12137	math, factorization, pow, triangles	6.25		[85]			
CODECHEF B3	math, factorization	6.1	<u>Sol</u>	[85]	p1	1	2
CODECHEF CHEFDIV	math, factorization, sieve in range, greedy	6	<u>Sol</u>	[85]	p3 v2		12
<u>CF980-D2-D</u>	math, factorization	6		[85]	р3		11
CODECHEF PERIODIC	math, factorization, divisors, infinite periodic array, [may solve CF582C first]	6		[85]	р3		1
<u>CF101856-gym-D</u>	math, factorization, events, [101840 buggy, use 101856]	6		[85]	р3		2
CF102299-GYM-F	math, factorization, number base, primes or pollard_rho, millar_rabin	6	<u>Sol</u>	[85]	р3		3
CF831-D12-F	math, factorization	6		[85]	p1		1
<u>CF300-D2-E</u>	math, factorization, binary search, [optimizations]	6		[85]	p1		4
<u>CF180-D2-B</u>	math, factorization	6		[85]			2
UVA 11476	math, factorization, pollard rho	6		[85]			2
LIVEARCHIVE 4390	math, factorization, sieve, pow_divides !n, heaps	6		[85]		1	1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ PROOT	math, factorization, primitve roots	5.75	Sol	[85]	p4 v2		15
SPOJ CZ_PROB2	math, factorization, divisors sum, [strict time]	5.75		[85]			
SRM743-D2-1000	math, factorization	5.5		[85]			2
<u>CF837-D12-E</u>	math, factorization, gcd	5.5		[85]			4
SPOJ FACT1	math, factorization, pollard rho	5.5		[85]			
<u>CF1029-D3-F</u>	math, factorization	5	Sol	[85]	р3		6
CF1033-D12-D	math, factorization	5		[85]	р3		12
<u>CF851-D2-D</u>	math, factorization, gcd	5		[85]	р3		1
UVA 10174	math, factorization, case analysis	5		[85]			1
UVA 11347	math, factorization, divisors sum	5		[85]			4
UVA 12154	math, factorization, divisors, bf	5	<u>Sol</u>	[85]			2
UVA 12703	math, factorization, fibonaci	5		[85]			2
<u>CF100753-gym-F</u>	math, factorization, pollard rho	5	<u>See</u>	[85]			1
TIMUS 1854	math, factorization, binary search, analysis, [prime factors till cube]	4.5	<u>Sol</u>	[85]	v3	1	6
<u>CF1047-D2-C</u>	math, factorization	4.5		[85]	р3		2
LiveArchive 8085	math, factorization	4.5		[85]	р3		
SPOJ ABA12D	math, factorization, [Formula for sum divisors Prod(Sum(fac-powers))]	4.5		[85]	р3		1
UVA 547	math, factorization, divisors sum, multiview	4.5		[85]			4
<u>CF1061-D2-C</u>	math, factorization, impl or dp	4		[85]	р3		10
UVA 10622	math, factorization	4		[85]	p1	1	10
LIVEARCHIVE 3194	math, factorization, precalc	4		[85]	p1		3
SPOJ HS10SQFT	math, factorization, bf	4		[85]			3
UVA 11254	math, factorization, bf, gauss sum	4		[85]			1
UVA 10139	math, factorization, primes, [factorize x!]	4		[85]			9
Timus 1049	math, factorization	3.5		[85]			2
SPOJ HDEVIL	math, factorization, divisors sum, fib	3.5		[85]			2
<u>CF236-D2-B</u>	math, factorization	3		[85]			6
<u>UVA 10490</u>	math, factorization	3		[85]		1	9
UVA 516	math, factorization	3		[85]		2	10
UVA 1246	math, factorization, primes	3		[85]			2
LIVEARCHIVE 5987	math, factorization	2		[85]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
TJU 3579	math, factorization	2		[85]			2
UVA 10699	math, factorization	2		[85]			8
UVA 12043	math, factorization	2	Solve in	[85]			2
UVA 382	math, factorization	2		[85]			6
UVA 583	math, factorization	2		[85]			6
SPOJ HG	math, factorization, bignum optionally	2		[85]			3
UVA 294	math, factorization, primes	2		[85]			5
SRM444-D1-1000	math, inclusion-exclusion, matrix pow	8.5		[86]			
CODECHEF SEALCM	math, inclusion-exclusion or dp, matrix pow	7		[86]	р3		3
<u>CF585-D1-E</u>	math, inclusion-exclusion, combinatorics, gcd reduction trick	7		[86]	р3		3
CF1037-D12-F	math, inclusion-exclusion, observations, rmq	7		[86]	p1		6
TIMUS 1940	math, inclusion-exclusion	7	<u>Sol</u>	[86]			1
SRM455-D1-500	math, inclusion-exclusion or dp	7		[86]			
HACKR cyclicquadruples	math, inclusion-exclusion, combinatorics	7		[86]			
UVA 11259	math, inclusion-exclusion, dp	7		[86]			
<u>CF83-D1-D</u>	math, inclusion-exclusion, number theory	7		[86]			2
<u>CF451-D2-E</u>	math, inclusion-exclusion, bitmasks or number theory, lucas's theorem, generating	6.75		[86]	p4		10
<u>CF1036-D2-F</u>	math, inclusion-exclusion, mobius, [repeated]	6.75		[86]	p2		5
TIMUS 1675	math, inclusion-exclusion	6.5	Sol	[86]	р3		4
<u>CF439-D2-E</u>	math, inclusion-exclusion or mobius inversion or dp_counting	6.5	Sol. Rea	[86]	р3		10
<u>CF1008-D2-D</u>	math, inclusion-exclusion, combinatorics, bitmasks	6.5		[86]	р3		2
<u>CF1096-D12-E</u>	math, inclusion-exclusion	6.5		[86]			2
<u>CF101992-GYM-D</u>	math, inclusion-exclusion, lcm, mod inv	6.3	Sol	[86]	p4		5
<u>CF839-D2-D</u>	math, inclusion-exclusion, dp, sieve, [Leader trick in combinatronics]	6.25	Sol	[86]	p4		16
SPOJ MSKYCODE	math, inclusion-exclusion, squarefree numbers	6	Sol	[86]	p4		14
<u>CF547-D1-C</u>	math, inclusion-exclusion, gcd, masks	6		[86]			4
HACKR cube-loving-numbers	math, inclusion-exclusion, primes	6		[86]		1	2
HACKR mehta-and-the-typical-superman	math, inclusion-exclusion, lcm, combinatorics	5.75	Sol	[86]	p4		4
<u>CF372-D1-B</u>	math, inclusion-exclusion, prefix sum or dp_counting, 4d cumulative sum	5.75		[86]	р3		12
SRM176-D1-500	math, inclusion-exclusion, permutations or dp_bitmasks	5		[86]		1	5
CF101933-GYM-K	math, inclusion-exclusion	4	Sol	[86]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ NGM2	math, inclusion-exclusion	3.5		[86]		1	9
UVA 10325	math, inclusion-exclusion, gcd, overflow	3.5	Sol	[86]			19
SPOJ EASYMATH	math, inclusion-exclusion, lcm	3		[86]	v2		5
<u>CF371-D2-C</u>	math, inclusion-exclusion, binary search	3		[86]			7
ZOJ 2836	math, inclusion-exclusion	2		[86]			
UVA 11663	math, math_ad-hoc, gray code	7.25		[87]			
UVA 12522	math, math_ad-hoc, roman numerals	7.25		[87]			
LIVEARCHIVE 7233	math, math_ad-hoc, polynomials, fractions. Faulhaber's formula, [classical]	7.1	Sol	[87]			1
UVA 918	math, math_ad-hoc, complex numbers, simulation, mandelbrot set	7		[87]			
UVA 491	math, math_ad-hoc, formula or bbst, splay tree	7		[87]			
SRM550-D1-500	math, math_ad-hoc, pascal trinagle, recursion, analysis	7		[87]			2
UVA 10649	math, math_ad-hoc	6.75		[87]			
UVA 11436	math, math_ad-hoc	6.75		[87]			
UVA 10144	math, math_ad-hoc, boolean logic	6.75		[87]			
UVA 10378	math, math_ad-hoc, complex numbers, de moivre's theorem	6.75		[87]			
UVA 11180	math, math_ad-hoc, complex numbers, number base conversion	6.75		[87]			
UVA 11170	math, math_ad-hoc, de moivre's formula, chebyshev polynomials	6.75		[87]			
SPOJ SQRROOT	math, math_ad-hoc	6.5		[87]		2	2
UVA 10294	math, math_ad-hoc, polynomials, gcd	6.5		[87]			
SRM495-D2-1000	math, math_ad-hoc, graph	6.25		[87]	p2	1	3
UVA 10666	math, math_ad-hoc	6.25		[87]			
UVA 11986	math, math_ad-hoc	6.25		[87]			
UVA 11012	math, math_ad-hoc, case analysis	6.25		[87]			
UVA 10089	math, math_ad-hoc, linear algebra	6.25		[87]			
TIMUS 1619	math, math_ad-hoc, catlan, [Bertrand's ballot theorem]	6	Sol	[87]			2
SRM378-D1-500	math, math_ad-hoc, polynomials, polynomial roots	6		[87]		1	2
UVA 11237	math, math_ad-hoc, pigeonhole principle, mod, [=TIMUS 1032]	5		[87]	р3		2
UVA 10014	math, math_ad-hoc, algebra, substitution	5		[87]		1	3
UVA 10964	math, math_ad-hoc, impl	5		[87]			1
UVA 10958	math, math_ad-hoc, patterns or factorization	5	Sol	[87]		1	8
UVA 12908	math, math_ad-hoc	4		[87]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10312	math, math_ad-hoc, catlan	4		[87]			2
UVA 10509	math, math_ad-hoc, patterns	3.5		[87]			5
PKU 1060	math, math_ad-hoc, polynomials	3.5		[87]			3
<u>UVA 498</u>	math, math_ad-hoc, polynomials	3.5		[87]			7
UVA 10302	math, math_ad-hoc, polynomials	3		[87]	p2		7
HACKR tower-3-coloring	math, math_ad-hoc, fermat little theorm	3		[87]	p1		2
UVA 11055	math, math_ad-hoc	3		[87]			2
UVA 12027	math, math_ad-hoc	3		[87]			1
UVA 10223	math, math_ad-hoc, catlan	3		[87]			
UVA 991	math, math_ad-hoc, catlan	3		[87]			
UVA 10303	math, math_ad-hoc, catlan or bignum	3		[87]			1
UVA 10007	math, math_ad-hoc, catlan, bignum	3		[87]			
CF577-D12-B	math, math_ad-hoc, pigeonhole principle, dp	3		[87]			5
UVA 10268	math, math_ad-hoc, polynomials	3		[87]			6
UVA 10586	math, math_ad-hoc, polynomials, simulation	3		[87]			2
TIMUS 1349	math, math_ad-hoc, fermat last theorm	2	Learn Fe	[87]	p2		8
<u>UVA 10783</u>	math, math_ad-hoc, patterns	2		[87]			8
UVA 11554	math, math_ad-hoc, recurrences	2		[87]			10
UVA 10812	math, math_ad-hoc, polynomials	1		[87]			7
CF200-D2-A	math, matrix	6.5		[88]			2
CODECHEF INMAT	math, matrix, ad-hoc	6.5		[88]		2	3
CF385-D2-E	math, matrix pow	6		[88]	р3		3
LiveArchive 7619	math, matrix pow, probability	6		[88]	р3		
CODECHEF GUESSRT	math, matrix power, mod inv, dp_probability	6		[88]	р3		2
SPOJ DCEPC12E	math, matrix	4.5		[88]			5
CF202-D2-C	math, matrix, bf	4		[88]			5
UVA 10016	math, matrix, rotate, impl	3.5		[88]			3
UVA 466	math, matrix, rotate, reflect, impl	3		[88]	p1	1	8
<u>CF227-D2-E</u>	math, matrix, matrix pow, fib	8.5		[89]			
UVA 12761	math, matrix, matrix pow	8		[89]			
HACKR towers	math, matrix, matrix pow, counting	7.5		[89]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 12042	math, matrix, matrix pow	7.25		[89]			
UVA 12045	math, matrix, matrix pow	7.25		[89]			
UVA 12593	math, matrix, matrix pow	7.25		[89]			
UVA 11651	math, matrix, matrix pow, graph	7.25		[89]			
<u>CF1106-D2-F</u>	math, matrix, matrix pow, log	7		[89]	р3	1	2
<u>CF593-D2-E</u>	math, matrix, matrix pow	7		[89]			2
<u>CF60-D12-E</u>	math, matrix, matrix pow	7		[89]			3
SRM446-D1-500	math, matrix, matrix pow	7		[89]		1	2
UVA 11091	math, matrix, matrix pow	7		[89]			
UVA 11551	math, matrix, matrix pow	7		[89]			
UVA 12653	math, matrix, matrix pow	7		[89]			
UVA 12796	math, matrix, matrix pow	7		[89]			
<u>CF576-D1-D</u>	math, matrix, matrix pow, [paths count]	7		[89]			2
PKU 1977	math, matrix, matrix pow, bits operations?	7		[89]			1
SPOJ SUMMUL	math, matrix, matrix pow, fib sequence sum, [oeis may help]	7		[89]			2
UVA 11675	math, matrix, matrix pow, graph	7		[89]			
<u>CF107-D1-D</u>	math, matrix, matrix pow, dp, [unclear txt]	6.75		[89]		1	3
<u>CF147-D12-B</u>	math, matrix, matrix pow, floyd, binary search, [adjacency^k)	6.5	<u>Sol</u>	[89]	p4		1
SRM306-D1-1000	math, matrix, matrix pow, matrix pow sum [A^0+A1+A2], [~=UVA 11149]	6.5	<u>Sol</u>	[89]	p4	1	5
<u>CF1182-D2-E</u>	math, matrix, matrix pow, [non linear reccurance]	6.5		[89]	р3	1	5
Atcoder006-AGC-C	math, matrix, matrix pow, expectation, [permutation, adjacent swap]	6.3		[89]	р3	1	4
<u>CF514-D2-E</u>	math, matrix, matrix pow, dp	6		[89]	p4		10
SPOJ PLHOP	math, matrix, matrix pow, graph, matrix pow min, floyd or floyd, dp_digit	6	<u>Sol</u>	[89]	p4		13
UVA 11605	math, matrix, matrix pow, linearity of expecation, [efficient mat pow]	6	<u>Sol</u>	[89]	p3 v3	2	8
LIVEARCHIVE 4332	math, matrix, matrix pow, reccurance, generating function or dp	6	<u>Sol</u>	[89]	p3 v2	4	8
<u>CF621-D2-E</u>	math, matrix, matrix pow or dp, d&c	6	<u>Sol</u>	[89]	p3 v1		9
<u>CF954-D12-F</u>	math, matrix, matrix pow, dp, sweepline, sorting	6		[89]	р3		6
UVA 10655	math, matrix, matrix pow, complex numbers, linear recurrences	6		[89]	p2		1
<u>CF821-D2-E</u>	math, matrix, matrix pow, impl	6		[89]	p2		5
<u>CF1117-D2-D</u>	math, matrix, matrix pow	5.5		[89]	р3		7
SRM397-D1-500	math, matrix, matrix pow	5.5		[89]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF582-D1-B</u>	math, matrix, matrix pow, matrix pow max, dp	5		[89]	p5		4
SPOJ JZPCIR	math, matrix, matrix pow, oeis	5	Sol	[89]	р3		2
UVA 11486	math, matrix, matrix pow, graph, dp	5	Sol	[89]	p2		2
<u>CF691-D12-E</u>	math, matrix, matrix pow	5		[89]	p1		3
SPOJ DCEPCA06	math, matrix, matrix pow	4.5		[89]	р3		
<u>CF222-D2-E</u>	math, matrix, matrix pow or dp	4.5		[89]	p2	1	12
SPOJ SUMSUMS	math, matrix, matrix pow, [basic hint in video]	4.5	Sol.	[89]	p1	1	7
SPOJ SPP	math, matrix, matrix pow	4.5		[89]		1	4
SPOJ FIBOSUM	math, matrix, matrix pow, [fib sum]	4.5		[89]			4
SPOJ FLIB	math, matrix, matrix pow, [fib]	4		[89]	v3	2	5
UVA 10229	math, matrix, matrix pow, fib, or pattern [direct fb]	4	Sol	[89]	p2		5
SPOJ RABBIT1	math, matrix, matrix pow, [fib]	4	<u>Sol</u>	[89]			5
TJU 2300	math, matrix, matrix pow	3.5		[89]	р3	1	4
UVA 10518	math, matrix, matrix pow	3.5		[89]			5
SPOJ SEQ	math, matrix, matrix pow	3	Sol	[89]	p2	1	9
SPOJ FIBTWIST	math, matrix, matrix pow, [fib]	3	<u>Sol</u>	[89]	p2		5
<u>CF166-D2-E</u>	math, matrix, matrix pow or dp	3		[89]			2
UVA 12470	math, matrix, matrix pow, [fib]	3		[89]			3
UVA 10689	math, matrix, matrix pow, [pisano period]	3		[89]			3
LIVEARCHIVE 3563	math, matrix, gaussian elimination	8.5		[90]			
LIVEARCHIVE 5129	math, matrix, gaussian elimination	8.5		[90]			
SRM306-D1-500	math, matrix, gaussian elimination	8.5		[90]			
UVA 472	math, matrix, gaussian elimination, complex numbers	8		[90]			
<u>CF113-D1-D</u>	math, matrix, gaussian elimination, matrix inv	8		[90]			1
<u>CF251-D1-D</u>	math, matrix, gaussian elimination	7.5		[90]			1
<u>CF938-D12-G</u>	math, matrix, gaussian elimination, gauss-xor, vector space, dynamic-dsu	7.3		[90]	p4		3
UVA 12953	math, matrix, gaussian elimination	7.25		[90]			
CF845-D12-G	math, matrix, gaussian elimination, gauss-xor, vector space	7	<u>Sol</u>	[90]	p5		5
CF959-D2-F	math, matrix, gaussian elimination, gauss-xor or dp	7		[90]	p4		4
CSA xor_cycle	math, matrix, gaussian elimination, gauss-xor or dp	7		[90]	р3		1
SPOJ NWERC04H	math, matrix, gaussian elimination	7		[90]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM350-D1-1000	math, matrix, gaussian elimination	7		[90]			1
UVA 10109	math, matrix, gaussian elimination	7		[90]			
UVA 10828	math, matrix, gaussian elimination	7		[90]			
UVA 10766	math, matrix, gaussian elimination, mst, matrix tree theorem	7		[90]			
<u>CF504-D1-D</u>	math, matrix, gaussian elimination, xor	7		[90]			2
SPOJ resist	math, matrix, gaussian elimination	6.75		[90]			
<u>CF0832-D2-E</u>	math, matrix, gaussian elimination, [optimization]	6.5		[90]	р3	2	4
UVA 345	math, matrix, gaussian elimination	6.5		[90]			
UVA 11542	math, matrix, gaussian elimination, sieve, is similar to SRM306-D1-500?	6.5		[90]			1
CODECHEF TREASURE	math, matrix, gaussian elimination, bitset	6		[90]	р3		1
TIMUS 1042	math, matrix, gaussian elimination	6	Editorial	[90]		1	1
UVA 684	math, matrix, gaussian elimination	6	<u>Sol</u>	[90]			1
LIVEARCHIVE 4305	math, matrix, gaussian elimination, determinant	6	Sol(no e	[90]			
SPOJ XMAX	math, matrix, gaussian elimination, gauss-xor, [education problem]	5.5	<u>Sol</u>	[90]	р5		3
<u>CF1155-D12-E</u>	math, matrix, gaussian elimination	5.5		[90]	p2		1
SPOJ MMIND	math, matrix, gaussian elimination	5.5		[90]			
LIVEARCHIVE 3529	math, matrix, gaussian elimination	5		[90]			
UVA 11319	math, matrix, gaussian elimination or ad-hoc	5		[90]			1
SPOJ HIGH	math, matrix, gaussian elimination, det	5		[90]			
UVA 11722	math, probability, integration	8.5		[91]	р3	5	5
HACKR james-tree	math, probability, trees	8.5		[91]			
LIVEARCHIVE 6394	math, probability	8		[91]			
SRM313-D1-500	math, probability	8		[91]			
LIVEARCHIVE 8049	math, probability, hashing or kmp	8		[91]			
<u>CF101-D1-D</u>	math, probability, tree, dfs, sorting	7.75		[91]			
<u>CF952-D12-D</u>	math, probability	7.5		[91]	р3		1
SRM199-D1-500	math, probability, percision	7.5		[91]			
<u>CF668-D1-C</u>	math, probability, quadratic equation	7		[91]	р3		1
<u>CF445-D2-D</u>	math, probability	7		[91]			
UVA 12487	math, probability	7		[91]			
LIVEARCHIVE 7161	math, probability, [Huffman encoding?]	7		[91]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 561	math, probability, arithmetic	7		[91]			1
<u>CF364-D1-D</u>	math, probability, randomization	7		[91]			3
SRM153-D1-500	math, probability	6.75		[91]			
UVA 10091	math, probability, graph	6.75		[91]			
SRM503-D1-500	math, probability, sorting, multiview	6.75		[91]			1
<u>CF1061-D2-F</u>	math, probability, randomization, interactive	6.7		[91]	р3		6
SRM417-D2-1000	math, probability, cdf, integration	6.5	<u>Sol</u>	[91]	p2	1	3
CF1096-D12-F	math, probability	6.5		[91]			1
PKU 3716	math, probability, formula	6.5		[91]		1	1
SRM326-D1-1000	math, probability, bf, bitmask or greedy	6.4		[91]	р3	2	10
<u>CF163-D12-C</u>	math, probability	6.25		[91]		1	3
UVA 11500	math, probability	6.25		[91]			
<u>CF110-D2-D</u>	math, probability, combinatorics	6.25		[91]		1	4
UVA 557	math, probability, combinatronics, [https://github.com/ahmedsamir221/Competitivel	6	<u>Sol</u>	[91]	p4	4	11
<u>CF26-D12-D</u>	math, probability, factorial, logarithm, catlan, reflection principle, [solve first SPOJ F	6	Sol - mu	[91]	p4	1	7
SRM243-D1-500	math, probability, bf, simulation	6		[91]		1	2
SPOJ FUNPROB	math, probability, formula, catalan, [https://github.com/ZeyadKhattab/Competitive-F	5.75	<u>Sol</u>	[91]	p4	3	13
SRM285-D1-500	math, probability, bf or dp	5.5		[91]	v2		6
<u>CF513-D12-C</u>	math, probability, bitmasks or dp_probability, [no editorial]	5.5	<u>Sol</u>	[91]	р3	1	9
<u>CF80-D2-D</u>	math, probability, geometry or algebra	5.5		[91]	p2		5
SRM153-D1-450	math, probability	5.5	<u>Sol</u>	[91]			1
SRM352-D2-1000	math, probability, recursion, precision, [hard txt?]	5.5		[91]		1	7
<u>CF186-D2-D</u>	math, probability or log, ternary search	5.25		[91]	p4	3	11
<u>UVa 11346</u>	math, probability, integration	5.25	<u>Sol</u>	[91]	р3	1	6
<u>CF442-D1-B</u>	math, probability, sorting	5.1		[91]	р3		5
SRM537-D2-1000	math, probability, graph, cycle	5		[91]	p2	3	5
UVA 12461	math, probability, greedy, [https://github.com/ahmedsamir221/CompetitiveProgram	5	Sol	[91]	p2		4
<u>CF100187-gym-B</u>	math, probability	5		[91]		2	5
<u>CF453-D1-A</u>	math, probability	5		[91]			3
<u>CF105-D12-B</u>	math, probability or dp, [bad statement]	5		[91]			4
CF626-D12-D	math, probability, combinatorics	5		[91]			4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF108-D2-D</u>	math, probability, combinatorics	4.5		[91]	р3		1
LiveArchive 8262	math, probability, simulation, [Might not be working on LA (but on CF y)]	4.5		[91]	р3		
UVA 12391	math, probability	4.5	Sol	[91]	p2		1
CF101864-GYM-A	math, probability, combinatorics, math	4.5	Sol	[91]	p2		3
<u>UVa 11181</u>	math, probability, conditional probability	4	Sol	[91]	p2		7
UVA 11628	math, probability, fraction style, gcd	4	Sol	[91]			6
SRM174-D1-250	math, probability	3		[91]			3
SRM223-D1-250	math, probability	3		[91]			3
SRM233-D1-250	math, probability	3		[91]			3
UVA 10056	math, probability	3	<u>Sol</u>	[91]			7
HACKR sherlock-and-probability	math, probability, fractions style	3	<u>Sol</u>	[91]			6
SPOJ BALLSUM	math, probability, gcd, counting style	3	<u>Sol</u>	[91]			4
UVA 12952	math, probability, formula	2		[91]			11
UVA 10491	math, probability, formula, fraction style	2	Revise P	[91]			7
UVA 11564	math, sieve, prime factorization, crt or fft	8.5	Sol analy	[93]		2	2
TJU 1296	math, sieve	7.75		[93]		2	2
UVA 1181	math, sieve, [hard / boring?]	7.5		[93]		2	2
UVA 12039	math, sieve, binary search	7.25		[93]			
UVA 11802	math, sieve, counting	7.25		[93]			
UVA 12805	math, sieve, factorization	7.25		[93]			
UVA 12384	math, sieve, stack	7.25		[93]			
UVA 10956	math, sieve	7		[93]			
UVA 11490	math, sieve	7		[93]			
UVA 835	math, sieve, dfs	7		[93]			
UVA 11773	math, sieve, factorization	7		[93]			
UVA 12355	math, sieve, factorization	7		[93]			
UVA 12619	math, sieve, factorization	7		[93]			
UVA 10208	math, sieve, factorization, factorial	7		[93]			
UVA 12119	math, sieve, factorization, gcd, lcm	7		[93]			
SPOJ EASYFACT	math, sieve, factorial, factorization	6.75	Sol	[93]	p4 v2	2	12
UVA 10236	math, sieve, fib, [first k digits of a really big number, approximation to Fibonacci as	6.75	Sol	[93]	p4	2	3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10914	math, sieve, binary search	6.75		[93]			
UVA 1434	math, sieve, wilson's theorem	6.75		[93]			
<u>CF449-D1-C</u>	math, sieve, greedy, constructive, [Genius trick]	6.5		[93]	p4		10
UVA 10290	math, sieve, sieve bitmasks	6.5		[93]			
AtCoder003-AGC-D	math, sieve	6		[93]			1
UVA 12216	math, sieve, factorization, counting	6	<u>Sol</u>	[93]			2
UVA 12716	math, sieve, sieve bitmasks, factorization	6		[93]		1	4
SPOJ POP2	math, sieve, prime testing, [SPOJ PRIMPERM is easier]	5.5		[93]	p4		1
LIVEARCHIVE 4008	math, sieve, [last non zero digit of permutations]	5.5	<u>Sol</u>	[93]	р3		11
UVA 10419	math, sieve, dp	5	Sol	[93]	p2		5
UVA 12005	math, sieve, factorization	5		[93]		1	2
UVA 960	math, sieve, factorization, gaussian prime	5		[93]			1
SPOJ DCEPC505	math, sieve	4.5		[93]	р3		
<u>CF569-D2-C</u>	math, sieve, palindromes	4.5		[93]	р3		3
SPOJ PRIMPERM	math, sieve, prime testing	4.5		[93]	р3		
UVA 10484	math, sieve	4.5		[93]	p2	1	6
UVA 12396	math, sieve, counting	4.5		[93]	p1		2
SPOJ NDIVPHI	math, sieve	4.5		[93]		1	3
<u>CF155-D2-D</u>	math, sieve, [is boring? remove from sheet?]	4.5		[93]			4
UVA 10742	math, sieve, binary search	4.5	Sol	[93]			5
SPOJ PAGAIN	math, sieve, repeated squaring	4.5		[93]		1	3
UVA 11099	math, sieve, sieve bitmasks, factorization, backtrack	4.5	Sol	[93]			3
UVA 10168 [11]	math, sieve	4		[93]	р3		8
SPOJ PSYCHON	math, sieve, factorization, tricky big # test cases	4		[93]	p2		5
<u>CF584-D2-D</u>	math, sieve	4		[93]			3
SPOJ FACTCG2	math, sieve	4		[93]			2
UVA 11353	math, sieve	4		[93]			2
UVA 1180	math, sieve	4		[93]			1
SPOJ HARSHAD	math, sieve, [direct]	4		[93]			2
UVA 1195	math, sieve, binary search	4		[93]			9
SPOJ GCPC11A	math, sieve, factorization, divisors	4		[93]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 12765	math, sieve, factorization, factorial	4		[93]			1
SPOJ MAIN12B	math, sieve, lcm	4		[93]			3
<u>UVA 884</u>	math, sieve, factorization	3.5		[93]			10
UVA 11086	math, sieve, sieve like	3.5		[93]			2
SRM388-D2-1000	math, sieve	3		[93]	v2		17
LIVEARCHIVE 2247	math, sieve	3		[93]			1
<u>UVA 10394</u>	math, sieve	3		[93]			9
UVA 12542	math, sieve	3		[93]			2
UVA 12802	math, sieve	3		[93]			3
<u>UVA 12101</u>	math, sieve, bfs, [=spoj ppath]	3	<u>Sol</u>	[93]			3
UVA 12218	math, sieve, bitmasks, bf	3		[93]			2
UVA 897	math, sieve, generate	3		[93]			2
UVA 11226	math, sieve, modified sieve	3		[93]			2
UVA 1210	math, sieve	2		[93]			2
UVA 1644	math, sieve	2		[93]			1
LIVEARCHIVE 4735	math, sieve, factorization	2		[93]			2
TJU 2869	math, extended gcd	6.75		[94]			1
HACKR solve-equations	math, extended gcd, geometry	5.5	Test case	[94]	v2	1	4
<u>CF100812-GYM-L</u>	math, extended gcd, totient	5	<u>Sol</u>	[94]	p1		4
UVA 10090	math, extended gcd	5	<u>Sol</u>	[94]		2	4
UVA 10225	math, extended gcd, logarithm, [avoid - baby-step giant-step algorithm]	5		<del>[94]</del>			4
UVA 10104	math, extended gcd	3		[94]			2
UVA 10673	math, extended gcd or gcd, simple math	3		[94]			2
UVA 12636	math, diophantine, arithmetic	7.25		[95]			
SPOJ DPEQN	math, diophantine, extended gcd, mod congruences	7	<u>Sol</u>	[95]	р3		2
CF1000963-GYM-J	math, diophantine	6.5		[95]			1
UVA 11768	math, diophantine, extended gcd, lattice points, impl, [~=SGU 106]	6.25	<u>Sol</u>	[95]			2
<u>UVA 718</u>	math, diophantine, extended gcd, mod congruences, dsu, [solve LightOJ 1306 first	6	Sol	[95]	р3	2	5
<u>CF100506-GYM-C</u>	math, diophantine, extended gcd or number theory, [unclear, boring]	6	Sol	[95]		1	3
LightOJ 1306	math, diophantine, extended gcd	5.5	Sol	[95]	p2		4
SRM385-D2-1000	math, diophantine	4.5		[95]	v3	1	6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
HACKR irresponsible-numbers	math, mod inv, combinatorics, geometric progression	9.5		[96]			
HACKR alien-flowers	math, mod inv, factorial inv	9		[96]			
HACKR div-and-span	math, mod inv, factorial inv, catlan	9		[96]			
HACKR ichigo-and-revenge	math, mod inv, factorial inv, combinatorics	9		[96]			
HACKR count-fox-sequences	math, mod inv, factorial inv, combinatorics	8.5		[96]			
HACKR longest-increasing-subsequence	math, mod inv, factorial inv, combinatorics	8.5		[96]			
HACKR manasa-and-combinatorics	math, mod inv, factorial inv, combinatorics	8.5		[96]			
SRM573-D1-1000	math, mod inv, Manhattan2DRotation, [For rotation trick, solve CF124-D2-D first]	8		[96]			
SPOJ SKEY	math, mod inv, summations, powers sum, [Author=Mostafa]	7.5		[96]	p2	1	1
HACKR permutation-problem	math, mod inv, factorial inv	7.5		[96]			
<u>CF111-D1-D</u>	math, mod inv, factorial, dp_counting	7.25		[96]	р3		1
UVA 12749	math, mod inv, counting	7.25		[96]			
CODECHEF C3	math, mod inv, factorial	7.25		[96]			
AtCoder031-AGC-D	math, mod inv, [permutations as functions], [group theory helps understanding edit	7		[96]	p5	1	4
SPOJ POWPOW	math, mod inv, factorial, crt	7	Sol	[96]	p2		2
SPOJ hc12	math, mod inv	7		[96]			
UVA 10951	math, mod inv	7		[96]			
UVA 11904	math, mod inv	7		[96]			
<u>CF338-D1-D</u>	math, mod inv, crt	7		[96]			1
UVA 11754	math, mod inv, crt, search	7		[96]			
<u>CF711-D2-E</u>	math, mod inv, probability	6.75		[96]			2
<u>CF17-D12-D</u>	math, mod inv, crt, euler, big pow mod	6.5	Sol	[96]	p4	1	3
<u>CF696-D1-C</u>	math, mod inv, probability, combinatorics	6.5		[96]	р3	1	3
TIMUS 1554	math, mod inv, extended gcd	6.5		[96]		2	2
<u>CF100155-GYM-J</u>	math, mod inv, inclusion-execulsion	6.5		[96]			1
<u>CF785-D2-D</u>	math, mod inv, summations, combinatorics or Vandermonde's identity	6.25	Read this	[96]	p5 v2	1	19
<u>CF521-D1-C</u>	math, mod inv, factorials, combinatorics, [independence property]	6.25		[96]	p4		7
SRM735-D1-500	math, mod inv, [easier version Timus 1132]	6	Sol	[96]	р3	1	3
<u>CF146-D2-E</u>	math, mod inv, factorial, dp_counting	6		[96]	р3		2
SPOJ DIVEQL	math, mod inv, gcd	6	Sol	[96]	р3		3
SPOJ KOPC12B	math, mod inv, combinations, pattern	6	Sol - See	[96]	p2	1	4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF816-D2-D</u>	math, mod inv, combinatorics	6		[96]	p1	1	3
<u>CF689-D2-E</u>	math, mod inv, combinatorics, impl	6		[96]			1
<u>CF688-D2-D</u>	math, mod inv, factorization, gcd, lcm, observations	5.75		[96]	p4		16
LIVEARCHIVE 4506	math, mod inv, dp, combinations	5.5		[96]			
<u>CF327-D2-C</u>	math, mod inv	5		[96]			3
<u>CF300-D2-C</u>	math, mod inv or ad-hoc math	5		[96]			8
HACKR choose-and-calculate	math, mod inv, combinatorics, binomial coefficients, [independency property]	5		[96]			2
SRM467-D1-500	math, mod inv, fermat's little theorem	5	Sol	[96]		1	2
TIMUS 1204	math, mod inv, primes, crt	5		[96]		1	2
LIVEARCHIVE 5990	math, mod inv	4	Sol	[96]			2
HACKR game-of-throne-ii	math, mod inv, factorial inv or permutation	4		[96]			2
TIMUS 1673	math, totient, impl	8		[97]			
CF1208-D12-G	math, totient, observations	7.75		[97]	р3		1
CODECHEF CNTDSETS	math, totient, inclusion-exclusion, [atmost-exact]	7.5		[97]			
UVA 10837	math, totient, primes, search, [~=UVA 11073]	7.25	Sol	[97]	р3		3
LIVEARCHIVE 3343	math, totient, power tower, [misc approaches such ad-hoc, crt]	7.1	Sol	[97]	p5		5
SRM283-D1-500	math, totient, power tower, [factorial]	7	Sol. Solv	[97]	p4		1
UVA 10692	math, totient, power tower	7		[97]	p3		
SPOJ MSE08H	math, totient, [hard to /no proof]	7	Sol	[97]		1	2
UVA 11317	math, totient, dp	7		[97]			
UVA 12799	math, totient, mod inv	7		[97]			
<u>CF906-D1-D</u>	math, totient, power tower, edge cases, [simiar to LIVEARCHIVE 3343]	7		[97]			4
UVA 11440	math, totient, sieve, mod inv	6.5	Sol	[97]	v2	1	3
UVA 12493	math, totient	6.5		[97]			
<u>CF114-D2-F</u>	math, totient	6.25		[97]	p2		1
CF100957-GYM-F	math, totient	6.25		[97]			1
TIMUS 1456	math, totient, sieve	6.25		[97]		1	2
UVA 10990	math, totient	6		[97]	v3		3
UVA 11426	math, totient, [=SPOJ GCDEX]	6	Sol	[97]	p3		2
HACKR hyperrectangle-gcd	math, totient	6		[97]			
UVA 12425	math, totient, sieve, factorization	6		[97]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 10820	math, totient	5.5		[97]			2
<u>CF101778-GYM-C</u>	math, totient	5	Sol	[97]	p2		2
SPOJ LCMSUM	math, totient	5	Sol	[97]			
UVA 10179	math, totient	5		[97]			2
<u>CF1009-D2-D</u>	math, totient, [cases]	5		[97]			4
UVA 11424	math, totient, sieve, sums, gcd	5	<u>Sol</u>	[97]			2
SPOJ DCEPCA03	math, totient	4.5		[97]			2
UVA 10299	math, totient	3		[97]	v2		1
TJU 3300	math, totient	3		[97]			1
UVA 11327	math, totient	3		[97]			1
SPOJ GCDEX2	math, mobius, mobius inversion, [solve UVA 11426 first]	8	<u>Sol</u>	[98]			
<u>CF101908-GYM-A</u>	math, mobius, mobius inversion, inclusion-exclusion	7.5	<u>Sol</u>	[98]	р3		1
CODECHEF LCM	math, mobius, mobius inversion, [lcm pairs]	7		[98]			
LIVEARCHIVE 4184	math, mobius	6.5		[98]			1
SPOJ SQFREE	math, mobius, inclusion-exclusion	6.25	<u>Sol</u>	[98]	p4		6
CF803-D12-F	math, mobius, inclusion-exclusion	6.25		[98]	р3		3
<u>CF900-D2-D</u>	math, mobius, inclusion-exclusion or dp_counting or pattern, [generalized stars and	6	<u>Sol</u>	[98]	р3		13
CODECHEF EXGCD	math, mobius	5		[98]			
CODECHEF COPRIME3	math, mobius	4.5		[98]			1
LIVEARCHIVE 2116	math, mobius	4		[98]			1
LIVEARCHIVE 2729	math, numerical analysis, integration, simpson, ellipse	8.5		[99]			
LIVEARCHIVE 3001	math, numerical analysis, simpson	8		[99]			
UVA 1356	math, numerical analysis, integration	7.25		[99]			
SPOJ CERC07W	math, numerical analysis, teranry search, simpson, teranry search	6.75	Amr Sam	[99]			
SPOJ CIVIL	math, numerical analysis, integration or ternary search	6.5	Sol	[99]			2
SPOJ ORZ	math, numerical analysis, integration, simpson	6.5		[99]			
UVA 10341	math, numerical analysis, binary search or bisection, root finding	4		[99]	p2		4
UVA 10668	math, numerical analysis, binary search, circles	4		[99]			
CODECHEF EST	string processing, trie	7.5		[101]			
SRM490-D1-500	string processing, trie or dp, long code	7		[101]			2
UVA 13186	string processing, trie, bitset	6.75		[101]	рЗ		

