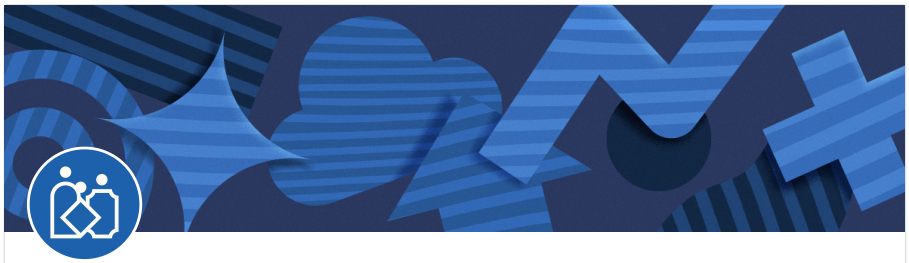

How do i become a Googler

q/howdoibecomeagoogler

Get that Job at Google,Facebook,Uber,Rubrik,Directi

Following · 972 Highlights

Main People

Kiran · June 22, 2019

How Do I become a good competitive programmer and what are the materials I need to study from

First it is very important to know one point ,it is NOT NOT neccessary to learn many programming languages and waste your time learning all ,One programming language is enough either C++ OR JAVA ,and You need to just know the basics of C which will hardly take just 5–6 days to learna nd even a 5th standard kid can learn those things .Just the basic of C is enough to begin competitive programming .Lot of people dont think that you need to be just God in one programming language to get started CP which is NOT needed at all .You can learn Basic C from Tutorials and Examples from Programiz ,C Programming Tutorial and then just practise some simple problems in Codeforces Division 3 for 1–2 months so that you are able to convert your thought process to code.

1) https://github.com/lnishan/awesome-competitive-programming

This is a GITHUB website which tells you all the materials ,everybody refers with these materials only,you have all 90 percent here

2) http://sportprogramming.blogspot.com/2014/07/getting-started-with-sport-of.html

This is a website written by a person From IIT kanpur which explains the complete syllabus in a more lucid way

3) Programming Camp Syllabus :Syllabus explained a little bit vast

4)Learn to Code by Competitive Programming | HackerEarth Blog

After referring to these materials you need to take up Video lecturers in

1)Coursera/Tim Roughgarden https://www.coursera.org/specializations/algorithms

2) https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-046j-introduction-to-algorithms-sma-5503-fall-2005/video-lectures/

3)https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-006-introduction-to-algorithms-fall-2011/lecture-videos/

4) https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-042j-mathematics-for-computer-science-fall-2010/

5)https://www.youtube.com/channel/UCZLJf_R2sWyUtXSKiKlyvAw :Tushar roy coding made simple

6)There are also many many other youtube videos as gaurav sen,rachit jain ,please type in youtube all these two names you will also get lots of others as well ,,,,Now from where do you study the list of algorithms and data structures,Here are the list

Details

How can a tier3 engineering college student Get placed in pure software engineering companies

People · 972

Kiran is an admin.

View More

1)https://discuss.codechef.com/questions/48877/data-structures-and-algorithms and 1b) Learn Data Structures and Algorithms

2)http://web.stanford.edu/class/cs97si/

3)https://www.topcoder.com/community/data-science/data-science-tutorials/

4)http://e-maxx.ru/algo/ : MUST AND MUST FOR REFERRING AND STUDYING,EVERY CP ENTHUSIAST STARTS FROM HERE

5)https://cp-algorithms.com/

6) https://github.com/ADJA/algos

Added to all this,There are many blogs in CODEFORCES WHERE WRITERS HAVE EXPLAINED MANY ADVANCE ALGORITHMS,PLEASE FOR THAT LOOK VERY OFTEN TO INISHAN AWESOME COMPETITIVE PROGRAMMING

ADVANCED STUFFS:

7)Implementations

Algorithm & Data structure implementations.

☆

Name

Description

★★★

CodeLibrary, by Andrey Naumenko (indy256)

CodeLibrary contains a large collection of implementations for algorithms and data structures in Java and C++. You may also visit his GitHub Repository.

