1. **What is Snowflake and how does it differ from traditional databases?**
   * Snowflake is a cloud-based data warehousing platform designed for handling and analyzing large volumes of data. It is different from traditional databases in its architecture, which separates storage and compute resources, allowing for scalability and elasticity.
2. **Explain the concept of virtual warehouses in Snowflake.**
   * Virtual warehouses in Snowflake are compute resources that execute queries. They can be scaled up or down based on the workload, allowing for better performance and cost optimization.
3. **How does Snowflake handle data storage?**
   * Snowflake separates storage and compute, storing data in a scalable object storage service (like Amazon S3) and using on-demand compute resources to process queries.
4. **What is the significance of a Snowflake schema in data modeling?**
   * A Snowflake schema is a type of database schema where dimension tables are normalized into multiple related tables, reducing redundancy. It helps improve query performance and reduces storage requirements.
5. **Explain how Snowflake handles concurrency.**
   * Snowflake's multi-cluster, shared data architecture allows it to handle concurrent queries efficiently. Each query runs in its own virtual warehouse, and Snowflake automatically allocates resources based on the workload.
6. **What are the advantages of using Snowflake over traditional on-premise data warehouses?**
   * Advantages include flexibility and scalability, as Snowflake is a cloud-based platform that can scale resources up or down based on demand. It also provides features like automatic scaling, data sharing, and a pay-as-you-go pricing model.
7. **How does Snowflake ensure data security?**
   * Snowflake provides features like role-based access control (RBAC), encryption at rest and in transit, and audit logging to ensure data security. It also supports integration with cloud providers' identity and access management services.
8. **Explain the concept of clustering keys in Snowflake.**
   * Clustering keys in Snowflake help organize and physically store data to improve query performance. Clustering is based on one or more columns, and it can be specified when creating tables to group similar data together.
9. **What is data sharing in Snowflake, and how does it work?**
   * Data sharing in Snowflake allows users to securely share data across accounts. It involves creating a secure data sharing network and granting usage privileges to specific objects. Consumers can then access shared data using their own virtual warehouses.
10. **How does Snowflake support semi-structured data?**
    * Snowflake supports semi-structured data formats like JSON and Avro. It can automatically infer the schema of semi-structured data, and users can query and manipulate the data using SQL.

These questions cover various aspects of Snowflake, including its architecture, features, security, data modeling, and performance optimization. Depending on the specific role and level of expertise, interview questions may delve deeper into specific areas.