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 1113	string processing, trie, merge nodes, dp	6.75		[101]			
CODECHEF PPTREE	string processing, trie, lca, xor, [path with max xor]	6.5		[101]			
LIVEARCHIVE 5792 [12]	string processing, trie, dfs on trie, counting	6.25	Sol	[101]	p4 v2	3	10
CODECHEF GPD	string processing, trie, persistance	6.25		[101]	р3		2
<u>CF557-D2-E</u>	string processing, trie, dp	6.25		[101]			1
<u>CF979-D2-D</u>	string processing, trie, xor or sqrt decomposition	6		[101]	p3 v2		11
SPOJ PRHYME	string processing, trie, dp or ad-hoc	6	Sol	[101]	р3	1	5
CSA42-E	string processing, trie, parity, [tricky]	6		[101]	p1		2
LIVEARCHIVE 4054	string processing, trie	6		[101]			1
CODECHEF SUBBXOR	string processing, trie or ad-hoc	6	Don't imp	[101]			2
UVA 12506	string processing, trie or ad-hoc	6		[101]			
SPOJ TAP2012D	string processing, trie or segment tree	6		[101]			
UVA 10745	string processing, trie or X algo	6	<u>AC</u>	[101]			4
<u>CF100781-GYM-J</u>	string processing, trie with maps, dp	6	Sol	[101]			
PKU 3764	string processing, trie, tree, bitmasks, impl, [TLE]	6	Sol	[101]			3
HACKR XOR-key	string processing, trie, persistent or segment tree, persistent, Mo's algo	5.75	Sol	[101]	p4		7
CODEJAM 19-R1C-A	string processing, trie or impl	5.75		[101]	р3		3
<u>CF665-D12-E</u>	string processing, trie	5.5		[101]	р3	1	5
<u>CF817-D12-E</u>	string processing, trie, bit	5.5		[101]	p2		2
LiveArchive 4682	string processing, trie	5.5	Sol	[101]			3
<u>CF455-D1-B</u>	string processing, trie, game theory	5.5		[101]			2
LiveArchive 8015	string processing, trie	5.25	Sol	[101]	p4		1
<u>CF282-D2-E</u>	string processing, trie or ad-hoc	5.25	Don't imp	[101]	p2		9
KICKSTART 20-RA-D	string processing, trie, recursion	5.25		[101]	p2		1
UVA 10999	string processing, trie or bf	5		[101]	v2		7
<u>CF842-D2-D</u>	string processing, trie, [xor]	5		[101]	p4		16
<u>CF271-D2-D</u>	string processing, trie or rolling hash	5		[101]	p2 v2		17
<u>CF706-D2-D</u>	string processing, trie, bitmasks	5		[101]	p2	1	10
SPOJ MORSE	string processing, trie, dp or dp	5		[101]	p1		2
UVA 1401	string processing, trie, dp, [optimization]	5	Sol	[101]	p1		5
SPOJ ADAINDEX	string processing, trie	5		[101]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 12333	string processing, trie	5	Sol	[101]			2
UVA 12890	string processing, trie or ad-hoc	5		[101]			1
SRM330-D1-500	string processing, trie or dp	5	Sol	[101]			2
SPOJ SUBXOR	string processing, trie, bitmasks	5	Sol	[101]		2	6
CODEJAM 19-R1A-C	string processing, trie, greedy	5		[101]			1
<u>CF37-D12-C</u>	string processing, trie	4.5		[101]	р3		
<u>UVA 12526</u>	string processing, trie	4.5		[101]	р3		10
<u>UVA 1556</u>	string processing, trie, trie using map, pretty print trie, fast cin	4.5		[101]	р3	1	16
SPOJ DICT	string processing, trie	4.5		[101]	p2		12
CF860-D1-B	string processing, trie or bf, unordered_map/set	4		[101]	v2		2
UVA 11488	string processing, trie or ad-hoc	4	Don't imp	[101]			5
UVA 1590	string processing, trie, bitmasks or bf	4	Sol	[101]		1	4
SPOJ PHONELST	string processing, trie	3.5		[101]		1	10
TJU 3753	string processing, trie	3	<u>Sol</u>	[101]			1
SPOJ CPATTERN	string processing, kmp or bit	7.5		[102]		1	1
SPOJ UNTITLED	string processing, kmp or ad-hoc	7.25		[102]			
<u>CF526-D12-D</u>	string processing, kmp or z-algo	7		[102]		1	3
TIMUS 1861	string processing, kmp, dp, ??	7		[102]			
SPOJ ANARC08C	string processing, kmp, impl, [memory?]	6.75	Sol (no e	[102]		2	2
<u>CF1045-D12-B</u>	string processing, kmp, math or z-algo	6.5		[102]	р3	2	5
CF808-D12-G	string processing, kmp, dp	6.25		[102]	р3	1	5
<u>CF495-D2-D</u>	string processing, kmp, dp or z-algo, prefix sum	6.1		[102]	р3	1	9
UVA 12785	string processing, kmp	6		[102]			
UVA 12040	string processing, kmp, dp or segment tree	6		[102]			
LIVEARCHIVE 6029	string processing, kmp, dp, [https://github.com/goswami-rahul/competitive-coding/t	5.75	<u>Sol</u>	[102]	р3	2	6
SPOJ EMOTICON	string processing, kmp or aho_corasick, dp	5.75		[102]			
<u>CF536-D1-B</u>	string processing, kmp or z-function	5.75		[102]			4
AtCoder150-ABC-F	string processing, kmp, bitmask	5.5		[102]	p2		1
FbHkrCup 18-RQ-C	string processing, kmp or z-function	5.5	<u>ACC</u>	[102]	p1		2
UVA 12467	string processing, kmp	5.5		[102]			1
UVA 11475	string processing, kmp or rolling hash	5.5	Sol	[102]			5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SRM401-D2-1000	string processing, kmp, period	5.25		[102]	р3		1
<u>CF1147-D1-B</u>	string processing, kmp. bf	5.25		[102]	p2	1	2
<u>CF432-D2-D</u>	string processing, kmp or z-function	5		[102]	p3 v2		14
<u>CF631-D2-D</u>	string processing, kmp	5		[102]	р3		8
<u>CF1138-D2-D</u>	string processing, kmp, constructive	5		[102]	p2		3
<u>CF535-D2-D</u>	string processing, kmp or z-function, [~CF127-D2-D]	5		[102]	p1		10
TIMUS 1684	string processing, kmp	5		[102]			2
UVA 12012	string processing, kmp	5		[102]			
UVA 11888	string processing, kmp or ad-hoc	5	Don't imp	[102]			1
<u>CF471-D2-D</u>	string processing, kmp or z-function or suffix array	5		[102]			5
<u>CF346-D1-B</u>	string processing, kmp, dp	5		[102]			2
SPOJ PSTRING	string processing, kmp, dp	5		[102]		1	4
<u>CF347-D2-D</u>	string processing, kmp,dp or aho_corasic, dp	5		[102]			2
SPOJ PERIOD	string processing, kmp, period max or suffix array	4.5	Please d	[102]	р3		6
SPOJ ARDA1	string processing, kmp or bf	4.5	Don't imp	[102]			2
SPOJ VPALIN	string processing, kmp, period or rolling hash	4.5		[102]		1	3
SPOJ TESSER	string processing, kmp	4		[102]	p4		6
UVA 12604	string processing, kmp	4		[102]			2
SPOJ QUERYSTR	string processing, kmp or z-function	4		[102]			4
CODECHEF TASHIFT	string processing, kmp	3		[102]	p2		2
CF93-D1-B	string processing, kmp	3		[102]			1
LIVEARCHIVE 3026	string processing, kmp	3		[102]			3
SPOJ CF25E	string processing, kmp	3		[102]			1
SPOJ EPALIN	string processing, kmp	3		[102]			3
TJU 3512	string processing, kmp	3		[102]			2
SPOJ NAJPF	string processing, kmp or ad-hoc	3	Don't imp	[102]			
UVA 10298	string processing, kmp or ad-hoc	3		[102]			2
UVA 10679	string processing, kmp or suffix array or aho_corasick, pattern search or suffix auto	3		[102]			6
SPOJ NHAY	string processing, kmp, [find words positions]	3		[102]			5
UVA 11019	string processing, kmp, 2d	3		[102]			1
SPOJ FILRTEST	string processing, kmp, period max	3	Sol	[102]			4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
PKU 3461	string processing, kmp, [count word frequency]	2		[102]			5
<u>CF433-D2-E</u>	string processing, aho_corasick, dp, [classic, Aho-Corasick automaton (ACA)]	8		[103]	p2		1
TJU 3301	string processing, aho_corasick	8		[103]			
UVA 10975	string processing, aho_corasick	7.25		[103]			
UVA 11171	string processing, aho_corasick	7.25		[103]			
UVA 11468	string processing, aho_corasick	7		[103]	р3		3
<u>CF696-D1-D</u>	string processing, aho_corasick, dp, matrix pow	7		[103]	р3		2
kattis insidersidentity	string processing, aho_corasick, dp	7	Sol	[103]	p2		1
UVA 12886	string processing, aho_corasick	7		[103]			
UVA 11590	string processing, aho_corasick or trie	7		[103]			1
UVA 10835	string processing, aho_corasick, dp	7		[103]			
<u>CF101064-gym-E</u>	string processing, aho_corasick, dp, [solve first SPOJ DNALAB]	7	Sol	[103]			1
SPOJ AHOCUR	string processing, aho_corasick, dp, level?	7		[103]			
SPOJ ADAJOBS	string processing, aho_corasick, level?	7		[103]			
SPOJ WPUZZLES	string processing, aho_corasick, impl	6.75		[103]		1	1
UVA 12244	string processing, aho_corasick or suffix array or ad-hoc	6.25	Sol	[103]	p2		1
LIVEARCHIVE 5064	string processing, aho_corasick	6	<u>Sol</u>	[103]			
TIMUS 1269	string processing, aho_corasick	6		[103]			1
UVA 1449	string processing, aho_corasick or AC Automta	6		[103]			
UVA 736	string processing, aho_corasick or ad-hoc	6		[103]			
CODECHEF LYRC	string processing, aho_corasick, dp	6		[103]			1
SRM519-D1-500	string processing, aho_corasick	5		[103]			2
SRM557-D2-1000	string processing, aho_corasick, dp or kmp, dp	5		[103]			1
SPOJ SUB_PROB	string processing, aho_corasick or suffix array	4	Sol	[103]			2
<u>CF1063-D1-F</u>	string processing, suffix array, segment tree, dp, two pointers, observations	8		[104]	p4		2
<u>CF653-D12-F</u>	string processing, suffix array or suffix automaton	8		[104]	р3		2
<u>CF101889-GYM-M</u>	string processing, suffix array	8	Sol	[104]			1
SPOJ COT4	string processing, suffix array	8		[104]			
SPOJ STRSOCU	string processing, suffix array or aho_corasick	8	Author ?	[104]			
<u>CF235-D1-C</u>	string processing, suffix array or aho_corasick or suffix Automaton	8		[104]		1	2
CODECHEF DIFTRIP	string processing, suffix array, lcp, [reduce tree to strings]	8		[104]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ TWICE	string processing, suffix array	7.5		[104]			1
CF316-D12-G2	string processing, suffix array or aho_corasic or ad-hoc	7.5		[104]			
LiveArchive 6856	string processing, suffix array	7.25		[104]	p4		
LiveArchive 7701	string processing, suffix array, rmq	7.25		[104]	p4		
LiveArchive 8086	string processing, suffix array, rmq, bs	7.25		[104]	p4		
<u>URI 1530</u>	string processing, suffix array, rmq, set	7.25		[104]	p4		
CF802-D12-I	string processing, suffix array, segment tree	7.25		[104]	р3		1
SPOJ NSUBSTR2	string processing, suffix array, [actually Suffix Automat]	7.25		[104]			
UVA 10829	string processing, suffix array, lcp	7.25		[104]			
UVA 12359	string processing, suffix array, recheck	7.25		[104]			
<u>CF452-D12-E</u>	string processing, suffix array, suffix tree or suffix automata, dp	7		[104]	р3		2
ACMWF19-G	string processing, suffix array	7		[104]			1
CODECHEF MOU1H	string processing, suffix array	7		[104]			
CODECHEF TANDEM	string processing, suffix array	7		[104]		2	3
UVA 10526	string processing, suffix array, binary search	7	Coach do	[104]			
UVA 10580	string processing, suffix array, binary search	7	Coach do	[104]			
LIVEARCHIVE 5794	string processing, suffix array, lcp, rmq	6.8		[104]		1	1
<u>CF102028-GYM-H</u>	string processing, suffix array, rmq, dp	6.75	Sol(no ed	[104]	p4		2
<u>CF1129-D1-C</u>	string processing, suffix array, dp or suffix trie	6.5		[104]	p4	2	4
CF1073-D12-G	string processing, suffix array, lcp	6.5	<u>Sol</u>	[104]	p4	2	4
<u>CF873-D2-F</u>	string processing, suffix array, rmq or suffix automaton	6.5		[104]	p4		7
LiveArchive 7702	string processing, suffix array, rmq, bs	6.3		[104]	p4		1
<u>CF149-D2-E</u>	string processing, suffix array or kmp or suffix automaton or z-algo, impl, [=822E]	6		[104]	p4		10
<u>CF822-D2-E</u>	string processing, suffix array, dp	6		[104]	р3		6
UVA 10234	string processing, suffix array, frequent substrings	6		[104]	р3		1
<u>CF129-D2-D</u>	string processing, suffix array, Kth lexographical substring or impl	6		[104]	р3		8
SPOJ JZPGYZ	string processing, suffix array, segment tree or aho_corasick	6		[104]	р3		1
UVA 11017	string processing, suffix array	6	Sol	[104]			
<u>CF113-D1-B</u>	string processing, suffix array	5.5		[104]			3
<u>CF123-D1-D</u>	string processing, suffix array or suffix automaton	5.5		[104]			2
UVA 11107	string processing, suffix array, lcp, binary search or rmq or rolling hash, [=LIVEARC	5	Coach do	[104]	p5		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ LPS	string processing, suffix array, lcp or rolling hash or Manacher	5	Sol	[104]	р3	1	2
SPOJ LONGCS	string processing, suffix array, lcp, LCS k substrings, [UVA 760, TIMUS 1517]	5	Sol	[104]	p2		1
SPOJ PHRASES	string processing, suffix array	5		[104]			
UVA 11512	string processing, suffix array, lcp or datastructures or trie	5	Don't imp	[104]			1
SPOJ REPEATS	string processing, suffix array, rmq or rolling hash	5	Problem	[104]			
SPOJ MINMOVE	string processing, suffix array, lcp, smallest rotation or ad-hoc, [nlogn^2 give tle, =L	4	Sol	[104]	p1		1
SPOJ SUBLEX	string processing, suffix array	4	<u>Sol</u>	[104]			2
<u>CF427-D2-D</u>	string processing, suffix array, lcp, dp or suffix automaton or ad-hoc, [It is solvable	4		[104]			2
SPOJ SUBST1	string processing, suffix array, lcp, distinct substrings	3	Coach do	[104]	р3		1
UVA 11576	string processing, suffix array or kmp or ad-hoc	3	<u>Sol</u>	[104]			1
ACMWF19-G	string processing, rolling hash, binary lifting, binary search	6.5	Sol(no ed	[105]	p4		4
<u>CF1080-D2-E</u>	string processing, rolling hash or or manachar's agorithm, [number of palindromes]	6.5		[105]	р3		5
CF1055-D12-D	string processing, rolling hash, impl or kmp or z-algo	6.3		[105]	p2		5
<u>CF7-D12-D</u>	string processing, rolling hash, dp	6.25		[105]	р3		7
CF101627-GYM-D	string processing, rolling hash, greedy, binary search	6.25	<u>Sol</u>	[105]	р3		2
<u>CF101864-GYM-J</u>	string processing, rolling hash, two pointer, impl or manachar's agorithm, [Longest	6.25	<u>Sol</u>	[105]	p2		2
CF985-D12-F	string processing, rolling hash	6	<u>Sol</u>	[105]	p4		10
CF1056-D12-E	string processing, rolling hash, math	5.75		[105]	р3	1	15
<u>CF101741-gym-K</u>	string processing, rolling hash	5.5		[105]	р3		1
<u>CF101808-gym-B</u>	string processing, rolling hash	5.5		[105]	р3		1
<u>CF533-D1-E</u>	string processing, rolling hash	5.5		[105]	р3		4
<u>CF727-D2-E</u>	string processing, rolling hash	5.5		[105]	р3		3
TIMUS 1713	string processing, rolling hash or suffix array	5.5		[105]	р3		2
<u>CF19-D12-C</u>	string processing, rolling hash or suffix array or dp	5.5		[105]	р3	1	2
<u>CF1200-D2-E</u>	string processing, rolling hash	5.5		[105]			1
<u>CF1003-D3-F</u>	string processing, rolling hash	5		[105]	p2		3
HACKER kriti-and-her-birthday-gift	string processing, rolling hash, mo's algorithm	5		[105]	p1		3
SPOJ PLD	string processing, rolling hash, longest palindrome or manacher algo	4		[105]	p1		3
SPOJ ELCS	string processing, rolling hash	4		[105]			1
SPOJ ADACLEAN	string processing, rolling hash or suffix array	3		[105]			1
<u>CF1172-D1-E</u>	bbst, link-cut tree	7.5		[106]	р3		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF1056-D12-G	bbst, treap persistent or avl, persistent or ad-hoc, cycle	7.25	Sol	[106]	р3	1	4
UVA 11688	bbst, bbst like operations	7.25		[106]		1	1
<u>CF1109-D1-C</u>	bbst, treap or iterative segment tree, grid compress [Errichto stream]	7		[106]	р3	1	1
UVA 11922	bbst, splay tree, ??	6.75		[106]			
CODECHEF GERALD07	bbst, link-cut tree or mo's algorithm, dsu	6.5		[106]			1
CODECHEF CARDSHUF	bbst, splay tree or link/cut trees or cartesian tre, [forest edges insert/delete]	6.5		[106]			
SPOJ IITWPC4D	bbst, treap or segment tree	6.5		[106]			1
<u>CF38-D12-G</u>	bbst, treap, binary search	6.25		[106]	р3		3
SPOJ MEANARR	bbst, treap or bit	6.25	Sol	[106]	p2	1	2
UVA 11996	bbst, splay tree	6.25		[106]			
SPOJ DYNACON1	bbst, splay tree or link-cut tree	6.25		[106]			
<u>CF101864-GYM-K</u>	bbst, treap	6	Sol	[106]	р3		3
kattis hanoi18.lazylearner	bbst, treap, impl, offline query answering or policy-based-datastructures or segmer	6	Sol	[106]	р3		1
SPOJ CERC07S	bbst, treap, segment tree, lazy or splay tree	6	Sol	[106]	р3		3
SPOJ GSS6	bbst, treap or splay tree or avl tree, [solve GSS3 first], [Conceptually very easy and	6	Sol	[106]	p2 v2	1	9
SPOJ SEQ2	bbst, splay tree	6		[106]			
UVA 12538	bbst, treap	6		[106]			
UVA 1479	bbst, treap	6		[106]		1	1
CODECHEF PRESTIGE	bbst, treap, [direct]	6		[106]			1
UVA 12003	bbst, treap, impl	6	<u>Discu</u>	[106]			2
SPOJ ALLIN1	bbst, treaps	5.1	ACE	[106]			1
SPOJ TWIST	bbst, treap	5		[106]	p2		1
SPOJ ADAAPHID	bbst, treap or segment tree	5	Sol	[106]	p2		1
SPOJ TREAP	bbst, treap	5		[106]			1
SPOJ HEAPULM	bbst, treap or cartesian tree or order-statistic tree	5		[106]		1	1
SPOJ SDITSAVL	bbst, treaps	5	ACE	[106]			1
SPOJ KOILINE	bbst, treap, [Iterate from back — get+remove]	4.5		[106]	p4		
SPOJ QMAX3VN	bbst, treap or avl or splay tree	4		[106]			1
<u>CF100147-GYM-G</u>	bbst, treap or Indexable skiplist	4		[106]			2
Codechef GERALD3	mo's algorithm	7.25		[107]			
HDU 4385	mo's algorithm	7.25		[107]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
HDU 4638	mo's algorithm	7.25		[107]			
HDU 5145	mo's algorithm	7.25		[107]			
HDU 5213	mo's algorithm	7.25		[107]			
HDU 5381	mo's algorithm	7.25		[107]			
LightOJ 1339	mo's algorithm or segment tree	7.25		[107]			
Codechef CLOSEFAR	mo's algorithm, segment tree, euler tour on tree, long impl, [Strict TLE]	7		[107]	р3	2	4
<u>CF351-D1-D</u>	mo's algorithm, [solve first SPOJ DQUERY]	7		[107]	p2		3
<u>CF940-D2-F</u>	mo's algorithm	7		[107]			1
SPOJ COT2	mo's algorithm on tree or graph, hld, lca	6.6	Sol	[107]	p5		11
<u>CF840-D1-D</u>	mo's algorithm or wavelt tree or d&c, [mo needs constant optimization]	6.5	See Edit	[107]	р3		3
CF1000-D12-F	mo's algorithm, [strict time, inline trick]	6.5	Sol	[107]	p2		2
CF741-D1-D	mo's algorithm, suffix array or graph, dsu-on-trees or centroid-decomposition, impl	6.5		[107]	p2	1	6
<u>CF877-D2-F</u>	mo's algorithm, compress	6.3		[107]	p3		2
SPOJ ZQUERY	mo's algorithm, [strict time/mem], [~=CODECHEF QCHEF]	6.25	Sol	[107]			1
SPOJ DCEPCA09	mo's algorithm, order-statistic tree, median	6		[107]	рЗ		3
<u>CF375-D1-D</u>	mo's algorithm, trees, dfs or dsu-on-trees or datastructure, [small-to-large]	5.75		[107]	p3 v2		23
<u>CF86-D12-D</u>	mo's algorithm or bit or sqrt decomposition or datastructures	5.5	One sol i	[107]	p2		16
<u>CF617-D2-E</u>	mo's algorithm	5.5		[107]			9
SPOJ CPAIR2	mo's algorithm, bit	5		[107]	p4		
CODECHEF IITI15	mo's algorithm, bit, [count inversion]	5		[107]	p1		2
<u>CF220-D1-B</u>	mo's algorithm	5		[107]			7
HACKER substrings-count-3	mo's algorithm	5		[107]			
SPOJ RACETIME	mo's algorithm or segment tree or sqrt decomposition, treap	5	Don't imp	[107]			4
SPOJ KDOMINO	mo's algorithm	4.25		[107]	р3		
SPOJ DQUERY	mo's algorithm or segment tree persistence or bit or ad-hoc, [# of distinct in range,	4		[107]	р3		5
LIVEARCHIVE 2945	bst, impl	6.5	Sol (no e	[108]			
UVA 12942	bst, expression parsing, postfix parsing	6	Sol	[108]			
CF9-D2-D	bst, math or dp_trees	5.75		[108]	р3		11
UVA 11147	bst	5.5	Sol	[108]			
SRM319-D1-500	bst, greedy, combinatorics or dp	5		[108]	р3		10
LIVEARCHIVE 7578	bst, analysis	4		[108]	·		7