★★★

spaghetti-source/algorithm, by Takanori MAEHARA (@tmaehara)

High-quality implementations of many hard algorithms and data structures.

★★★

kth-competitive-programming/kactl, by Simon Lindholm (simonlindholm) et al.

A phenomenally organized, documented and tested team notebook from KTH Royal Institute of Technology. One of the most well-crafted team notebooks (contest libraries) I've ever seen.

★★☆

jaehyunp/stanfordacm

Stanford's team notebook is well maintained and the codes within are of high-quality.

★★☆

ngthanhtrung23/ACM_Notebook_new, by team RR Watameda (I_love_Hoang_Yen, flashmt, nguyenhungtam) from National University of Singapore

RR Watameda represented National University of Singapore for the 2016 ACM-ICPC World Finals. The items in this notebook are pretty standard and well-organized.

★★☆

bobogei81123/bcw_codebook, by team bcw0x1bd2 (darkhh, bobogei81123, step5) from National Taiwan University

bcw0x1bd2 represented National Taiwan University for the 2016 ACM-ICPC World Finals. This notebook contains robust implementations for advanced data structures and algorithms.

★☆☆

foreverbell/acm-icpc-cheat-sheet, by foreverbell (foreverbell)

★☆☆

igor's code archive, by Igor Naverniouk (Abednego)

A good notebook by Igor Naverniouk who is currently a software engineer at Google and part of the Google Code Jam team.

in facebook there is a page called PAG -IIT ROORKEE ,if you are in facebook,You must refer this page very very often

note if you see the 1)Inishan awesome competitive programming,you will GET EVERYTHING,all that I have written are some of its important contents,The rest of the materials you have to Google yourself,(Although very very little left)

8)Threads @ IIIT Hyderabad

9)A Useful list of other Code Forces Blog Entries:

http://codeforces.com/blog/entry/44351 [Tutorial] dsu on tree

http://codeforces.com/blog/entry/44428 SPOJ Jolly Kingdom (Minimum Vertex Cover?)

http://codeforces.com/blog/entry/43911 Why so mainstream? the spinoff

http://codeforces.com/blog/entry/43499 Tutorial on FFT — The tough made simple.

http://codeforces.com/blog/entry/43555 Finding Bridges Tutorial

http://codeforces.com/blog/entry/43508 Faster Dijkstra on Special Graphs [Tutorial]

http://codeforces.com/blog/entry/43319 LIS on Pairs ??

http://codeforces.com/blog/entry/43230 Mo's Algorithm on Trees [Tutorial]

http://codeforces.com/blog/entry/9204 K-TH QUERY

http://codeforces.com/blog/entry/23554 Smallest Enclosing Circle/Sphere Problem

http://codeforces.com/blog/entry/23365 Short modular inverse

http://codeforces.com/blog/entry/16780 Suffix tree. Ukkonen's algorithm

http://codeforces.com/blog/entry/23005 SQRT decomposition

http://codeforces.com/blog/entry/22811 Dominator Tree [Tutorial]

http://codeforces.com/blog/entry/11080 C++ STL: Policy based data structures

http://codeforces.com/blog/entry/22420 On suffix automaton (and tree)

http://codeforces.com/blog/entry/22072 Heavy-light decomposition implementation

http://codeforces.com/blog/entry/20935 DP on Trees Tutorial

http://codeforces.com/blog/entry/18051 Efficient and easy segment trees

http://codeforces.com/blog/entry/12233 suffix array related problems

http://codeforces.com/blog/entry/20861 A short guide to suffix automata

http://codeforces.com/blog/entry/20383 September Clash 2015

http://codeforces.com/blog/entry/20377 How to sweep like a

http://codeforces.com/blog/entry/20357 Nim Game and Grundy Number

http://codeforces.com/blog/entry/11369 Competitive programming (mini)group

http://codeforces.com/blog/entry/19193 A bit more about palindromes

http://codeforces.com/blog/entry/18459 Hungarian algorithm

http://codeforces.com/blog/entry/18462 Splay tree and its implementation.

http://codeforces.com/blog/entry/17956 Suffix tree that is two times shorter than Ukkonen's algorithm?

