Topic: Python

Emotion: Confident

Q1: How would you explain Python's GIL and its impact on multithreading?

Q2: What are some advanced use cases for Python generators?

Q3: How would you implement a custom context manager?

Emotion: Nervous

Q1: Can you explain how list comprehensions work?

Q2: What’s the difference between a list and a tuple in Python?

Q3: How do you handle exceptions in Python?

Emotion: Curious

Q1: How does Python manage memory under the hood?

Q2: What’s the role of `__init__.py` in a Python package?

Q3: How do decorators enhance code modularity?

Topic: JavaScript

Emotion: Confident

Q1: Can you explain the event loop and call stack in JavaScript?

Q2: How do Promises work, and how is async/await different?

Q3: What are the pros and cons of using `var`, `let`, and `const`?

Emotion: Stressed

Q1: What’s the difference between `==` and `===` in JavaScript?

Q2: What is a closure and how is it useful?

Q3: How do you debug JavaScript code in the browser?

Topic: React

Emotion: Confident

Q1: What are React hooks, and how do `useEffect` and `useState` differ?

Q2: How do you optimize performance in a large React application?

Q3: What is memoization, and how is it applied using `React.memo`?

Emotion: Nervous

Q1: What is JSX and how does it work behind the scenes?

Q2: How do you pass data between components in React?

Q3: What’s the difference between controlled and uncontrolled components?

Topic: SQL

Emotion: Curious

Q1: What are window functions and when would you use them?

Q2: How do indexes affect the performance of queries?

Q3: What’s a common table expression (CTE) and why is it useful?

Emotion: Stressed

Q1: How do you retrieve only unique records in SQL?

Q2: What’s the difference between INNER JOIN and LEFT JOIN?

Q3: Can you explain the ACID properties of a database transaction?

Topic: Java

Emotion: Confident

Q1: Explain the concept of multithreading in Java and how it’s implemented.

Q2: What is the difference between `HashMap` and `ConcurrentHashMap`?

Q3: How do generics work in Java and why are they important?

Emotion: Nervous

Q1: What’s the difference between `==` and `.equals()` in Java?

Q2: Can you explain the basics of inheritance in Java?

Q3: How is exception handling done using `try-catch` blocks?

Topic: Machine Learning

Emotion: Curious

Q1: How does a decision tree algorithm make decisions?

Q2: What’s the difference between bias and variance?

Q3: What is overfitting and how can it be prevented?

Emotion: Confident

Q1: Explain the training process of a neural network.

Q2: What’s the role of gradient descent in optimization?

Q3: How would you tune hyperparameters in a machine learning model?