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF253-D2-E</u>	impl, binary search	7.75		[109]			
CF513-D12-D2	impl, constructive	7.5		[109]			1
<u>CF734-D2-F</u>	impl, math, bitmasks, [NO editorial]	7		[109]	р3	1	3
<u>CF127-D2-E</u>	impl	7		[109]			1
<u>CF1250-D12-G</u>	impl, greedy	7		[109]			1
<u>CF51-D12-D</u>	impl, math, cases, no editoiral, ignore?	7		[109]		1	1
CF1307-D12-E	impl, observations	7		[109]			2
<u>CF218-D2-D</u>	impl, fib	6.75		[109]		1	2
<u>CF733-D2-E</u>	impl, greedy, math	6.5		[109]	р3		6
<u>CF731-D2-D</u>	impl, datastructures	6.5		[109]	p2		3
<u>CF521-D1-B</u>	impl, game theory	6.5		[109]	p1		3
LIVEARCHIVE 4118	impl, bf	6.5		[109]		2	5
<u>CF133-D2-D</u>	impl, domain specific, think to simplify	6.5		[109]			3
<u>CF558-D2-D</u>	impl, greedy	6.25		[109]	р3		5
UVA 181	impl, 52 card game	6.25		[109]			
CF520-D2-D	impl, greedy, game theory, [direct, tricky impl]	6.25		[109]		1	2
<u>CF139-D2-D</u>	impl	6		[109]		1	6
CF292-D12-C	impl	6		[109]			3
<u>CF630-D12-E</u>	impl	6		[109]			3
<u>CF677-D2-E</u>	impl	6		[109]			2
SRM335-D1-1000	impl	6		[109]			1
<u>CF714-D2-D</u>	impl, binary search	6		[109]			1
LIVEARCHIVE 2997	impl, calender	6		[109]			2
UVA 10906	impl, expression parsing	6		[109]			1
SRM188-D1-500	impl, partial dervatives	6		[109]			1
UVA 10710	impl, repeated squaring	6		[109]			1
<u>CF320-D2-D</u>	impl, datastructures	5.5		[109]	v2	2	10
CF1090-D12-C	impl, greedy, datastructures	5.5		[109]	р3		1
KICKSTART 19-RC-A	impl. ordered set	5.5		[109]	р3		1
<u>CF1099-D2-E</u>	impl	5.5		[109]	p2		3
CF435-D2-D	impl, greedy	5.5		[109]	p2	1	6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF719-D2-C</u>	impl	5.5		[109]			1
CSA79-D	impl	5.5	Sol	[109]			2
<u>CF101187-GYM-F</u>	impl	5.25	Sol	[109]	p2		2
<u>CF570-D2-C</u>	impl, constructive	5		[109]	v2		7
<u>CF1042-D12-D</u>	impl or segment tree or bit	5		[109]	р3		4
<u>CF350-D2-E</u>	impl, graph	5		[109]	p1		2
<u>CF405-D2-C</u>	impl, math, [symbolic thinking]	5		[109]	p1		3
<u>CF114-D2-C</u>	impl	5		[109]			2
<u>CF463-D2-C</u>	impl	5		[109]			10
<u>CF734-D2-D</u>	impl	5		[109]			7
SRM311-D1-1000	impl	5		[109]			1
UVA 11660	impl	5		[109]			1
<u>CF143-D2-C</u>	impl, math	5		[109]			4
CF433-D2-C	impl, math, sortings	5		[109]			3
LIVEARCHIVE 7587	impl, tricky to impl or bs, greedy	5		[109]			1
UVA 10479	impl, ULL	5		[109]			1
<u>CF581-D2-D</u>	impl	4.5		[109]	p2		3
TIMUS 1498	impl, chess	4.5	Sol	[109]	p2	1	4
<u>CF507-D2-C</u>	impl, math	4.5		[109]	p2		5
<u>CF435-D2-C</u>	impl	4.5		[109]		1	4
<u>CF586-D2-C</u>	impl	4.5		[109]			2
SRM582-D2-1000	impl, bf	4.5		[109]			6
<u>CF168-D2-C</u>	impl, calculus, pyshics	4.5		[109]		1	3
<u>CF469-D2-C</u>	impl, constructive	4.5		[109]			1
<u>CF746-D2-C</u>	impl, constructive	4.5		[109]			7
UVA 1115	impl, geometry, binary search or datastructures, heap	4.5		[109]			2
CF1282-D2-C	impl, observation	4.5		[109]			1
<u>CF421-D2-C</u>	impl, pattern	4.5		[109]			3
<u>CF382-D2-C</u>	impl, sorting	4.5		[109]		1	6
<u>CF1087-D2-C</u>	impl	4		[109]	р3		3
CF1077-D3-D	impl	4		[109]	p2		6