http://codeforces.com/blog/entry/17763 Extremal Triangles

http://codeforces.com/blog/entry/8989 Sieve Methods : Prime, Divisor, Euler Phi etc.

http://codeforces.com/blog/entry/12709 'Algos' algorithm collection

http://codeforces.com/blog/entry/16890 Most valuable problems list

http://codeforces.com/blog/entry/14798 A collection of my problems

http://codeforces.com/blog/entry/11148 Treaps

http://codeforces.com/blog/entry/11279 Saving Dwarfs , Finding LCA , Functions

http://codeforces.com/blog/entry/7372 Minimum Diameter Spanning Tree

http://codeforces.com/blog/entry/8762 String Algorithms

http://codeforces.com/blog/entry/15729 Algorithm Gym :: Data structures

http://codeforces.com/blog/entry/10124 C++11 for programming contests...

http://codeforces.com/blog/entry/15643 C++ Tricks

http://codeforces.com/blog/entry/3781 Partially Ordered Sets

http://codeforces.com/blog/entry/10345 Enumeration of combinatorial sequences

http://codeforces.com/blog/entry/11441 Geometry shrink trick

http://codeforces.com/blog/entry/12280 Obtaining suffix array from suffix automaton

http://codeforces.com/blog/entry/11275 About ordered set

http://codeforces.com/blog/entry/15296 Dynamic connectivity problem

http://codeforces.com/blog/entry/14854 Aho-Corasick algorithm. Construction

http://codeforces.com/blog/entry/12488 Tutorial on Heavy Light Decomposition + Problems

http://codeforces.com/blog/entry/12512 Some help with using Balanced Binary Trees instead of Segment Trees

http://codeforces.com/blog/entry/12579 Heavy-light decomposition

http://codeforces.com/blog/entry/14765 Generalized Suffix Tree

http://codeforces.com/blog/entry/14744 Understanding Fast Fourier Transform

http://codeforces.com/blog/entry/12239 Heavy-light decompositon — it can be simple!

http://codeforces.com/blog/entry/8219 Dynamic Programming Optimizations

http://codeforces.com/blog/entry/325 Dynamic Programming Type

http://codeforces.com/blog/entry/3767 Cartesian tree

http://codeforces.com/blog/entry/11337 Suffix tree. Basics. Building in O(nlogn)

http://codeforces.com/blog/entry/13218 Skip-list

http://codeforces.com/blog/entry/14044 link-cut tree

http://codeforces.com/blog/entry/13959 Palindromic tree: behind the scenes

http://codeforces.com/blog/entry/13958 Palindromic tree

http://codeforces.com/blog/entry/10355 Implicit cartesian tree in GNU C++ STL.

http://codeforces.com/blog/entry/4898 Anti-hash test.

http://codeforces.com/blog/entry/3657 Nim (Algorithmic Game)

http://codeforces.com/blog/entry/15890 **Algorithm Gym :: Everything About Segment Trees**

10)Competitive Programming - Community on Commonlounge

11) For the math part in Competitive programming refer to all this

- **Mathematics for Computer Science**

The number theory section wasn't pretty interesting to me in this course so I learned it from various amazing sources:

- **Number Theory and Modular Arithmetic**
- **Number Theory - 1 - Prateek Garg**
- **Number Theory - II - Tanmay Chaudhari**
- **Number Theory - III - Boris Sokolov**

Most of the times, youtube videos on particular topics like euclid's algo, modular inverse, chinese remainder theorem are most useful to me.

12)**https://www.hackerearth.com/practice/codemonk/ :Hackerearth tutorials**

13) The Art of Programming Contest is a book (pdf here) written by Ahmed Shamsul Arefin.

14)Notes for competitive programming(If they are repeated then skip)

a. Codility lessons

b. Tutorials on Topcoder

c. Getting started with the sport of competitive programming – Notes by Triveni Mahatha. A copy of this document can be found here.

d. Stanford University ACM Team Notebook (2013-14) contains C++ implementations

e. Alex's Anthology of Algorithms: Common Code for Contests in Concise C++ written by Alex Li.

f. The Hitchhiker's Guide to the Programming Contests is a pdf document that contains several implementations of algorithms in C++.

g. Notes for the Cornell ACM ICPC Team written by Igor Naverniouk and Frank Chu.

h. Seoul National University rand().teamnote – Notes by Heon Young Yeom et al. containing C++ implementations for several algorithms.

