**General Questions**

1. **Tell me about yourself and your background.**
2. **Why do you want to be a software engineer?**
3. **Why do you want to intern with our company?**
4. **Can you describe a project you’ve worked on? What challenges did you face, and how did you overcome them?**
5. **What programming languages are you comfortable with, and why?**

**Technical/Programming Questions**

1. **How would you reverse a linked list?**
   * Follow-up: What is the time complexity?
2. **Explain the difference between an array and a linked list.**
3. **What is the difference between a process and a thread?**
4. **Can you implement a stack using an array or a linked list?**
5. **Write a function to check if a string is a palindrome.**
6. **What are the differences between a class and an object?**
7. **Explain how garbage collection works in a programming language like Java or Python.**
8. **What is the difference between depth-first search (DFS) and breadth-first search (BFS)?**
9. **Can you write code to implement a binary search algorithm?**

**Algorithms and Data Structures**

1. **What is the time complexity of sorting algorithms like quicksort, mergesort, and bubble sort?**
2. **Explain the concept of dynamic programming with an example.**
3. **What is a hash table, and how does it work?**
4. **How would you detect a cycle in a directed graph?**
5. **Can you describe what Big-O notation is and how it helps in analyzing algorithms?**
6. **Explain the difference between a stack and a queue.**

**Object-Oriented Design**

1. **What are the four pillars of object-oriented programming? (Abstraction, Encapsulation, Inheritance, Polymorphism)**
2. **Explain the concept of inheritance with an example.**
3. **What are design patterns? Can you name and explain a few? (e.g., Singleton, Factory, Observer)**
4. **What is the difference between an interface and an abstract class?**
5. **How would you design a system for a library management system?**

**Database and SQL**

1. **What is the difference between SQL and NoSQL databases?**
2. **How do you normalize a database, and why is it important?**
3. **Write an SQL query to find the second highest salary in a table of employees.**
4. **What is indexing in databases, and how does it improve query performance?**
5. **Explain the concept of transactions and ACID properties in databases.**

**Operating Systems/Networking**

1. **What happens when you type a URL in the browser and hit Enter?**
2. **Explain the concept of deadlock in operating systems.**
3. **What is virtual memory, and how does it work?**
4. **What is the difference between TCP and UDP?**
5. **Explain the client-server architecture.**

**Behavioral/Soft Skills Questions**

1. **Describe a situation where you worked in a team and encountered a conflict. How did you handle it?**
2. **What do you do when you are stuck on a technical problem for a long time?**
3. **How do you prioritize tasks when working on multiple projects or assignments?**
4. **Tell me about a time when you had to learn something new to complete a project.**
5. **How do you handle feedback or criticism of your work?**