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
ZOJ 2840	impl, strings, [WAs]	4		[109]	p1 v1		3
<u>UVA 127</u>	impl, datastructures, [heavy impl]	4		[109]	p1	1	5
<u>CF200-D2-D</u>	impl	4		[109]		1	3
<u>CF239-D2-C</u>	impl	4		[109]			3
<u>CF43-D2-D</u>	impl	4		[109]		1	5
<u>CF495-D2-C</u>	impl	4		[109]			2
<u>CF69-D2-C</u>	impl	4		[109]			2
SRM324-D1-1000	impl	4		[109]		1	3
CF268-D2-C	impl, constructive	4		[109]		1	7
<u>CF282-D2-C</u>	impl, constructive	4		[109]			5
UVA 10877	impl, dice, [annoying impl]	4		[109]		1	4
UVA 11291	impl, expectation, [hard text, annoying impl]	4		[109]			9
SRM362-D2-1000	impl, math	4		[109]			2
SRM421-D2-1000	impl, math, graph	4		[109]			2
<u>CF66-D2-A</u>	impl, sorting	4		[109]			5
<u>CF670-D2-C</u>	impl, sorting	4		[109]			3
<u>CF462-D2-C</u>	impl, sorting, huffman coding	4	Sol	[109]			6
SRM259-D1-500	impl, strings	4		[109]			1
<u>CF1136-D2-C</u>	impl	3.5		[109]	р3		3
CF1062-D2-A	impl	3.5		[109]	p2		10
SRM301-D2-500	impl	3.5		[109]			2
<u>CF61-D2-C</u>	impl, math	3.5		[109]			2
UVA 668	impl, math, counting	3.5		[109]			3
<u>CF47-D2-C</u>	impl, unclear statement	3.5		[109]			1
TIMUS 1054	impl, recursion, tower of hanoi	3	Sol	[109]	p2		1
CF101138-GYM-B	impl	3		[109]			3
UVA 13007	impl	3		[109]			1
UVA 10222	impl, annoying to code, [unclear text]	3		[109]			7
SRM220-D1-500	impl, cycles, strings	3		[109]			
UVA 12187	impl, dir array	3		[109]			3
UVA 11955	impl, math	3		[109]			4

