**Amazon Data Engineer Interview Guide - Fresher**

**Round 1**

**DBMS, Big Data, and Project Questions**:

1. Can you introduce yourself and share a bit about your background?

2. What do you understand by a database management system (DBMS) and a relational database management system (RDBMS)?

3. How would you explain the differences between OLAP and OLTP systems?

4. What is your understanding of a data warehouse?

5. You mentioned an interest in data engineering and analytics—have you worked on any related projects?

6. What algorithm did you use in your project, and could there have been a more suitable alternative?

**Python Programming Questions**:

1. Which scripting language are you most comfortable with?

2. How would you check if a given string is a palindrome?

3. Write a program to count the number of vowels in a string.

4. Could you walk me through the logic behind your code?

5. What’s the most challenging Python problem you’ve tackled so far? Can you write that code for me?

**SQL Questions**:

1. Create two tables with attributes and define their primary and foreign key relationships.

2. Write a query to find the total number of employees in a specific department.

3. Can you explain how different types of joins work and provide an example?

4. Given this query (based on aggregate functions), what will its output be?

5. What’s the most complicated SQL query you’ve written? Can you demonstrate it?

**Round 2**

**Project-Specific Questions**:

1. Tell me a bit about yourself and your professional journey.

2. Regarding your face mask detection project, did you deploy it? If yes, where and how?

3. What specific challenges did you face while working on this project?

4. Could you explain the algorithm or process you followed for deployment?

5. Can you describe a last-minute project you worked on? How did you handle it, and what was the outcome?

**DBMS and Schema Design Questions**:

1. What is a primary key, and why is it important?

2. How does a primary key differ from a unique key?

3. Can you explain what a composite key is and provide an example?

4. What is normalization, and what are the different normal forms?

5. What’s the difference between star schema and snowflake schema?

6. Can you explain what fact tables are and their significance?

**Joins and Querying Questions**:

1. Could you describe the types of joins and their use cases?

2. What is a self-join, and where might it be useful?

3. How does a cross-join differ from other types of joins?

**Round 3**

**Behavioral and Problem-Solving Questions**:

1. Share a brief introduction about yourself.

2. Can you explain one of your projects in detail?

3. What was the toughest issue you faced while working on that project, and how did you resolve it?

4. Suppose you need to learn a completely new programming language. How would you go about it?

5. If I asked you to start learning C++ from scratch, how would you approach it?

**Technical Questions**:

1. Here’s an SQL query of medium complexity—can you explain or debug it?

2. How would you determine if a linked list is circular? Could you expand on your solution?