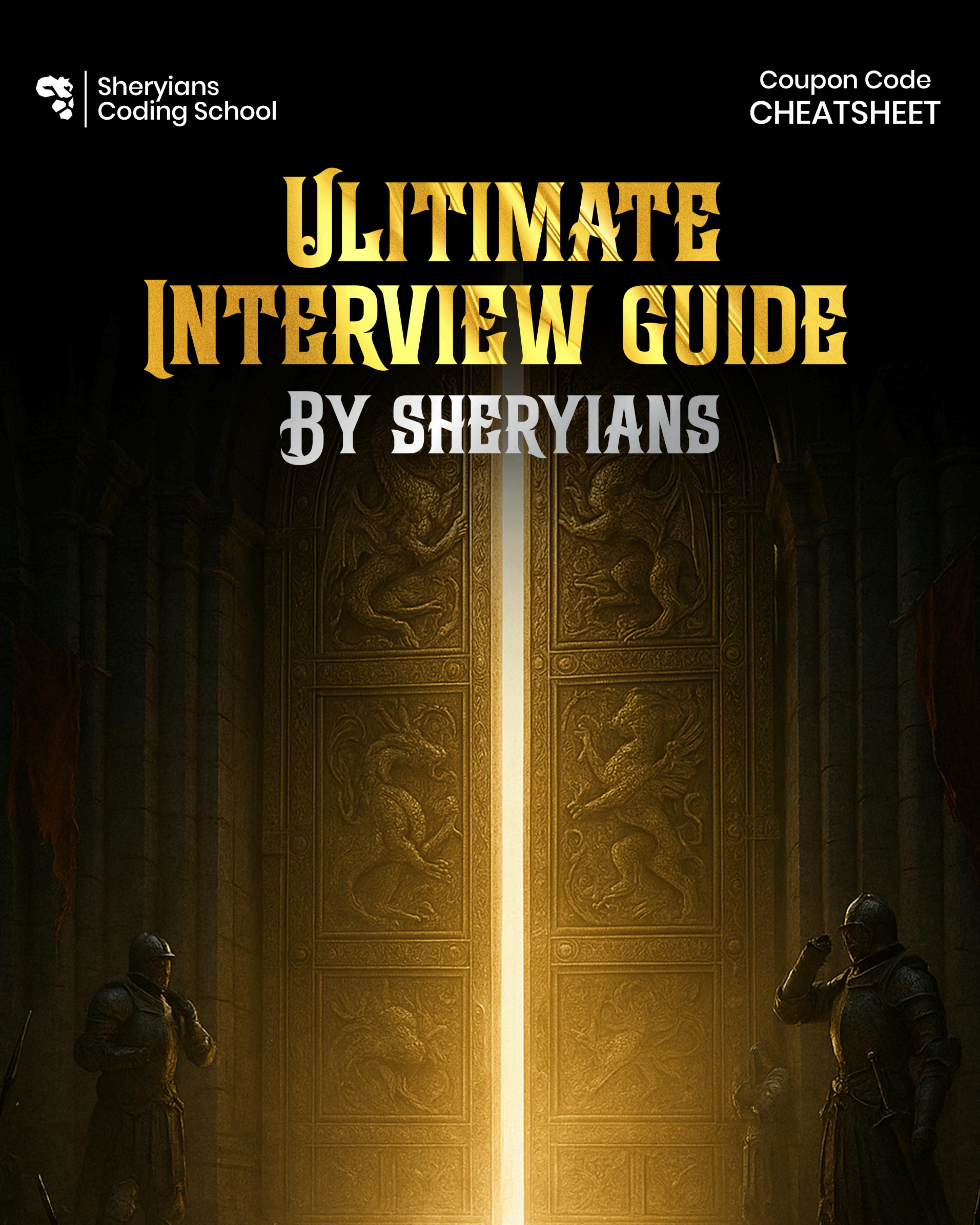


ULTIMATE INTERVIEW GUIDE BY SHERYIANS



Full Stack/Web Development Interview Questions

System Design / DevOps

1. How would you design a scalable MERN-based e-commerce platform?
2. How do you deploy a MERN app on cloud platforms (e.g., AWS)?
3. What is CI/CD and how would you implement it for a MERN app?
4. How do you manage environment configurations for different environments?
5. What's your approach to logging and monitoring in production?