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
UVA 13034	impl	2		[109]			1
PKU 3158	impl, [hard text]	2		[109]			1
<u>CF372-D1-D</u>	two pointers, dfs order, datastructures or hld	7.5		[110]			1
<u>CF1252-D12-E</u>	two pointers, observation, [tricky though simple]	6.5		[110]	р3		2
<u>CF408-D2-E</u>	two pointers, math or bf, impl	6		[110]	v2	1	2
<u>CF1148-D12-E</u>	two pointers, sorting	6		[110]			2
<u>CF309-D12-B</u>	two pointers, dp, DAG or greedy	5.5		[110]	p4	1	8
<u>CF253-D2-D</u>	two pointers, bf, impl, matrix	5.5		[110]	p3 v2		9
<u>CF1195-D2-E</u>	two pointers, datastructures	5.5		[110]	р3		3
CF102001-GYM-F	two pointers, greedy	5.5	Sol	[110]	р3		1
CF224-D2-D	two pointers, strings	5.5	Sol	[110]	р3	2	15
<u>CF281-D2-D</u>	two pointers or segment tree	5.5		[110]	p2	1	7
CF746-D2-F	two pointers, datastructures	5.5		[110]	p1		4
UVA 1344	two pointers or greedy, [hard text?]	5.5	Sol	[110]			3
LeetCode shortest-subarray-with-su	um-at- two pointers, sliding window, [extends mis] or segment tree	5.25	Sol	[110]	р3		2
SPOJ KOIREP	two pointers	5	Sol	[110]	p4		1
Dwango5th-C	two pointers	5	Sol	[110]	р3		2
CF1043-D12-D	two pointers, [different solutions]	5	Sol	[110]	р3		8
<u>CF883-D12-I</u>	two pointers, binary search	5		[110]	р3		1
CF6-D2-E	two pointers, multiset	5		[110]	р3		
<u>CF79-D12-C</u>	two pointers, set	5		[110]	р3		
<u>CF334-D2-D</u>	two pointers or ad-hoc	5		[110]	p2 v2	1	5
CODECHEF REDCGAME	two pointers	5		[110]	p2		1
<u>CF368-D2-D</u>	two pointers or ad-hoc or kmp-like	5	Sol	[110]	p2		7
CF190-D2-D	two pointers	5		[110]			3
<u>CF676-D2-C</u>	two pointers	5		[110]			10
CF131-D2-F	two pointers, [solve SPOJ ALIEN first]	5		[110]			3
<u>CF788-D1-A</u>	two pointers, math, dp	5		[110]			2
SPOJ CRAN04	two pointers	4.5		[110]	р3		1
CF100459-GYM-C	two pointers	4.5	Sol	[110]			1
<u>CF155-D2-C</u>	two pointers or dp	4.5		[110]			5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
LIVEARCHIVE 2932	two pointers, prefix sum 2d or backtrack, observations	4	Sol	[110]	v3		3
<u>CF767-D2-D</u>	two pointers, binary search	4		[110]	р3		3
<u>CF252-D2-C</u>	two pointers or binary search, combinatorics	4		[110]	p2		5
CODECHEF BDGFT	two pointers, bf	4		[110]	p2		2
<u>CF231-D2-C</u>	two pointers, binary search	4		[110]	p2		9
CF101609-GYM-E	two pointers	3.25		[110]			1
<u>CF216-D2-D</u>	two pointers or ad-hoc	3		[110]		1	4
SPOJ HOTELS	two pointers, sliding window	3		[110]			1
SPOJ ALIEN	two pointers, sliding window, [if prefix sum of anything is increasing and we want to	2.5	Sol	[110]			3
UVA 909	dp, dp_build_output	7.25		[111]			
UVA 11578	dp, dp_build_output, impl	7.25		[111]			
UVA 11598	dp, dp_build_output, lexicograpically solution	7.25		[111]			
<u>CF703-D2-E</u>	dp, dp_build_output, [hard to code print]	6.5		[111]	р3		2
UVA 10618	dp, dp_build_output, impl	6.5		[111]			
UVA 1244	dp, dp_build_output, bfs for output, dag	6	<u>Sol</u>	[111]	р3		5
SRM340-D1-500	dp, dp_build_output, graph, lexi	6	<u>Sol</u>	[111]	р3	2	9
UVA 10564	dp, dp_build_output	6		[111]			3
<u>CF101589-GYM-H</u>	dp, dp_build_output, [russian]	5.5	Sol	[111]	р3		4
UVA 709	dp, dp_build_output, [annoying IO style]	5		[111]			1
UVA 10086	dp, dp_build_output, [hard text]	5	<u>Sol</u>	[111]			3
<u>UVA 11404</u>	dp, dp_build_output	4.5	<u>Sol</u>	[111]	p2		5
UVA 662	dp, dp_build_output	4.5		[111]	p2		9
<u>UVA 116</u>	dp, dp_build_output	4.5		[111]			7
<u>CF56-D2-D</u>	dp, dp_build_output, [edit distance]	4.5		[111]			7
UVA 10645	dp, dp_build_output	4	<u>Sol</u>	[111]	v3	1	5
<u>CF137-D2-D</u>	dp, dp_build_output	4		[111]	p2		3
UVA 10665	dp, dp_build_output, lexicograpically solution or sorting	4	Sol	[111]	p1		2
UVA 10453	dp, dp_build_output, [similar to edit distance]	3.5	Sol	[111]	р3		20
UVA 757	dp, dp_build_output	3		[111]			3
LIVEARCHIVE 7577	dp, dp_d&c_opt, dijkstra, euler or dp_knuth	7	Sol	[112]	p4		4
CF868-D12-F	dp, dp_d&c_opt, [easy if know technique]	7		[112]	p3 v2		13

