* **June 20**
* Solved [SPOJ - QTREE](http://www.spoj.com/problems/QTREE/). My first problem on Heavy Light Decomposition. One of the most beautiful techniques I’ve encountered so far. Kept getting TLE due to cout.
* Solved [SPOJ - QTREE2](http://www.spoj.com/problems/QTREE2/)
* Solved [SPOJ - QTREE3](http://www.spoj.com/problems/QTREE3/)

**June 21**

* Solved [Codeforces - 766D](http://codeforces.com/contest/766/problem/D). Couldn’t solve this a few months ago when I gave the contest. A rather simple DSU problem.

**June 22**

* Read [Topcoder game theory](https://www.topcoder.com/community/data-science/data-science-tutorials/algorithm-games/), [Superdewd mathematics tutorial](https://algo.is/aflv16/aflv_10_mathematics.pdf), [Thomas Ferguson Game Theory](http://www.math.ucla.edu/~tom/Game_Theory/comb.pdf).
* Solved [Uva - 11489](https://uva.onlinejudge.org/index.php?option=com_onlinejudge&Itemid=8&category=24&page=show_problem&problem=2484). Basic Game Theory problem.
* Solved [Uva - 11311](https://uva.onlinejudge.org/index.php?option=com_onlinejudge&Itemid=8&category=24&page=show_problem&problem=2286). At first I thought this was a dp problem. But it’s actually a simple nim game with O(1)O(1) solution.
* Solved [Codeforces 794C](http://codeforces.com/contest/794/problem/C). Greedy
* Solved [Codeforces 87C](http://codeforces.com/contest/87/problem/C). Grundy
* Solved [Codechef - PSHTBRTH](https://www.codechef.com/problems/PSHTBRTH) Game Theory, Fenwick.
* Solved [SPOJ - NIMGAME](http://www.spoj.com/problems/NIMGAME/) Game Theory, DP

**June 23**

* Solved [Codeforces 520B](http://codeforces.com/problemset/problem/520/B)
* Solved [Codeforces 455B](http://codeforces.com/contest/455/problem/B) - Nice game theory problem
* Solved [Codeforces 3C](http://codeforces.com/problemset/problem/3/C)
* Solved [Codeforces 603C](http://codeforces.com/problemset/problem/603/C) - Nice game theory problem
* Solved [SPOJ - ADAGAME](http://www.spoj.com/problems/ADAGAME/)

**June 24**

* Solved [SPOJ - ADAGAME2](http://www.spoj.com/problems/ADAGAME2/)
* Solved all 3 problems from [IndiaHacks Round 1](https://www.hackerearth.com/challenge/competitive/programming-indiahacks-2017/problems/)
* Solved [Codeforces 15C](http://codeforces.com/problemset/problem/15/C)

**June 25**

* Kickstart 2017 Round C. Solved all small and first 2 large(although A got WA for some reason).

**June 27**

* TODO Solved C and D Large in practice.
* TODO [Codechef - MODNIM](https://www.codechef.com/BYTR2017/problems/MODNIM)
* Solved [UVA 1103](https://uva.onlinejudge.org/index.php?option=com_onlinejudge&Itemid=8&page=submit_problem&problemid=3544&category=24) - flood fill
* Solved [Codeforces 547B](http://codeforces.com/problemset/problem/547/B) - O(nlog2n)O(nlog2⁡n) using binary search and dp gave TLE. Had to find a linear time solution.

**June 29**

* Solved [SPOJ - SUMMUL](http://www.spoj.com/problems/SUMMUL/) - First problem on Matrix exponentiation. Turns out this can be written in terms of fibonacci sequence. f(n)=F2n−nf(n)=F2n−n
* Solved [Codeforces 431C](http://codeforces.com/problemset/problem/431/C) - DP, trees
* Solved [Codeforces 429A](http://codeforces.com/problemset/problem/429/A) - trees
* Solved [Codeforces 533B](http://codeforces.com/problemset/problem/533/B) - dp, trees

**June 30**

* Solved four problems from [LOC June 17](https://www.codechef.com/LOCJUN17)

**July 1**

* Solved fifth from [LOC June 17](https://www.codechef.com/LOCJUN17)
* Solved [Codeforces 817D](http://codeforces.com/problemset/problem/817/D)

**July 2**

* Solved [AtCoder Regular 77 D](http://arc077.contest.atcoder.jp/tasks/arc077_b)

**July 3**

* Solved [Codeforces 622F](http://codeforces.com/contest/622/problem/F)
* Solved [ProjectEuler 68](https://projecteuler.net/problem=68)
* Solved [ProjectEuler+ 67](https://www.hackerrank.com/contests/projecteuler/challenges/euler067)

**July 4**

* Solved [Codeforces 543A](http://codeforces.com/problemset/problem/543/A) - dp
* Solved [ProjectEuler+ 71](https://www.hackerrank.com/contests/projecteuler/challenges/euler071/) - Farey Sequence
* Solved [ProjectEuler+ 72](https://www.hackerrank.com/contests/projecteuler/challenges/euler072/) - Farey Sequence
* Solved [CodeForces 557C](http://codeforces.com/problemset/problem/557/C) - dp

