Things to prepare for the interview

Hash Tables/Maps/Hashing

* Implementation
* Pros and cons
* Time complexity and space complexity

Trees

* Basics Tree Construction
* Traversal and manipulation algos
* Binary, n-ary, Trie
* BST
* Balanced BST
* In-order traversal -> sorted values

Graphs

* 3 basic ways to represent graphs in memory
  + Objects and pointers
  + Matrix
  + Adjency lists
* Pros and cons of each of this implementation ways
* Traversal Algos – BFS and DFS
* Time complexities, Trade-offs and implementation of these algos
* Dijikstra / A\* , etc

Discrete Maths 101

* Counting problems
* Probability problems
* Permutation / Combinatorial prolems
* n-choose-k problems

OS Concepts

* Process / Threads/ Concurrency
* Locks / mutextes / semaphores / monitors – Understand how they work
* Context Switching
* Scheduling
* Modern concurrency constructs in multi core systems

Caching

* Types of caching
* Implementation of Caching
* LRU cache
* Pros and cons

Distributed Systems

Sorting/Searching

* Nlogn sorting algorithms – Be confident on this one

Dynamic Programming

Big O notation

* Arithmatic progression
* Geometric sequence and sums

Others

NP-Complete problems

* Travelling salesman
* Knapsack