15) Square Root Decomposition Algorithm with Anudeep Nekkanti

16)A simple approach to segment trees

after studying from these materials (Try to study as much as you can) create an account in three websites

a) Codeforces

b) Getting Started | CodeChef

c)HackerRank

try to practise on these websites as much as you can then practise like this

1)First do only Beginner section in codechef then after studying The DS and algos start with codechef long ,codechef short,codechef cook off.Practise as much as you can and then start participating in live contests

2) In codeforces first practise only in Division 3 and then after learning data structures and algorithms from the above mentioned resources practise both Division 3 all and divsion 2 all

3)After you have done both 1) and 2) participate in Live contests and increase your rating as much as you can

4)after you have participated in live contests and increased your rating then practise DIVSION 1 in both codechef and codeforces

Programming Interview Questions | CareerCup

GeeksforGeeks | A computer science portal for geeks

participate in Code Jam - Google's Coding Competitions and Facebook Hacker Cup - Wikipedia .If you do all this NOBODY AND NOTHING can stop you from getting hired in Top product based companies

https://www.quora.com/How-can-I-become-good-at-competitive-programming-Are-there-any-courses-that-will-take-me-one-step-forward-before-I-start-doing-SPOJ-or-TopCoder-problems-I-am-good-at-data-structures

http://www.geeksforgeeks.org/fundamentals-of-algorithms/#GreedyAlgorithms

https://www.quora.com/profile/Anand-Kumar-377/Posts

https://www.quora.com/What-should-be-included-in-a-detailed-4-year-plan-for-a-first-year-CS-student-in-Bangladesh-who-wants-to-qualify-for-the-ACM-ICPC-World-Finals-at-the-end-of-his-her-3rd-or-4th-year/answer/Nafis-Sadique

https://www.quora.com/What-are-some-good-motivations-to-encourage-oneself-for-competitive-programming?share=1#!n=24

https://discuss.codechef.com/questions/64940/ds-and-algo-competitive-programming-all-you-need

https://www.quora.com/What-are-some-advanced-techniques-and-algorithms-helpful-for-competitive-programming-What-are-some-good-resources-to-learn-these-things#

https://www.quora.com/What-are-some-good-blogs-for-learning-algorithms-and-competitive-programming-techniques

https://www.google.co.in/search?q=algorithms+for+competitive+programming+pdf&sa=X&ved=0ahUKEwie8_ng3IjXAhWIPI8KHWv0CmcQ1QIIbygA&biw=1303&bih=702

https://www.quora.com/What-are-the-algorithms-required-to-solve-all-problems-using-C++-in-any-competitive-coding-contest

https://www.quora.com/What-are-the-algorithms-required-to-solve-all-problems-using-C++-in-any-competitive-coding-contest

https://blog.codechef.com/2016/08/03/lectures-from-indian-coding-camp/

https://www.quora.com/What-basic-data-structures-and-algorithms-should-one-learn-before-starting-competitive-programming

https://www.quora.com/What-are-the-best-books-on-algorithms-and-data-structures

https://www.quora.com/What-are-top-10-blogs-every-competitive-coder-must-follow

https://www.quora.com/What-basic-data-structures-and-algorithms-should-one-learn-before-starting-competitive-programming/answer/Khalid-Jamal-Abdulnasser

https://www.quora.com/What-are-most-important-algorithms-for-competitive-programming?no_redirect=1

https://www.quora.com/What-are-the-must-know-graph-algorithms-for-a-competitive-programmer

https://discuss.codechef.com/questions/48877/data-structures-and-algorithms

https://www.quora.com/What-should-be-included-in-a-detailed-4-year-plan-for-a-first-year-CS-student-in-Bangladesh-who-wants-to-qualify-for-the-ACM-ICPC-World-Finals-at-the-end-of-his-her-3rd-or-4th-year/answer/Nafis-Sadique