**July 5**

* Solved [Codeforces 462B](http://codeforces.com/problemset/problem/462/B) - dp

**July 6**

* Solved [Codeforces 231C](http://codeforces.com/problemset/problem/231/C) - dp, binary search
* Solved [AtCoder Regular Contest 077 - E](http://arc077.contest.atcoder.jp/tasks/arc077_c) - dp

**July 7**

* Solved [Codeforces 671A](http://codeforces.com/problemset/problem/671/A) - greedy

**July 8**

* Solved [July Long Contest](https://www.codechef.com/JULY17/) - NITIKA, CHEFSIGN, CALC, IPCTRAIN

**July 9**

* Solved [July Long Contest](https://www.codechef.com/JULY17/) - EXPTREE, PSHTTR(Small test cases)

**July 10**

* Solved [July Long PSHTTR](https://www.codechef.com/JULY17/submit/PSHTTR) - HLD + Offline queries + BIT

**July 11**

* Solved [July Long TWOCOINS](https://www.codechef.com/JULY17/problems/TWOCOINS) - One of my favorite problems out of all I’ve solved so far. DP, Trees.
* Solved [Codeforces 620E](http://codeforces.com/contest/620/problem/E) - Segment tree on tree

**July 13**

* Codeforces Round #423 Virtual - Solved A,B,C,D. Rank 54
* Codeforces Round #424 - 1652 →→ 1715 Solved A,B,E.TLE on C because I used map instead of array :( Solved C

**July 15**

* Solved [AtCoder Regular Contest 78](http://arc078.contest.atcoder.jp/) - C (during contest) 912 →→ 995
* Solved [AtCoder Regular Contest 78](http://arc078.contest.atcoder.jp/) - E
* Solved [AtCoder Regular Contest 78](http://arc078.contest.atcoder.jp/) - D

**July 17**

* Codechef July Long Contest 1852 →→ 1996
* Solved [Hackerrank Code of Week 34 - Once in a tram](https://www.hackerrank.com/contests/w34/challenges/once-in-a-tram)

**July 18**

* Solved [Hackerrank Code of Week 34 - Maximum gcd and sum](https://www.hackerrank.com/contests/w34/challenges/maximum-gcd-and-sum)

**July 19**

* Solved [Codeforces 796D](http://codeforces.com/problemset/problem/796/D) - Trees

**July 21**

* Solved [SPOJ - POLYMUL](https://www.spoj.com/problems/POLYMUL/) - FFT
* Team virtual vjudge

**July 22**

* Team Virtual Codeforces Gym

**July 23**

* [HackerEarth IndiaHacks Wildcard](https://www.hackerearth.com/challenge/competitive/indiahacks-2017-programming-qualifier-wildcard/problems/) - Solved 3
* [Codechef Cook-Off 84](https://www.codechef.com/COOK84) - Solved 3/5 (Contest Unrated)

**July 25**

* Virtual **Codeforces 356 Div. 1** - Solved [679A](http://codeforces.com/contest/679/problem/A)
* Solved [Codeforces 679B](http://codeforces.com/contest/679/problem/B)
* Solved [Codeforces 679C](http://codeforces.com/contest/679/problem/C)
* Team Virtual - WA on test 1 on all 3 attempted -\_-
* Solved Topcoder SRM 711 Div 1 Easy

**July 26**

* CSAcademy Round 39: Solved 4/5, Rank: 7 1596 →→ 1701
* Solved [Uva 10298](http://uva.onlinejudge.org/index.php?option=com_onlinejudge&Itemid=8&category=24&page=show_problem&problem=1239) - KMP

**July 27**

* Team virtual codeforces gym
* Solved [Uva 11475](https://uva.onlinejudge.org/index.php?option=com_onlinejudge&Itemid=8&category=24&page=show_problem&problem=2470) - KMP
* Solved [UVA 11576](http://uva.onlinejudge.org/index.php?option=com_onlinejudge&Itemid=8&category=24&page=show_problem&problem=2623) - KMP

**July 28**

* Solved D of ARC 71, 72, 73, 75. [Vjudge ARC D1](https://vjudge.net/contest/173814)
* Solved D of ARC 76 - MST

**July 29**

* AtCoder Regular Contest 79 - Solved C,E. 995 →→ 1100
* Topcoder Collegiate Contest India 2017 - Solved A and B. 904 →→ 1217

**July 30**

* Codeforces Round 426 - Solved 3/5, Rank 681715 →→ 1847

**July 31**

* Codeforces Round 427 - Solved 4/6, Rank 198 1847 →→ 1882

Overall an unexpectedly awesome month. I’ve gotten extremely close to becoming a candidate master. I was also in the top 10 of the Topcoder collegiate contest India and am excited to attend the India Regionals Event. Hopefully next month will be great too. :P