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF673-D12-E</u>	dp, dp_d&c_opt	7	Sol	[112]	р3		2
CF101982-gym-I	dp, dp_d&c_opt or dp_convex_hull	7	Sol	[112]	р3		2
ECPC17-J	dp, dp_d&c_opt or others	7		[112]			1
<u>CF442-D1-D</u>	dp, dp_d&c_opt, [Blogewoosh #1] or dp, hld	7	<u>See</u>	[112]			2
<u>CF101741-gym-J</u>	dp, dp_d&c_opt or segment tree, combinatorics	6.75	Sol	[112]	р3	1	2
HACKER sprint5-mining	dp, dp_d&c_opt or dp_convex_hull or dp_knuth	6.25	Sol. Solv	[112]	p4	1	8
<u>CF834-D2-D</u>	dp, dp_d&c_opt, segment tree, [Mido: When computing DP D &C layer by layer, we	6.25	<u>Sol</u>	[112]	p4	1	11
<u>CF321-D1-E</u>	dp, dp_d&c_opt or dp_knuth, [standard problem, strict tle]	6		[112]	p2		17
SPOJ NKLEAVES	dp, dp_d&c_opt, [standard], [~UVA 12524, ~CF100212-GYM-C]	6	<u>Sol</u>	[112]			3
Timus 1167	dp, dp_d&c_opt or dp	5	Use one	[112]			3
SRM607-D2-1000	dp, dp_depth, observations	7.1		[113]	p4		3
CF331-D12-C3	dp, dp_digit, greedy	7		[114]	p4		5
SRM431-D1-500	dp, dp_digit, dp_counting	7	Sol	[114]	р3		3
CF625-D2-D	dp, dp_digit or math	7		[114]			1
CF1245-D2-F	dp, dp_digit	6.5		[114]	р3		2
CF55-D12-D	dp, dp_digit	6.5		[114]			2
<u>CF215-D2-E</u>	dp, dp_digit, dp_counting, [bad editorial?]	6.5		[114]		2	4
<u>CF855-D12-E</u>	dp, dp_digits, dp_bitmasks, queries, impl	6.25		[114]	р3		3
<u>CF507-D2-D</u>	dp, dp_digit	6		[114]	v2		3
<u>CF1073-D2-E</u>	dp, dp_digit	6		[114]	р3		10
<u>CF100324-GYM-A</u>	dp, dp_digit	6	<u>Sol</u>	[114]	p1		2
SRM526-D2-1000	dp, dp_digit	6		[114]			2
<u>CF431-D2-D</u>	dp, dp_digit, binary search or ad-hoc	5.5		[114]	p3 v2	2	24
SRM741-D1-250	dp, dp_digit, dp_counting, [editorial https://www.topcoder.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/blog/single-round-materials.com/single-round-materials.co	5.5	<u>Sol</u>	[114]	р3		2
UVA 11361	dp, dp_digit, mod, divisor	5.5	<u>Sol</u>	[114]	р3		7
SRM546-D1-500	dp, dp_digit or greedy	5.5	<u>Sol</u>	[114]			1
SRM546-D2-1000	dp, dp_digits, impl or greedy or binary search	5		[114]	v3		4
SPOJ DRACULA	dp, dp_digit, [repeated idea]	5	<u>Sol</u>	[114]	р3	1	2
<u>CF401-D2-D</u>	dp, dp_digit, dp_bitmasks or ad-hoc	5		[114]	р3		10
HACKER pr-numbers	dp, dp_digit	5		[114]	p2		1
<u>CF160-D2-C</u>	dp, dp_digit or binary search or impl	5		[114]	p2	1	8

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF261-D1-C</u>	dp, dp_digit or binary search	5		[114]			
TIMUS 1057	dp, dp_digit, dp_counting or combinatorics	5	Sol	[114]			2
SPOJ KOPC12H	dp, dp_digit	4.5	Sol	[114]	р3		2
<u>CF276-D2-D</u>	dp, dp_digit or impl	4.5	See edite	[114]	p1		4
SRM300-D1-500	dp, dp_digit or bf	4.5		[114]			2
SRM437-D1-500	dp, dp_digit	4		[114]			3
SRM311-D1-500	dp, dp_digit, dp_counting, lower/upper bounds, [~=UVA 12670, UVA 12208]	4		[114]			3
<u>CF914-D12-C</u>	dp, dp_digits	4		[114]			5
LIVEARCHIVE 7172	dp, dp_sibling, [ACPC 14]	6.75	Sol	[115]	p5		6
<u>CF815-D1-C</u>	dp, dp_sibling, [knapsack dp on siblings], [Mido: This trick can sometimes change	6.6	Try, then	[115]	р5	2	16
<u>CF440-D12-D</u>	dp, dp_sibling, dp_build_output, hard to impl, [https://github.com/farmerboy95/Col	6.5	Sol	[115]	p4	1	8
<u>CF618-D12-D</u>	dp, dp_sibling or graph, trees, dfs, case analysis	6.5		[115]	p2		5
lightoj 1252	dp, dp_sibling	6.5		[115]			
HACKER kingdom-division	dp, dp_sibling	5.5		[115]	p2		2
ZOJ 3213	dp, dp_profile, [broken profile]	9		[116]		5	5
CODEJAM 08-AMERSemifinal-D	dp, dp_profile, maximum matching, games	7.5		[116]	р3		1
TIMUS 1519	dp, dp_profile, impl	7.5	Sol	[116]		2	2
SRM444-D1-500	dp, dp_profile, dp_bitmasks	7.25		[116]		1	2
HDU 4285	dp, dp_profile	7		[116]			
SRM449-D1-500	dp, dp_profile, hexagonal patterns	6.75	Sol	[116]		1	2
SRM532-D2-1000	dp, dp_profile, dp_bitmasks, [editorial states what is profile - oversimplifid dp profile	6	Read Ed	[116]	р3	1	8
<u>CF324-D2-D</u>	dp, dp_profile	6		[116]	p2		1
LIVEARCHIVE 6663	graph, dfs, flood-fill	7		[117]			
SPOJ SPIDY	graph, dfs, flood-fill	6.75		[117]			
LIVEARCHIVE 5130	graph, dfs, flood-fill, stack or dsu, [RTE problem]	6		[117]	p4		6
LIVEARCHIVE 4247	graph, dfs, flood-fill, impl or backtrack, optimizations, [http://codeforces.com/gym/1	6	Sol	[117]			3
SRM411-D2-1000	graph, dfs, flood-fill, geometry	5		[117]	v1		5
SRM297-D1-500	graph, dfs, flood-fill or bfs, bf	5		[117]	р3		5
SRM371-D2-1000	graph, dfs, flood-fill	5		[117]			2
UVA 830	graph, dfs, flood-fill	5		[117]			1
<u>CF318-D2-D</u>	graph, dfs, flood-fill, impl	4.5		[117]			3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF723-D2-D</u>	graph, dfs, flood-fill	4		[117]			4
Kattis coast	graph, dfs, flood-fill	4	Sol	[117]			1
UVA 10592	graph, dfs, flood-fill	4		[117]			2
<u>UVA 11953</u>	graph, dfs, flood-fill	3.5		[117]			10
UVA 1419	graph, dfs, flood-fill	3.5		[117]			3
<u>UVA 784</u>	graph, dfs, flood-fill	3.5		[117]			12
UVA 868	graph, dfs, flood-fill, [unclear text]	3.5		[117]			1
UVA 722	graph, dfs, flood-fill	3		[117]	v1		2
UVA 11094	graph, dfs, flood-fill	3		[117]			9
<u>UVA 852</u>	graph, dfs, flood-fill	3		[117]		1	11
UVA 782	graph, dfs, flood-fill, [hard text]	3		[117]			2
TIMUS 1033	graph, dfs, flood-fill, [WAs?]	3		[117]			2
UVA 601	graph, dfs, flood-fill, impl	3		[117]			10
<u>UVA 352</u>	graph, dfs, flood-fill	2		[117]			13
UVA 871	graph, dfs, flood-fill	2		[117]			2
SPOJ TREEISO	graph, dfs, isomorphism, tree center, tree isomorphism, impl	6.25	<u>Sol</u>	[118]	р3	1	11
UVA 10707	graph, dfs, isomorphism, matching bf, impl	6.25	<u>Sol</u>	[118]		2	5
SPOJ PAIRGRPH	graph, dfs, isomorphism, graph	6		[118]			
SPOJ TRANSL	graph, dfs, isomorphism, graph	6	Sol (no e	[118]			
LIVEARCHIVE 2935	graph, dfs, isomorphism, canonical form or ad-hoc decomposition	4.5	Sol	[118]	p4	1	21
<u>CF560-D2-D</u>	graph, dfs, isomorphism or d&c, hashing	4	Sol to lea	[118]	p2		12
<u>UVA 12489</u>	graph, dfs, isomorphism, parsing, center of tree			[118]			
TJU 3480	graph, dfs, topological sort	8.5		[119]			
SPOJ CODESPTI	graph, dfs, topological sort, impl, [I thought of a greedy solution, which failed, this p	<del>6.5</del>		<del>[119]</del>		2	2
<u>CF1100-D2-E</u>	graph, dfs, topological sort, binary search	6.25		[119]	p4		13
AtCoder027-AGC-C	graph, dfs, topological sort	6		[119]	р3	4	7
UVA 1222	graph, dfs, topological sort or dp_siblings, parsing	6	Sol	[119]	р3		6
CF812-D2-D	graph, dfs, topological sort or euler, [https://www.youtube.com/watch?v=O7BnKy7v	6	Sol	[119]	р3	2	13
LIVEARCHIVE 7154	graph, dfs, topological sort	6		[119]			1
TC(MINIMALLABELS)	graph, dfs, topological sort	6		[119]			1
SPOJ DAGCNT2	graph, dfs, topological sort, bitmask, [MLE]	6		[119]		1	2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF274-D1-D</u>	graph, dfs, topological sort, cases	6		[119]			3
<u>CF681-D2-D</u>	graph, dfs, topological sort, impl or construcive	5.5	Sol	[119]	р3	1	15
SPOJ ALL	graph, dfs, topological sort, greedy	5.5		[119]	p1		1
SPOJ RPLA	graph, dfs, topological sort, [fast cin, direct]	5.5		[119]			
SRM550-D2-1000	graph, dfs, topological sort	5		[119]	р3		5
UVA 12645	graph, dfs, topological sort or scc	5	<u>Sol</u>	[119]	р3		4
<u>CF645-D12-D</u>	graph, dfs, topological sort, binary search	5		[119]	р3		8
CF510-D2-C	graph, dfs, topological sort	5		[119]	p2		10
ACMWF19-E	graph, dfs, topological sort	5		[119]			1
<u>CF1068-D2-E</u>	graph, dfs, topological sort	5		[119]			3
UVA 11060	graph, dfs, topological sort, [repeated]	5	Sol	[119]			6
<u>CF655-D12-D</u>	graph, dfs, topological sort, binary search	5		[119]			2
UVA 11680	graph, dfs, topological sort, misc	5		[119]			3
<u>CF501-D2-C</u>	graph, dfs, topological sort, forest or bfs	4.5		[119]	v1		6
<u>CF825-D12-E</u>	graph, dfs, topological sort	4		[119]	v3		4
SRM419-D2-1000	graph, dfs, topological sort, cycles	4		[119]	v3		6
LIVEARCHIVE 6195	graph, dfs, topological sort, cycles	4	<u>Sol</u>	[119]	v2	1	14
SRM516-D2-1000	graph, dfs, topological sort, greedy	4		[119]	v1		11
UVA 196	graph, dfs, topological sort or dp	4		[119]	р3		7
UVA 12263	graph, dfs, topological sort	4	<u>Sol</u>	[119]	p2		7
CSA60-C	graph, dfs, topological sort, cycles	4		[119]			1
UVA 11686	graph, dfs, topological sort, detect cycles	4	<u>Sol</u>	[119]			5
SPOJ HMRO	graph, dfs, topological sort, dsu or ad-hoc, [TLE, hard text?]	4		[119]			1
SPOJ DEPEND	graph, dfs, topological sort	3.5	<u>Sol</u>	[119]			4
UVA 10305	graph, dfs, topological sort	3	Use knut	[119]			2
SPOJ MAKETREE	graph, dfs, topological sort	2		[119]			1
<u>CF132-D1-E</u>	graph, max-flow, min-cut, [repeated]	8		[120]	р3		1
LIVEARCHIVE 3811	graph, max-flow, min-cut	8		[120]		1	1
CODECHEF RIN	graph, max-flow, min-cut, expectation	7.75		[120]	p5	1	2
UVA 1515	graph, max-flow, min-cut	7.5	Sol	[120]			1
<u>CF724-D12-E</u>	graph, max-flow, min-cut, dp_table	7		[120]	p4		5