Dharwee -Twitter “Thankyou for the great content you all provide for free. I cleared many backend concepts from @harshbhaiyaa bhaiya ❤️✓”

6. How would you implement role-based access control (RBAC)?
7. How do you ensure your REST APIs are RESTful?
8. What is the difference between monolithic and microservice architectures?
9. How would you handle versioning in your APIs?
10. How do you handle scaling a database with growing user base?

MongoDB

1. Explain the aggregation pipeline and its stages.
2. How does indexing work in MongoDB, and what are compound indexes?
3. What's the difference between `find()`, `findOne()`, and `aggregate()`?
4. How do you optimize MongoDB queries for performance?
5. What is schema design and how do you model relationships in MongoDB (1:1, 1:N, N:N)?

6. Explain data validation and how to enforce it in MongoDB.
7. What are transactions in MongoDB and when would you use them?
8. What is a capped collection?
9. How does MongoDB handle concurrency?
10. Explain change streams in MongoDB.
11. What's the difference between `populate()` and `$lookup`?
12. How do you perform pagination in MongoDB efficiently?

- 13 . What is the use of the \$facet stage?
- 14 . How does MongoDB handle horizontal scaling?
- 15 . Difference between embedded documents vs. referenced documents.
- 16 . How do you back up and restore a MongoDB database?
- 17 . How can you enforce uniqueness on a field?
- 18 . What are MongoDB Atlas Triggers?
- 19 . What is TTL indexing and when would you use it?

20. How do you monitor and profile MongoDB queries?

Shani Tiwari – “Hii @sheryians_ @harshbhaiyaa A Story/Review♪ So, Like a avg . Student i first learn c++ & Java from clg, but couldn’t find any interest in them.. & then the most common option was web dev. So, i started learning html css from yt from famous creators & that was okay.”

Express.js

1. Explain middleware and the types of middleware in Express.
2. How does request and response flow in Express?
3. What is the use of next() in Express?
4. How do you implement global error handling?
5. How do you structure a scalable Express application?
6. How do you secure an Express API (rate limiting, headers)?

Alone.exe – “just wanna say big thanks to @sheryians_ & @ankurdotio @harshbhaiyaa @sarthacksharma @masterdhanesh_ @Stwkraj , Job Ready cohort fr changed everything for me 🚀 non-tier 1 clg, zero direction... now building real stuff 🔥👉👉”

- 7 . Explain route parameter vs. query parameter.
- 8 . What's the role of CORS in Express and how to configure it?
- 9 . How do you handle file uploads?
- 10 . How would you implement logging in Express?
- 11 . What is the use of express-validator?
- 12 . How do you prevent SQL/NoSQL injection in Express?
- 13 . What is Helmet and how does it help with security?

Swaraj Sanodiya – “🌟 AI Project in the Works! 🤖 I’m super excited to share that I’ve started working on something cool—an AI-powered chatbot as part of the Sheryians Live Cohort 1.0! 🎓”

14. How do you handle role-based authorization in Express?
15. What are virtual routes and when are they useful?
16. Difference between synchronous and asynchronous middleware.
17. How do you optimize performance in Express apps?
18. What is a proxy in Express and how to set it?
19. What is the use of app.locals and res.locals?
20. How can you implement request tracing in Express?

React.js

1. Explain the React reconciliation algorithm.
2. What are controlled vs. uncontrolled components?
3. How does React handle context and why use it?
4. What are the common performance optimization techniques in React?
5. How does memoization work in React (`React.memo`, `useMemo`)?
6. How does React handle batching of state updates?

M.A.Khan – “Started my coding journey with @Sheryians coding school without much knowledge. Several bhaiyas supported me throughout — guiding, motivating, and clearing every doubt patiently. 🙏 Now I can build projects, solve problems, and think like a real developer.”

7. What are custom hooks and when would you use them?
8. Explain lazy loading and code splitting in React.
9. What's the difference between `useEffect` and `useLayoutEffect`?
10. How does React's concurrent mode work?
11. What is the virtual DOM and how does React use it?
12. How do you implement SSR (Server-Side Rendering) with React?
13. Difference between lifting state and prop drilling.

14. What is suspense in React?
15. How do you manage state in large applications (Redux, Context, Zustand)?
16. How does hydration work in React with SSR?
17. How do you secure a React frontend?
18. Explain error boundaries in React.
19. How does React Router handle dynamic routes?
20. How do you handle access control (auth-guard) in React?
21. How do you use useReducer and what is it best for?

22. How do you handle WebSocket or real-time data in React?
23. What is the role of key in React lists?
24. Explain compound components pattern.
25. How does React DevTools work under the hood?
26. What is the StrictMode in React and why use it?
27. How would you implement theme switching in React?
28. How do you test React components (Jest, RTL)?

React.js

29. How do you implement HOC (Higher-Order Components)?
30. What is the role of forwardRef in React?

Node.js

1. What is the event loop in Node.js and how does it work?
2. Explain the difference between `process.nextTick()` and `setImmediate()`.
3. How does Node.js handle asynchronous I/O?
4. What are streams and how do you use them?
5. How does clustering work in Node.js?
6. Explain how you'd implement a caching layer in Node.
7. How do you handle large file uploads efficiently?

[r/CSEducation](#) – “Most web dev tutorials bored me—until I found Sheryians coding school! Their fun, engaging style made me choose their AI-powered Web + DSA cohort. I could watch their lectures all day!”

8. What are child processes and how are they used?
9. What is the role of buffers in Node.js?
10. How do you monitor and debug Node.js performance?
11. What are worker threads and when would you use them?
12. Explain how you'd secure a Node.js application.
13. How do you manage environment variables securely?

14. What's the difference between CommonJS and ES modules?
15. How do you handle rate limiting in Node.js?
16. How do you implement JWT authentication in Node.js?
17. How does dependency injection work in Node?
18. What is the role of fs/promises in Node?
19. How can you prevent memory leaks?
20. How would you implement logging and metrics?

Top 100 DSA Questions

Array & Hashing

1. Two Sum – LeetCode 1 (asked at Amazon, Google, Bloomberg)
2. Best Time to Buy and Sell Stock – LeetCode 121 (Amazon, Microsoft, etc.) (commonly reported)
3. Contains Duplicate – LeetCode 217 (frequently in Amazon interviews)
4. Product of Array Except Self – LeetCode 238 (Amazon, Facebook, Google, Microsoft, Apple, Netflix)
5. Maximum Subarray – LeetCode 53 (Microsoft, Amazon, Google)
6. Rotate Array – LeetCode 189 (common in mid-level coding screens)

7. Merge Intervals – LeetCode 56 (Adobe, Amazon, Microsoft)
8. Insert Interval – LeetCode 57 (Adobe, Amazon)
9. 3Sum – LeetCode 15 (Google, Adobe, others)
10. Sort Colors – LeetCode 75 (Microsoft, Amazon)
11. Subarray Sum Equals K – LeetCode 560 (Amazon, Google)
12. Longest Consecutive Sequence – LeetCode 128 (Alibaba, Amazon, Apple, Bloomberg, Facebook, Google, Microsoft, Oracle, Spotify, Uber)

- 13 . Container With Most Water – LeetCode 11 (Amazon, Microsoft, Snapchat)
- 14 . Majority Element – LeetCode 169 (Amazon, Microsoft, Google)
- 15 . Meeting Rooms II – LeetCode 253 (Airbnb, Amazon, Facebook)

Strings

1. Valid Anagram – LeetCode 242 (Amazon, Microsoft)
2. Valid Palindrome – LeetCode 125 (common in entry-level Amazon screens)
3. Longest Palindromic Substring – LeetCode 5 (Google, Amazon)
4. Longest Substring Without Repeating Characters – LeetCode 3 (Facebook, Amazon)
5. Group Anagrams – LeetCode 49 (Amazon, Microsoft)
6. Minimum Window Substring – LeetCode 76 (Netflix, Amazon, Facebook)

7. Encode and Decode Strings – LeetCode 271 (Facebook, Google)
8. Longest Repeating Character Replacement – LeetCode 424 (common in FAANG)
9. Palindrome Pairs – LeetCode 336 (Google, Amazon)
10. String to Integer (atoi) – LeetCode 8 (Microsoft, Amazon)
11. Reverse String – LeetCode 344 (common in entry-level screens)
12. Reverse Words in a String – LeetCode 151 (Google, Amazon)

13. Implement `strStr()` (Substring Search) – LeetCode 28 (Amazon, Microsoft)
14. Check if Strings are Rotation – Not on LeetCode; frequently on GeeksforGeeks, asked in Indian firms like TCS, Infosys
15. Roman to Integer – LeetCode 13 (Amazon, Microsoft)

