Next.js + DSA Beginner Roadmap (6 Weeks)

Goal: Improve logic-building skills while learning Next.js and building projects.

Time Commitment: 3 hours daily

- 1.5 hrs - Learning & implementing Next.js
- 1.5 hrs - Problem-solving (DSA, logic-based questions)

Week 1-2: Next.js Basics + Arrays & Strings

Next.js Learning (Hands-on):

- Set up a Next.js project (npx create-next-app)
- Learn Pages & File-based Routing
- Understand Static & Server-side Rendering (SSR, SSG, CSR, ISR)
- Fetch data using getStaticProps & getServerSideProps
- Project: Build a Simple Blog App (fetch & display dummy posts)

DSA Practice (Logic Building):

- Solve 2-3 problems per day on:
  - Arrays: Reverse, Max/Min, Sorting (Bubble, Selection)
  - Strings: Palindrome, Anagrams, Substring problems
- Pattern-based problems: (Star, Pyramid, Diamond patterns)
- Platforms: Leetcode (Easy), Codeforces (A Problems), GeeksforGeeks

Week 3-4: API Routes, Authentication + Recursion & Linked Lists

Next.js Learning (Hands-on):

- Learn API Routes (/api/) & create REST APIs
- Implement Authentication using NextAuth.js
- Explore Middleware for authentication
- Project: Create a Task Manager App (CRUD operations with API routes)

DSA Practice (Logic Building):

- Solve 2-3 problems per day on:
  - Recursion: Factorial, Fibonacci, Subsets

  - Linked Lists: Reversal, Middle Element, Merge
- Logic focus: Understanding recursion calls & stack memory

Week 5-6: Database, State Management + Trees & Graphs

Next.js Learning (Hands-on):
- Connect Next.js with MongoDB using Mongoose
- Learn State Management (Context API, Zustand)
- Optimize performance using Next.js Image Optimization
- Project: Build a Full-Stack Notes App with MongoDB

DSA Practice (Logic Building):
- Solve 2-3 problems per day on:
  - Trees: Binary Trees, DFS, BFS
  - Graphs: Connected Components, Pathfinding
- Logic focus: Visualizing problems using drawings & recursion trees

Extra Tips for Faster Growth

- Use a Whiteboard to break down problems
- Track Progress on Notion/Trello
- Join DSA Contests (Leetcode Weekly, Codeforces Div 4)
- Read Other People's Code to improve pattern recognition
- Push Code to GitHub for consistency