**Part 1: Explore the Concept**

1. **What is a schema in SQL Server?**  
   A schema is a logical container or namespace in a database that holds database objects such as tables, views, procedures, etc. It helps organize objects for better management.
2. **How is a schema different from a database?**  
   A database is the entire storage structure that holds data and metadata, while a schema is a subset of that database used to group and manage related objects.
3. **Two benefits of using schemas in real applications:**
   * **Logical separation:** Organize objects by domain or department (e.g., HR, Finance).
   * **Security control:** Different schemas can have different access permissions.
4. **Can different schemas have the same table name?**  
   Yes. For example, HR.Employee and Sales.Employee can exist in the same database.

**Part 7: Reflection**

1. **What are the advantages of separating tables into schemas in a large system?**

Separating tables into schemas in a large system offers several benefits:

* + **Organizational Clarity:** It helps logically group database objects by domain or department (e.g., HR, Sales), making the structure easier to understand and manage.
  + **Improved Maintainability:** It simplifies navigation, development, and updates by keeping related objects together.
  + **Avoids Naming Conflicts:** Multiple schemas can contain tables with the same name without conflict (e.g., HR.Employee vs. Sales.Employee).
  + **Better Modularity:** Changes or updates in one schema do not interfere with others.

1. **How can schemas support security and access control?**

Schemas allow **granular permission control**. Instead of giving access to individual tables, you can assign access at the schema level. For example:

* + The HR department can be granted access only to the HR schema.
  + Developers can be restricted from viewing or editing data in the Sales schema.  
    This improves data privacy and ensures each user or role only sees what they are allowed to see.

1. **Suggest a new department that could be added to this system and which tables it would manage**
   * **Department:** **IT Support**
   * **Schema Name:** Support
   * **Tables it could manage:**
     + SupportTicket (TicketID, EmployeeID, IssueDescription, Status, OpenDate)
     + SystemAccess (AccessID, EmployeeID, SystemName, AccessLevel, GrantedDate)
     + IssueLog (LogID, TicketID, ActionTaken, Timestamp)