Linked List

1. Reverse Linked List – LeetCode 206
(Microsoft, Amazon)
2. Merge Two Sorted Lists – LeetCode 21
(Amazon, Google)
3. Linked List Cycle Detection – LeetCode 141
(Amazon, Facebook)
4. Remove Nth Node From End – LeetCode 19
(Amazon, Microsoft)
5. Add Two Numbers – LeetCode 2 (Amazon,
Google)
6. Intersection of Two Linked Lists – LeetCode
160 (Facebook, Amazon)

7. Palindrome Linked List – LeetCode 234 (Amazon, Microsoft)
8. LRU Cache – LeetCode 146 (Amazon, Snapchat)
9. Reorder List – LeetCode 143 (rare but seen at SC firms)
10. Rotate List – LeetCode 61 (Amazon, Microsoft)

Stacks & Queues

1. Valid Parentheses – LeetCode 20 (Amazon, Google)
2. Min Stack – LeetCode 155 (Amazon, Microsoft)
3. Next Greater Element – LeetCode 496 (Amazon, Goldman Sachs)
4. Daily Temperatures – LeetCode 739 (Facebook, Amazon)
5. Decode String – LeetCode 394 (Amazon, Google)
6. Implement Queue using Stacks – LeetCode 232 (common DS design)

7. Online Stock Span – LeetCode 901 (Bloomberg)
8. Sliding Window Maximum – LeetCode 239 (Google, Amazon)
9. Largest Rectangle in Histogram – LeetCode 84 (Google, Amazon)
10. Maximal Rectangle – LeetCode 85 (Microsoft, Amazon)

Binary Trees & BST

1. Maximum Depth of Binary Tree – LeetCode 104 (Amazon, Microsoft)
2. Same Tree – LeetCode 100 (Amazon)
3. Symmetric Tree – LeetCode 101 (Amazon, Google)
4. Invert Binary Tree – LeetCode 226 (Microsoft, Amazon)
5. Binary Tree Level Order Traversal – LeetCode 102 (Amazon)
6. Lowest Common Ancestor of a Binary Tree – LeetCode 236 (Amazon, Google)

7. Left View / Right View – GeeksforGeeks, asked by Indian companies like Wipro, Infosys
8. Top View / Bottom View – GeeksforGeeks, seen in campus drives (Wipro, TCS)
9. Construct Binary Tree from Preorder & Inorder – LeetCode 105 (Amazon, Microsoft)
10. Binary Tree Maximum Path Sum – LeetCode 124 (Apple, Amazon)
11. Path Sum II – LeetCode 113 (Amazon, Microsoft)
12. Diameter of Binary Tree – LeetCode 543 (Amazon, Google)
13. Validate BST – LeetCode 98 (Amazon, Microsoft)

14. Kth Smallest Element in BST - LeetCode 230
(Amazon, Google)
15. Convert Sorted Array to BST - LeetCode 108
(Amazon, Microsoft)

Graphs

1. Number of Islands – LeetCode 200 (Amazon, Microsoft)
2. Clone Graph – LeetCode 133 (Amazon, Google)
3. Course Schedule I – LeetCode 207 (Amazon, Microsoft)
4. Course Schedule II – LeetCode 210 (Amazon, Microsoft)
5. Pacific Atlantic Water Flow – LeetCode 417 (Google, Airbnb)
6. Rotting Oranges – LeetCode 994 (Amazon)

7. Word Ladder – LeetCode 127 (Google, Amazon)
8. Minimum Knight Moves – LeetCode 1197 (rare but shows up)
9. Cheapest Flights Within K Stops – LeetCode 787 (Amazon, Lyft)
10. Accounts Merge – LeetCode 721 (Google, Facebook)

Dynamic Programming

1. Climbing Stairs – LeetCode 70 (Amazon, Microsoft)
2. Coin Change – LeetCode 322 (Amazon, Google)
3. Partition Equal Subset Sum – LeetCode 416 (Amazon, Microsoft)
4. House Robber – LeetCode 198 (Amazon, Google)
5. House Robber II – LeetCode 213 (Amazon, Microsoft)
6. Decode Ways – LeetCode 91 (Amazon, Google)