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF434-D1-D</u>	graph, max-flow, min-cut	7		[120]			1
<u>CF1146-D12-G</u>	graph, max-flow, min-cut	6.5		[120]	р3		2
FbHkrCup 19-R1-C	graph, max-flow, min-cut, geometry	6.5		[120]	р3		5
<u>CF808-D12-F</u>	graph, max-flow, min-cut, independent set	6.5		[120]	р3		3
SPOJ OPTM	graph, max-flow, min-cut, 2-sat style	6.5		[120]	p2	2	2
UVA 11765	graph, max-flow, min-cut	6.4	Sol	[120]	p4		4
UVA 11419	graph, max-flow, min-cut or min-vertex-cover, [print sol is the important part]	6.25	Sol	[120]	p4	1	5
SPOJ COCONUTS	graph, max-flow, min-cut	6	Sol	[120]	р3		13
LIVEARCHIVE 5099	graph, max-flow, min-cut, [Stoer–Wagner algo]	6	Sol	[120]	p2	1	4
SRM465-D1-500	graph, max-flow, min-cut, [https://github.com/shashank0107/CompetitiveProgramm	5.75	<u>Sol</u>	[120]	p3 v2		15
ZOJ 2587	graph, max-flow, min-cut, cut edges, [not intended sol https://ideone.com/DaQgYh]	5.5	<u>Sol</u>	[120]	p4 v2	1	11
SRM447-D1-500	graph, max-flow, min-cut or dp or bf, [bf https://github.com/ZeyadKhattab/Competit	5.5	Don't use	[120]	р3		11
SPOJ BANKROB	graph, max-flow, min-cut, vertex split, [direct]	5.5		[120]			2
<u>UVA 11506</u>	graph, max-flow, min-cut, vertex constraints	5.25	<u>Sol</u>	[120]	р3		12
<u>UVA 10480</u>	graph, max-flow, min-cut, [print, as in video]	4.5	<u>Sol</u>	[120]	р3		8
SRM334-D1-1000	graph, max-flow, min-cut, [bf all pairs]	2		[120]			2
HACKR mathematical-expectation	math, probability, expectation, linearity of expectation	9		[121]			
HACKR assignment	math, probability, expectation	8.75		[121]			
HACKR random	math, probability, expectation	8.5		[121]			
HACKR rirb	math, probability, expectation	8		[121]			
SRM526.5-D1-500	math, probability, expectation	7.5	<u>Sol</u>	[121]	p5	2	5
<u>CF1194-D12-F</u>	math, probability, expectation, binomial coefficient, mod, inversion	7		[121]	р3	1	3
HACKR kevin-and-expected-value	math, probability, expectation, quadratic equation	7		[121]	р3	1	2
<u>CF1042-D2-E</u>	math, probability, expectation	6.75		[121]	р3		6
SRM487-D1-500	math, probability, expectation, bicoloring, backtracking	6.75		[121]			1
<u>CF172-D1-C</u>	math, probability, expectation, linearity of expectation	6.75		[121]			2
HACKR matchstick-experiment	math, probability, expectation, linearity of expectation	6.75		[121]			1
SRM542-D2-1000	math, probability, expectation	6.5		[121]	p4	2	3
<u>CF138-D1-C</u>	math, probability, expectation, linearity of expectation	6.5		[121]	р3		7
UVA 1188	math, probability, expectation	6.5		[121]			
CSA47-D	math, probability, expectation, recursion, [master theorm helps]	6.5		[121]			2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF280-D1-C</u>	math, probability, expectation, dfs or dp	6.25		[121]	p5	1	14
CODECHEF EXPTPROD	math, probability, expectation	6.25	Sol	[121]	p4		3
<u>CF139-D2-E</u>	math, probability, expectation, linearity of expectation, sweep or dp_probability or s	6.25	Read Ed	[121]	p4	1	8
<u>CF268-D2-E</u>	math, probability, expectation, formula, greedy or dp_probability	6	Sol	[121]	р3	2	14
CODECHEF FSSYNC	math, probability, expectation, linearity of expectation, [https://s3.amazonaws.com/	6	Sol	[121]	р3		2
<u>CF1009-D12-E</u>	math, probability, expectation or oeis	6	Sol	[121]	p2		5
CF846-D12-F	math, probability, expectation, linearity of expectation	6		[121]	p2		6
<u>CF101411-GYM-K</u>	math, probability, expectation	6		[121]		1	3
SRM500-D2-500	math, probability, expectation	6		[121]		1	1
<u>CF912-D2-D</u>	math, probability, expectation, bfs	5.5		[121]	p3 v2		8
SRM470-D1-500	math, probability, expectation	5.5		[121]	р3		7
CF500-D12-D	math, probability, expectation, dfs	5.5		[121]	р3		11
<u>CF205-D2-E</u>	math, probability, expectation, lineary of expectation, bf, counting	5.5		[121]	p2 v2		3
UVA 11667	math, probability, expectation, summations	5.5		[121]	p1	1	3
SRM515-D2-1000	math, probability, expectation, [scary in begin]	5.25	Sol	[121]	v3	3	5
<u>CF102020-GYM-E</u>	math, probability, expectation	5	<u>Sol</u>	[121]	р3		1
HACKR vertical-sticks	math, probability, expectation, linearity of expectation	5		[121]	р3	3	11
SRM577-D1-250	math, probability, expectation, linearity of expectation or dp_probability or greedy	5		[121]	р3	1	10
<u>CF621-D2-C</u>	math, probability, expectation	4.5		[121]	р3		8
<u>CF443-D2-D</u>	math, probability, expectation, greedy or dp	4.5	<u>Sol</u>	[121]	р3		8
<u>CF454-D2-C</u>	math, probability, expectation, pattern	4.5		[121]	p1		10
SRM458-D2-500	math, probability, expectation, bitmasks	4		[121]	v2	1	6
<u>CF839-D2-C</u>	math, probability, expectation, dfs	4		[121]	p2		9
UVA 10777	math, probability, expectation or dp_probability	4	Sol	[121]			4
CSA43-C	math, probability, expectation, [hard text]	4		[121]			3
HACKR lazy-sorting	math, probability, expectation, permutation	4	Revise E	[121]			8
CODECHEF EDGEST	graph, hld, bit	8		[122]			1
<u>CF487-D1-E</u>	graph, hld, block-cut tree, bcc, impl, [ok idea, hard impl]	8		[122]			1
<u>CF348-D1-E</u>	graph, hld, dp, tree	8		[122]			1
CODECHEF DGCD	graph, hld, segment tree	8		[122]		1	2
CODECHEF QTREE6	graph, hld, segment tree or link-cut tree	8		[122]			

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CF1017-D12-G	graph, hld, segment tree or mo's algorithm	8		[122]			1
<u>CF1007-D1-D</u>	graph, hld, 2-sat	7.5		[122]	р3		1
IPSC09-L	graph, hld, segment tree	7.5		[122]			
CF101908-Gym-H	graph, hld, kmp, datastructures	7.25	Sol	[122]	р3		1
SPOJ COT3	graph, hld	7.25		[122]		1	1
SPOJ QTREE7	graph, hld, segment tree	7.25		[122]		1	1
<u>CF696-D1-E</u>	graph, hld, lca, segment tree, lazy propagation	7		[122]	р3		2
<u>CF613-D1-D</u>	graph, hld, impl or virtual tree, sortings	7		[122]	p2		2
<u>CF601-D1-D</u>	graph, hld or sqrt decomposition, [boring]	7		[122]			2
<u>CF588-D2-E</u>	graph, hld, lca	7		[122]		1	2
CODECHEF MONOPLOY	graph, hld, bit or bbst, splay tree, [complexity analysis]	6.75		[122]	p4		1
<u>CF828-D2-F</u>	graph, hld, lca	6.5		[122]	p4		2
CODECHEF GERALD2	graph, hld	6.5		[122]	р3		1
CODECHEF QTREE	graph, hld, segment tree	6.25		[122]	р3		1
SPOJ GOT	graph, hld or lca, segment tree, presistent or mo's algorithm on tree, [easy if solved	6	Sol	[122]	p2		5
CODECHEF QUERY	graph, hld, persistance, arithmatic operation	6		[122]	p2		1
Codechef INTRPATH	graph, hld, math	5.5		[122]	р3		2
SPOJ GSS7	graph, hld, segment tree, [solve GSS1 first]	5.5		[122]	р3	1	2
<u>CF343-D1-D</u>	graph, hld, segment tree, bfs or dsu-on-trees	5.5		[122]	р3	1	27
PKU 2763	graph, hld or lca, bit	5.5	Sol	[122]		1	7
TIMUS 1553	graph, hld, lca	5		[122]	p2	1	4
SPOJ QTREE3	graph, hld or segment tree or bfs	5	Sol	[122]			3
SPOJ QTREE	graph, hld, lca, segment tree or splay tree, [in video]	5		[122]		1	6
SPOJ GRASSPLA	graph, hld, segment tree	5	Sol	[122]			3
LightOJ 1188	graph, hld, segment tree or mo's algorithm or bit or merge sort trees	4		[122]			1
<u>CF1254-D1-D</u>	graph, hld, bit or sqrt decomposition			[122]	р3		1
HACKR neighborhood-queries	graph, centroid-decomposition, parallel binary search, binary indexed tree, lca	7.5	Sol	[123]	p4	2	5
<u>CF1205-D1-D</u>	graph, centroid-decomposition, constructive, impl	6.75		[123]	p4		2
<u>CF833-D1-D</u>	graph, centroid-decomposition, hard to impl or bit or treap, [standard]	6.75	Sol	[123]	p2	1	2
<u>CF914-D12-E</u>	graph, centroid-decomposition, bitmasks or dsu-on-trees, [classical]	6.25		[123]	p3 v1		8
<u>CF100570-gym-F</u>	graph, centroid-decomposition	6		[123]	p4		1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
CODECHEF PRIMEDST	graph, centroid-decomposition, sieve or math, fft or dfs, flat tree	6		[123]	p4		2
HACKER bst-maintenance	graph, centroid-decomposition	6		[123]	р3		1
<u>CF322-D2-E</u>	graph, centroid-decomposition, d&c	6		[123]	р3		3
DCP 176	graph, centroid-decomposition, [~= IOI 11-race], [offline queries to static centroid-d	6	Sol	[123]		2	6
SPOJ QTREE5	graph, centroid-decomposition or hld, [harder version CF342-D2-E]	5.75	Sol	[123]	p2		4
<u>CF766-D2-E</u>	graph, centroid-decomposition or dp_trees, [=COCI 19-deblo]	5.5		[123]	р3		12
<u>CF101174-GYM-F</u>	graph, centroid-decomposition or dsu-on-trees, bit [=UVA 13164]	5.5	Sol	[123]	р3		3
CODECHEF TESTERS	graph, centroid-decomposition, segment tree	5.5		[123]	р3		1
<u>CF715-D1-C</u>	graph, centroid-decomposition, dp, math or dsu-on-trees, [classical]	5.5		[123]	p2		5
<u>CF321-D1-C</u>	graph, centroid-decomposition, [tutorial problem]	5.25		[123]			11
<u>CF101856-GYM-E</u>	graph, centroid-decomposition, primes	5	Sol	[123]	p2		3
<u>CF377-D1-E</u>	dp, dp_convex_hull	9.5		[124]			
<u>CF100829-GYM-A</u>	dp, dp_convex_hull, [!cht]	8.5	Editorials	[124]	р3	1	1
<u>CF660-D12-F</u>	dp, dp_convex_hull	8		[124]			3
CODECHEF JUMP	dp, dp_convex_hull	8		[124]			
SPOJ GOODG	dp, dp_convex_hull, [type 1 or 3]	8		[124]			2
HACKR geometry-queries	dp, dp_convex_hull, segment tree or mo's algorithm	8		[124]			
<u>CF1137-D1-E</u>	dp, dp_convex_hull	7.5		[124]	p2		1
PKU 3266	dp, dp_convex_hull, [type 3]	7.5		[124]			
CODECHEF IAI	dp, dp_convex_hull, !dp, datastructure, LiChao	7.25		[124]	p4	1	2
<u>CF1178-D12-G</u>	dp, dp_convex_hull	7.25		[124]	р3		1
<u>CF1175-D12-G</u>	dp, dp_convex_hull, d&c	7		[124]	p4		3
<u>CF931-D12-F</u>	dp, dp_convex_hull, LIS or segment tree, LiChao implicit, [solve LIVEARCHIVE 51	7	Sol	[124]	p4		4
<u>CF455-D1-E</u>	dp, dp_convex_hull, segment tree	7		[124]	р3		3
<u>CF932-D12-F</u>	dp, dp_convex_hull, segment tree, impl or dsu-on-trees	7		[124]	р3	1	6
kattis thief	dp, dp_convex_hull	7		[124]			
kattis yatp	dp, dp_convex_hull	7		[124]			
SPOJ TRAKA	dp, dp_convex_hull, [=COCI 11-traka]	6.5	Sol	[124]	р3		3
HACKR sword-profit	dp, dp_convex_hull, greedy, [https://github.com/MetalBall887/Competitive-Program	6.5	Sol	[124]	р3		5
SPOJ BAABO	dp, dp_convex_hull, greedy, [type 2]	6.5	Sol	[124]	р3	2	5
<u>CF631-D2-E</u>	dp, dp_convex_hull, binary search, tricky impl	6.5		[124]	p2		12

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF436-D12-F</u>	dp, dp_convex_hull, sqrt decomposition	6.5		[124]		1	2
CF932-D1-F	dp, dp_convex_hull	6.4		[124]	р3	1	6
HACKR sprint5-mining	dp, dp_convex_hull	6.3	Sol	[124]	р3		3
CODECHEF CYCLRACE	dp, dp_convex_hull, dynamic, [https://github.com/MetalBall887/Competitive-Progra	6.25	Sol	[124]	р3		4
<u>CF311-D1-B</u>	dp, dp_convex_hull, [practice problem]	6.25	Sol	[124]			2
LIVEARCHIVE 5133	dp, dp_convex_hull, [in video], [needs bbst (e.g. set) not usual deque - line's angle	6	Sol	[124]	p4	1	8
SPOJ ACQUIRE [13]	dp, dp_convex_hull, [type 1], [in editorial], [txt clarification: In this problem FJ can a	6	Sol	[124]	р3	2	12
<u>CF319-D1-C</u>	dp, dp_convex_hull or LiChao, [straightforward, LiChao link]	6	Sol	[124]			8
<u>CF1083-D1-E</u>	dp, dp_convex_hull or segment tree, LiChao implicit, [in CF blog]	6	Sol (not	[124]			10
CF291-D2-E	graph, dsu-on-trees or kmp on tree	6.25	<u>Sol</u>	[125]	р3	1	8
CF1009-D12-F	graph, dsu-on-trees, [standard]	5.75		[125]	p2		4
SGU 507	graph, dsu-on-trees, [standard, , [Main a prefix and suffix of DSU's then for each qu	5.5	Sol	[125]	p2	1	4
HACKER the-grass-type	graph, dsu-on-trees	5		[125]			
<u>CF246-D2-E</u>	graph, dsu-on-trees, [standard]	5		[125]			4
CF570-D2-D	graph, dsu-on-trees or graph, euler tour, binary search, trees	4		[125]	p1		2
<u>CF208-D2-E</u>	graph, dsu-on-trees or trees, dfs, binary search or segment tree	4		[125]			3
<u>CF896-D1-E</u>	sqrt decomposition, dsu	7.5		[126]	p4		1
CF1083-D1-F	sqrt decomposition	7.5		[126]	р3		1
<u>CF487-D1-D</u>	sqrt decomposition or segment tree, impl	7.5		[126]			3
CODECHEF PRINDRAG	sqrt decomposition, dp knapscak	7		[126]	p4	2	3
CF1182-D2-F	sqrt decomposition, meet in middle, math	7	Sol	[126]	p4		2
CF1129-D1-D	sqrt decomposition, dp	7		[126]	p2		2
<u>CF348-D1-C</u>	sqrt decomposition, datastructures	7		[126]			7
HACKR dynamic-trees	sqrt decomposition, lca,bit or link-cut, [sqrt decomposition is interesting, but trivial v	7	Sol	[126]			1
<u>CF455-D1-D</u>	sqrt decomposition, long impl or treap	7		[126]			9
CODECHEF MINXOR	sqrt decomposition, trie, impl	7		[126]		3	4
<u>CF91-D1-E</u>	sqrt decomposition, geometry or segment tree, convex hull trick	6.75		[126]	р3		4
<u>CF547-D1-E</u>	sqrt decomposition, kmp, trie or suffix automaton or suffix array, segment tree, pers	6.5		[126]	p3 v2		3
CF678-D12-F	sqrt decomposition, convex_hull_trick	6.5		[126]	р3		2
CODECHEF DOCSDEL	sqrt decomposition, datastructures	6.25	Sol	[126]	р3	1	4
CF101470-GYM-F	sqrt decomposition	6	Sol	[126]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF13-D12-E</u>	sqrt decomposition	6		[126]	р3		13
HACKR competitive-teams	sqrt decomposition, dsu or segment tree [https://gist.github.com/luciocf/57c6dd2b3	6	<u>Sol</u>	[126]	р3		5
<u>CF551-D2-E</u>	sqrt decomposition, binary search, [repeated, standard]	6		[126]			6
<u>CF342-D2-E</u>	sqrt decomposition, bfs or centroid-decomposition, lca or hld, [standard, solve first	5.75		[126]	р3		31
<u>CF797-D12-E</u>	sqrt decomposition, dp	5.5		[126]	p2		8
CF1207-D12-F	sqrt decomposition, [standard]	5.5		[126]			5
<u>CF103-D1-D</u>	sqrt decomposition	5		[126]			1
SPOJ FREQ2	sqrt decomposition or Mo's algorithm	5	<u>Sol</u>	[126]			2
CF1279-D12-F	dp, dp_alien, [aka lambda optimization]	7.5		[127]	р3	1	3
CODECHEF CHEFAOR	dp, dp_knuth, sparse table or dp_d&c	6.25	Find O(N	[128]	р3	1	8
SPOJ BRKSTRNG	dp, dp_knuth, [standard]	6	<u>Sol</u>	[128]	р3		4
UVA 12836	dp, dp_knuth, [standard]	5.25	Use knut	[128]			1
UVA 10304	dp, dp_knuth, [standard], [=UVA 12057]	5	Use knut	[128]	p2	1	4
<u>CF704-D1-B</u>	dp, dp_open_close, graph, permutation or greedy, dp_component	7.5		[129]	p5		8
CF626-D12-F	dp, dp_open_close, dp_counting	6.5		[129]	p4 v2		14
<u>CF367-D1-E</u>	dp, dp_open_close, dp_counting, [dp_component ?]	6.5	Find O(N	[129]	p4		7
<u>CF466-D2-D</u>	dp, dp_open_close, dp_counting	6		[129]	p3 v2		13
<u>CF101-D1-E</u>	dp, dp_trick	8.5		[130]			
<u>CF739-D1-E</u>	dp, dp_trick, aliens_trick or greedy	8	Nice Rea	[130]	p5	1	9
<u>CF674-D12-C</u>	dp, dp_trick, aliens_trick or dp_d&c_opt, [solve CF739-D1-E first], [China, this meth	7.5	Find O(n	[130]	p5	1	4
CSA56-F	dp, dp_trick, aliens_trick, [solve CF674-D12-C first]	7.5		[130]			2
SRM577-D1-500	dp, dp_trick, dp_subrectangle, Manhattan2DRotation or inclusion-execlusion, [trick	7.25		[130]	p5	1	8
HACKER alien-languages	dp, dp_trick	6.5	Sol	[130]	p4	1	3
<u>CF101856-GYM-B</u>	string processing, suffix tree, impl	6.75	<u>Sol</u>	[132]			1
<u>CF119-D12-D</u>	string processing, z-algo	7.25		[133]	p4		
CODECHEF STR_FUNC	dp, dp_sos, todo	8		[134]			
CODECHEF TIMETRAV	dp, dp_sos, todo	8		[134]			
<u>LiveArchive 6985</u>	dp, dp_sos, todo	8		[134]			
CODECHEF CSS	dp, dp_sos, todo, d&c	8		[134]			
<u>CF800-D12-D</u>	dp, dp_sos, todo	7.5		[134]			
<u>CF101666-Gym-G</u>	dp, dp_sos or bf, np-hard	7	Sol	[134]	p4		3

