GUIDE TO COMPETITIVE PROGRAMMING:

-by Striver (Software Engineer(Media.net), ex-Amazon, Candidate Master, 6\*, Educator at Unacademy)   
  
It's advice to switch to CPP to avoid TLE issues at Codeforces and some platforms..   
Learn C++ STL from codeverse or takeUforward channel ..   
  
Follow CP sheet for practice problems:   
CP SHEET: [https://bit.ly/tuf\_CPList](https://www.youtube.com/redirect?event=video_description&redir_token=QUFFLUhqbW9lTVhXSHpMR2xENmRfMlhDbmFCWnRwUEZHQXxBQ3Jtc0trVUYzWkd1ejN1MHRjOEtia1ZVd1UzY2tidWpjYkpDVGhHU3E2NnNuX24tWUV6b0lKWjFKcWR1V0pQdGZsUEZZQjc3cVh5cTNmQXJRa1lXazhWdWxJRERsRTdLZldNeFQxc3dvXzBENnRyYnAtd0JHNA&q=https%3A%2F%2Fbit.ly%2Ftuf_CPList)   
SDE SHEET: [https://bit.ly/takeUforward\_SDE](https://www.youtube.com/redirect?event=video_description&redir_token=QUFFLUhqbXhkRlZ2bGFXbDFMMmdIXzlnV3BnWjhoemJBQXxBQ3Jtc0ttdklwUGt3ck9FNmNTUzB6UzFtTFNuQ21hNXJ6VDY1Ri1qeElrRjYySHFqZGtwVTNRV3VGU0I0R2ozVW56eklJaXZuZG5NYkJOWjlHajEteFBPYklDajhRbFZmQ19rMmlKX3lMWDhXUVJBek5qZGVuQQ&q=https%3A%2F%2Fbit.ly%2FtakeUforward_SDE)

1.Pattern printing problems (Sourabh Shukla Videos on Youtube)

2.time complexity analysis (Don’t stress to much, keep participating in contests, you will keep learning)

3.linear search and circular array representation (any article, no need to practice)

4.palindrome and other numbers(perfect, Armstrong) for basic number problems

5.Simple Hashing Problem(frequency counting and stuffs)

6.Prefix Sum Problems(1D and 2D) {CP Sheet has problems}

7.Sliding window technique(CP Sheet has problems) -----------------------------------------------------------------------------------------------------------

Basics of number theory

1.Binary Search (TakeUforward Playlist and CP Sheet practice problems)

2. GCD of 2 numbers in logarithmic time(Euclidean and Extended Euclidean Algorithm) (CodeNCode)

3.linear Diphantine Equation (CodeNCode)

4. Checking prime in sqrt(n) complexity (Learn from Codeverse Channel)

5.Sieve of Eratosthenes(Learn from Codeverse Channel)

6.Segmented Sieve (Learn from Codeverse Channel)

7.Finding prime factorisation of a number in logn per querry (Learn from Codeverse Channel)

8.Euler Totent Function (CodeNcode)

9.Fermat Little Theorum (CodeNCode)

Tougher version of number theory (All from CodeNCode)

1.Finding x^n in log(n)

2. Modular Arithmetic

3.Modular Inverse of a number

3.Modular Exponentiation

4.Chinese Remainder Theorum

5.Factorial Modulo Mod

6.Finding nCr and nPr for queries (constant time)

7.Inclusion Exclusion Principle (combinatorics problems)   
  
  
1.learn about basic sorting algorithms (bubble, selection, insertion)   
2. do problems which are constructive and have a lot of swapping terms in it. 