7. Longest Increasing Subsequence – LeetCode 300 (Amazon, Google)
8. Jump Game – LeetCode 55 (Amazon, Microsoft)
9. Word Break – LeetCode 139 (Amazon, Google)
10. Maximal Square – LeetCode 221 (Amazon, Adobe)
11. Minimum Path Sum – LeetCode 64 (Amazon, Microsoft)
12. Unique Paths – LeetCode 62 (Amazon, Google)
13. Combination Sum IV – LeetCode 377 (Facebook, Amazon)

14. Maximum Product Subarray – LeetCode 152 (Amazon, Google)
15. Edit Distance – LeetCode 72 (Amazon, Google)

Binary Search

1. Binary Search – LeetCode 704 (Amazon, Microsoft)
2. Search in Rotated Sorted Array – LeetCode 33 (Amazon, Google)
3. Find Minimum in Rotated Sorted Array – LeetCode 153 (Amazon, Microsoft)
4. Median of Two Sorted Arrays – LeetCode 4 (Google, Amazon)
5. Kth Smallest Element in a Sorted Matrix – LeetCode 378 (Amazon, Microsoft)

Heap & Priority Queue

1. Kth Largest Element in an Array – LeetCode 215 (Amazon, Google)
2. K Closest Points to Origin – LeetCode 973 (Amazon, Google)
3. Task Scheduler – LeetCode 621 (Amazon)
4. Top K Frequent Elements – LeetCode 347 (Amazon, Google)
5. Find Median from Data Stream – LeetCode 295 (Microsoft, Amazon)

HR & Behavioral Questions (50+ Questions)

You & Your Motivation

1. Tell me about yourself. (Your "elevator pitch" – professional summary, skills, aspirations)
2. Walk me through your resume.
3. Why are you interested in this role/company?
4. What do you know about our company/products?
5. What are your career goals for the next 3-5 years?
6. What are your strengths?
7. What are your weaknesses?
8. What motivates you?

9. What are your salary expectations?
10. What kind of work environment do you thrive in?
11. How do you stay updated with new technologies?
12. How do you handle stress and pressure?
13. How do you define success?
14. What are you passionate about, outside of work?
15. What do you like to do in your free time?
16. If you could have any superpower, what would it be and why? (Less common, but tests creativity)

17. How do you manage your time and prioritize tasks?

Experience & Problem Solving

1. Describe a challenging project you worked on. What was your role, and what were the outcomes?
2. Tell me about a time you failed. What did you learn from it? **Coding Interview Questions Bank 2**
3. Describe a time you had to learn a new technology quickly. How did you approach it?
4. Give me an example of a time you received constructive criticism. How did you react?
5. Tell me about a time you had to deal with an unhappy customer/user.
6. Describe a situation where you had to make a difficult decision. How did you make it?

7. Tell me about a time you had to convince someone to see your point of view.
8. How do you approach problem-solving when you encounter a bug you can't immediately fix?
9. Describe a project you are most proud of. Why?
10. How do you handle situations where requirements are unclear or change frequently?
11. Tell me about a time you took initiative. What was the result?

Teamwork & Collaboration

1. Describe a time you had to work with a difficult team member. How did you handle it?
2. How do you prefer to collaborate with a team?
3. What is your ideal team size and structure?
4. Tell me about a time you had a disagreement with a colleague. How was it resolved?
5. How do you ensure effective communication within a team?
6. Describe a time you helped a team member.
7. How do you contribute to a positive team culture?

8 . Are you a team player or an individual contributor? (Preferably both, explain why)

Leadership & Initiative

1. Tell me about a time you demonstrated leadership.
2. Have you ever mentored someone? What was that experience like? Coding Interview Questions Bank 3
3. How do you motivate yourself and others?
4. Describe a situation where you had to lead a project or a significant task.
5. How do you handle conflict within a team, especially if you are in a leadership position?

Company Specific / Role Specific

1. What do you think are the biggest challenges facing our industry today?
2. How do you see yourself contributing to our company's success?
3. Why do you want to leave your current job? (If applicable)
4. What are your expectations from your manager?
5. What questions do you have for me/us? (Crucial to ask prepared, insightful questions)
6. How do you measure success in a project?

- 8 . What's your definition of quality software?
- 9 . How do you stay organized?
- 10 . What's your biggest accomplishment outside of work?