

AIRA Technical Question & Answer Bank

Web Developer

Q: What is the difference between HTML and HTML5?

A: HTML5 introduced semantic elements, audio/video support, canvas, local storage, and improved APIs compared to earlier HTML versions.

Q: Explain the CSS box model.

A: The box model consists of content, padding, border, and margin. It defines how elements are spaced and sized on a webpage.

Q: What are JavaScript closures?

A: A closure is a function that retains access to its outer scope variables even after the outer function has executed.

Q: What is REST API?

A: REST is an architectural style that uses HTTP methods for communication between client and server.

Q: How does event delegation work in JavaScript?

A: Event delegation uses event bubbling to handle events at a parent level instead of attaching listeners to individual child elements.

Full Stack Developer

Q: What is Node.js?

A: Node.js is a JavaScript runtime built on Chrome's V8 engine used to build scalable server-side applications.

Q: Explain database indexing.

A: Indexing improves database query performance by creating a data structure that allows faster retrieval.

Q: What is JWT authentication?

A: JWT is a token-based authentication mechanism used for secure information exchange between parties.

Q: Difference between SQL and NoSQL?

A: SQL databases are relational and structured, while NoSQL databases are non-relational and flexible in schema.

Q: What are microservices?

A: Microservices is an architecture where applications are divided into small, independent services communicating via APIs.

Gen AI Engineer

Q: What are embeddings?

A: Embeddings are vector representations of text or data that capture semantic meaning for similarity search.

Q: Explain Retrieval-Augmented Generation (RAG).

A: RAG combines information retrieval with language models to generate context-aware and accurate responses.

Q: What is the Transformer architecture?

A: Transformer is a deep learning model using self-attention mechanisms, widely used in NLP tasks.

Q: Difference between fine-tuning and prompt engineering?

A: Fine-tuning updates model weights, while prompt engineering improves output by optimizing input prompts.

Q: What is vector similarity search?

A: It is a method of retrieving similar items based on distance metrics like cosine similarity in embedding space.

Gen AI Developer

Q: What is prompt engineering?

A: Prompt engineering is designing effective prompts to get accurate and relevant responses from language models.

Q: How do LLMs generate text?

A: LLMs generate text by predicting the next word based on learned probability distributions from training data.

Q: What is temperature in LLMs?

A: Temperature controls randomness in model output. Higher values increase creativity; lower values increase determinism.

Q: Explain tokenization.

A: Tokenization is the process of splitting text into smaller units called tokens for model processing.

Q: What is hallucination in AI?

A: Hallucination refers to AI generating incorrect or fabricated information confidently.

Quality Assurance

Q: What is STLC?

A: Software Testing Life Cycle includes requirement analysis, test planning, test case design, execution, and closure.

Q: Difference between regression and retesting?

A: Regression testing checks impact of changes on existing functionality; retesting verifies specific bug fixes.

Q: What is a test case?

A: A test case is a document outlining inputs, execution steps, and expected results for validation.

Q: What is API testing?

A: API testing validates endpoints, request/response structure, and business logic without UI.

Q: What is a bug life cycle?

A: Bug life cycle describes stages from bug identification to resolution and closure.