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF102006-gym-F</u>	dp, dp_sos	7		[134]			
CSA78-E	dp, dp_sos, lucas' theorem, xor. [same as infoarena xortransform]	<u><del>Z</del></u>		<del>[134]</del>			<u>2</u>
CODECHEF BEAUTY	dp, dp_sos, number theory	7		[134]			
HACKR subset	dp, dp_sos, todo	7		[134]			
<u>CF1033-D12-F</u>	dp, dp_sos or ad-hoc, bitmasks, fast_walsh_hadamard_transform or fft	6.9	Solvable	[134]	p4		8
<u>CF449-D1-D</u>	dp, dp_sos, inclusion-exclusion, [~=HACKR vim-war]	6.75		[134]	p4 v2		14
CF1208-D12-F	dp, dp_sos	6.5	Sol	[134]	р3		2
Innopolis 19-Final-B [14]	dp, dp_sos, [no oj]	6.5	watched	[134]	р3		1
CODECHEF SUBSETS	dp, dp_sos, meet in middle or only meet in middle, []	6.4	Sol	[134]	р3		3
Atcoder100-ARC-C	dp, dp_sos or ad-hoc, bitmasks	6.25		[134]	p4		5
HACKER uchiha-brothers-and-two-produ	dp, dp_sos, inclusion-exclusion or ad-hoc	6.25	Sol	[134]	p4		3
HACKER berland-programming-contests	dp, dp_sos	6.25		[134]	р3		2
<u>CF383-D1-E</u>	dp, dp_sos	6		[134]	р3		6
<u>CF165-D2-E</u>	dp, dp_sos, math	6		[134]	р3		13
Kickstart 19-RG-C	dp, dp_sos	5.5		[134]	р3		2
HACKER special-pairs-7	dp, dp_sos	5		[134]	р3		4
<u>CF204-D1-E</u>	string processing, suffix automaton	7.5		[135]	p2		3
CODECHEF SUBQUERY	string processing, suffix automaton	5		[135]	р3	1	1
CODECHEF TSUBSTR	string processing, suffix automaton	5		[135]	р3	1	1
<u>CF735-D2-E</u>	dp, dp_trees	8		[136]	р3		1
<u>CF995-D1-F</u>	dp, dp_trees, polynomial interpolation, ad-hoc	8		[136]	p2		2
<u>CF868-D12-E</u>	dp, dp_trees, binary search, impl	7.5		[136]	p4		
<u>CF1179-D1-D</u>	dp, dp_trees	7.5		[136]	р3		1
<u>CF23-D12-E</u>	dp, dp_trees, bignum	7.5		[136]	р3		
<u>CF1280-D1-D</u>	dp, dp_trees, greedy, observation	7.5		[136]	р3		1
<u>CF1266-D12-F</u>	dp, dp_trees, observation	7.5		[136]	р3		1
<u>CF816-D2-E</u>	dp, dp_trees, [O(n^2) is challenging]	7	After AC,	[136]	p4		5
<u>CF294-D2-E</u>	dp, dp_trees	7		[136]	р3		1
<u>CF805-D2-F</u>	dp, dp_trees	7		[136]	р3		1
<u>CF581-D2-F</u>	dp, dp_trees	7		[136]			1
LIVEARCHIVE 7236	dp, dp_trees, edit distance, [several sub-problems]	6.6	Sol	[136]	р3		2

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
SPOJ TWOPATHS	dp, dp_trees, impl, [solve first CF14-D2-D - repeated idea?]	6.5	<u>Editorial</u>	[136]	p4	2	2
<u>CF543-D1-D</u>	dp, dp_trees, combinatorics	6.5		[136]	р3		5
CODECHEF XDCOMP	dp, dp_trees, dp_counting	6.5		[136]	р3		2
<u>CF349-D2-D</u>	dp, dp_trees. lcm	6.5		[136]	р3		6
SRM386-D2-1000	dp, dp_trees, greedy, recursion	6.5		[136]			1
SPOJ MAIN75	dp, dp_trees, optimizations	6.5		[136]			
<u>CF791-D2-D</u>	dp, dp_trees	6.4		[136]	p4 v2		9
<u>CF629-D2-E</u>	dp, dp_trees, lca	6.3		[136]	р3		2
<u>CF1060-D2-E</u>	dp, dp_trees, combinatroics	6.25		[136]	p4		6
<u>CF1092-D3-F</u>	dp, dp_trees, [reroot tree]	6.25		[136]	р3		5
CF802-D12-K	dp, dp_trees, dp_parametric, dfs, [Mido I know this trick from a guy named dotorya	6.25		[136]	p2		6
<u>CF1263-D2-F</u>	dp, dp_trees, impl	6.25		[136]	p2		1
UVA 11174	dp, dp_trees or combinatorics, mod inv	6.25	Sol	[136]			1
CF1249-D3-F	dp, dp_trees	6.1		[136]	p4		3
<u>CF960-D12-E</u>	dp, dp_trees, dfs	6.1		[136]	p2		3
<u>CF1088-D2-E</u>	dp, dp_trees or greedy, dfs	6		[136]	р3	1	9
HACKR sum-of-all-distances	dp, dp_trees, impl	6	Sol	[136]	p2		7
<u>CF533-D1-B</u>	dp, dp_trees, [standard]	6		[136]	p1		2
<u>CF1241-D2-E</u>	dp, dp_trees	6		[136]			1
UVA 12452	dp, dp_trees	6		[136]			
<u>CF101889-GYM-G</u>	dp, dp_trees, impl	6	<u>Sol</u>	[136]			1
UVA 10859	dp, dp_trees, tree vertex cover or dfs, [optimize 2 vals to M * a + b]	5.75	Sol - mus	[136]	p4	1	11
<u>CF461-D1-B</u>	dp, dp_trees	5.75		[136]	р3		4
<u>CF1156-D12-E</u>	dp, dp_trees, d&c	5.75		[136]	р3		3
UVA 12093	dp, dp_trees or dp_sibling	5.75		[136]			2
<u>CF337-D2-D</u>	dp, dp_trees or dfs, diameter like, [tricky to guess its level]	5.5	Sol	[136]	p4	1	17
UVA 1218	dp, dp_trees, [vertex cover releated]	5.5	<u>Sol</u>	[136]	p3 v2		14
LiveArchive 6631	dp, dp_trees	5.5	Sol	[136]	р3		1
SOPJ VOCV	dp, dp_trees	5.5		[136]	р3		1
CODECHEF TREE02	dp, dp_trees, binary search or greedy	5.5	Sol	[136]	р3		5
CF1084-D2-D	dp, dp_trees, [repeated dea]	5.5		[136]	p2		12

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>CF814-D2-D</u>	dp, dp_trees, geometry or greedy	5		[136]	p3 v2	3	11
CF1101-D12-D	dp, dp_trees, math or centroid-decomposition	5		[136]	р3		7
CF161-D12-D	dp, dp_trees or dsu-on-trees or centroid-decomposition , dp_trees	5		[136]	p2 v2		8
Timus 1362	dp, dp_trees or greedy	5	Sol	[136]	p2		6
<u>CF743-D2-D</u>	dp, dp_trees	5		[136]	p1	2	12
CSA-FiiCode1-D	dp, dp_trees	5		[136]			1
SPOJ PT07X	dp, dp_trees	5	Sol	[136]			10
<u>CF1087-D2-E</u>	string processing, greedy, [new trick]	7	<u>Sol</u>	[137]	р3		4
<u>CF444-D1-D</u>	string processing, hashing	6.5		[137]	р3	1	3
<u>CF1113-D2-D</u>	string processing, palindrome, hasing, greedy, impl	5.5		[137]	р3		2
<u>CF1282-D2-D</u>	string processing, observation	5		[137]			2
<u>CF514-D2-C</u>	string processing, hashing or trie	4.5		[137]	p2	1	3
<u>CF438-D1-E</u>	math, fft, generating functions or ntt	9	Sol	[138]			2
CODECHEF SERSUM	math, fft, faulhaber's formula, newton sums, polynomial interpolation, sqrt decompo	8.5	<u>Sol</u>	[138]			2
CODECHEF COUNTARI	math, fft or bf [triples of arithmatic progression]	7.5		[138]			
<u>CF286-D1-E</u>	math, fft	7.25		[138]	р3		5
CODECHEF PFRUIT	math, fft, power series, combinatorics	7	<u>Sol</u>	[138]	p5		1
CODECHEF IMGOD	math, fft or nnt, [second stirling number]	7	<u>Sol</u>	[138]	р3		2
<u>CF528-D1-D</u>	math, fft, matching, bits	7		[138]	р3		5
<u>CF1096-D2-G</u>	math, fft, [direct if know fft]	7		[138]			4
LIVEARCHIVE 7159	math, fft, number theory or precalculation, [not geom problem, just little rectanlges	7		[138]			
<u>CF1218-D12-D</u>	math, fft, xor, graph	6.8		[138]	р3		1
CODECHEF PSUM	math, fft, nnt, dp_counting	6.75		[138]	р3		1
CODECHEF DOTIT	math, fft, sqrt decomposition, [optimising sqrt decomp]	6.75		[138]			2
<u>CF993-D1-E</u>	math, fft or nnt	6.5	Browse o	[138]	p4		5
CODECHEF TREDEG	math, fft	6.5		[138]	p2		1
<u>CF1218-D12-E</u>	math, fft, d&c	6		[138]	р3		2
<u>CF632-D12-E</u>	math, fft, [practice]	6		[138]			3
SPOJ POLYMUL	math, fft, [practice]	4		[138]			4
CODECHEF HAMILG	graph, max-flow, general matching, game theory, [reduction]	8.5		[139]			1
CF1089-D12-B	graph, max-flow, general matching, [reduction]	8.25		[139]			1

Problem Name	Category	level	Sol [1]	Category ID	Importance	Can't solve	Tried to solve
<u>UOJ 171 [15]</u>	graph, max-flow, general matching, max cost	7.5	Sol	[139]			2
SPOJ ADABLOOM	graph, max-flow, general matching	6		[139]			1
TIMUS 1099	graph, max-flow, general matching, [direct]	6	Sol	[139]			1
UVA 11439	graph, max-flow, general matching, binary search	6		[139]			1

- [1] Using python, I found 136 deadlink here. I should fix soon.
- [2] Read correct text from: https://szkopul.edu.pl/problemset/problem/7JrCYZ7LhEK4nBR5zbAXpcmM/site/?key=statement
- [3] Read problem caefully
- [4] Josephus problem
- [5] There are collinear points
- [6] Also https://codeforces.com/blog/entry/2775
- [7] FIRST read about De Bruijn

https://en.wikipedia.org/wiki/De\_Bruijn\_sequence https://en.wikipedia.org/wiki/De\_Bruijn\_graph

- [8] Read statement carefully
- [9] Read text carefully
- [10] By FloyGun

you have to learn stars and bars method (Or boxes and balls)

We have c boxes and n balls We have to put balls into boxes Say we have a robot that does it His robotic hand is above box 1 He has 2 types of commands: Put a ball inside of a current box Move the hand to the next box

In his program there are exactly n commands 1 and c-1 commands 2. We can organize them into "programs" where those commands go in particular order. Of course, order matters, you can try and check that.

Each combination of all commands represents the unique way to distribute balls -> unique way to distribute value n as a sum of c numbers

And the general number of programs is n + c - 1

The number of commands of type 2 is c - 1

So the number of ways is C(n+c-1,c-1)

Also you can see we solved it for exactly n balls
But what if the number of balls is <= n?
It's not much harder: you should just add a c+1st box where you'll put all the balls that won't be in your array
So now there is a one more command of type 2
And the answer is C(n+c,c)
-1 is because we can't count a wall with 0 bricks

I'd suggest you finding this method in Antti Laaksonnen book where it's described well

- [11] Google first Goldbach's conjecture
- [12] Also available at https://codeforces.com/gym/100085/attachments
- [13] From a trainee: txt clarification: In this problem FJ can actually REARRANGE the plots and then groups them. \* I misunderstood the statement by the word 'successive'
- [14] i guess u won't be able to submit
- [15] There are n balls and m baskets. There are e relationships such that ball u can be put into basket v. We can put at most 3 balls in each basket. And we want to put every ball into baskets. We want to maximize the number of baskets with at most 1 ball.