Continue doing this as long as possible to keep getting better.

## What are the different topics to learn in competitive programming?

The most common topics that you will have to learn while doing competitive programming are:

- DSA Foundations
  - Time & Space Complexity Analysis
  - Recursion
  - Divide & Conquer
- Basic DSA
  - Arrays
  - Linked List
  - Stack
  - Queue
- Basic Algorithms
  - Searching and Sorting
  - Hashing
  - 2 pointers
  - Backtracking
- Maths for Programming
  - Fundamentals (Binary Exponentiation, Euclidean Algorithm, etc)
  - Algorithms related to prime numbers (Sieve of Eratosthenes, etc)
  - Number Theory (Euler's totient, etc)
  - Modular Arithmetic (Modulo inverse, Chinese remainder theorem, etc)
  - Number Systems (Balanced Ternary, Gray code, etc)
  - Linear Algebra
  - Geometry
  - Combinatorics
  - Numerical Methods
  - Misc (Fast Fourier transform, Polynomials, etc)

    - Greedy
- Intermediate Data Structures
    - Trees
    - Set
    - Map
    - Heap
- Slightly Advanced Algorithms
    - Dynamic Programming (DP)
- Graph DSA
- Advanced DSA
    - Game Theory
    - Advanced String Algorithms, Tries
    - Segment Trees, Fenwick Trees
    - Suffix Tree, Suffix Array
    - Heavy Light Decomposition
    - Disjoint Set, Graph Coloring, Network Flow
    - Sqrt Decomposition

There are more such concepts that you may have to learn. You can read this in more detail at cp-algorithms. You do not need to do all of it before competing. You can learn these with time.

## What are the best resources to become good at competitive programming?

Competitive Programming is all about practice and improving with every contest. There is no substitute for that. Initially, you will learn most of the things while you are stuck in a problem and Google for stuff. With time you might have to build an understanding of different concepts.

These are the best resources which you may go through as you get time apart from the contests: