Time vs Space trade-offs

Collections Framework

Flattening Map techniques

Properties of BST

DS

Hash tables / Hash Map

Stack / queues / LinkedList

Heap

Arrays / String

Dictionaries

Binary Trees / BST

Graphs

* Graph representation
* Pros / cons of each
* Traversal algorithms
* Trade-offs

<https://www.geeksforgeeks.org/overview-of-data-structures-set-1-linear-data-structures/>

<https://www.geeksforgeeks.org/overview-of-data-structures-set-2-binary-tree-bst-heap-and-hash/>

<https://www.geeksforgeeks.org/advanced-data-structures/>

Algorithms

Searching

Sorting

Exceptional cases of insertionSort/Radix

Caching

BackTracking

Greedy  
Divide & Conquer

Bottom-up and top-down

\*Dynamic Programming

Problems

Dijikstra

A-star

Travelling Salesman

Knapsack

NP Complete

N choose K problems

Concepts

Multithreading

Discrete Maths

Probability

Combinatorial

Architectural concepts

Distributed computing

Distributed Systems

Distributed Caching

Distributed Database

Load balancers

Domain / Firewalls

Message Queues

Micro batching architecture – SPARK

Zoo Keeper architecture

Others

OS Concepts

Processes / Threads

Concurrency

Semaphores

Locks

Context Switching

Consistent Hashing

Process Scheduling

Map Reduce

Optimistic/pesimistic locking

Strong vs eventual consistency

Advantages of relational DB vs noSQL

Extras

Paxos

Bloom Filters / Count-min

Gossiping

OSS Tools

MemcacheD

MongoDB

Redis

Testing

unit test

inputs/ testcases

integration tests

E2E

security tests

Ref

<https://github.com/jin-zhe/algorithms>

<https://github.com/jin-zhe/data-structures>

<https://github.com/jin-zhe/links-and-resources/blob/master/README.md#technical-interviews>

<https://techdevguide.withgoogle.com/paths/advanced/>

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<https://www.youtube.com/watch?v=IpyCqRmaKW4&list=PLqM7alHXFySHCXD7r1J0ky9Zg_GBB1dbk>

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<https://www.youtube.com/watch?v=PnnsDf3zEMw>

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consistent hashing - <https://www.youtube.com/watch?v=Y6Ev8GIlbxc>

Algorithms ref:

<http://www.topcoder.com/tc?module=Static&d1=tutorials&d2=alg_index>

Top 10 algorithms

<https://www.geeksforgeeks.org/top-10-algorithms-in-interview-questions/>

SOAP Vs. REST: Difference between Web API Services