**Pupil:**

* Binary Search,
* Number Theory,
  + Binary Exponentiation
  + Sieve or Eratosthenes
  + Euclidean algorithm
* Prefix Sum
* Greedy
  + Standard greedy algorithms
  + Non-standard problems

1. Solve ad-hoc problems
2. Up-solve contests
3. Give enough contest

**Specialist:**

* 2 pointers, sliding windows
* Adv Number theory
  + Fernates & Eulers theorem
  + Mod inverse & combinatorics
* DP
  + Both standard & non standard
  + Dp with bitmasking
* Graph
  + Dfs, Bfs & applications
  + Shortest path algo
* Trees
  + Basics, subtree precomputation
  + Binary lifting
* Range query(not mandatory)
  + Segment trees or sparse tables or Fenwick trees
* String(not mandatory)
  + String hashing
  + Tries

1. Start proving approaches
2. Start reading blogs
3. Avoid learning irrelevant topics(X)
   * Centre & light decomposition on trees
   * KMP algo, Z algo
   * Flows square root decomposition

Source:

1. [Cp algo](https://cp-algorithms.com/index.html)
2. [Cses](https://cses.fi/problemset/)