Project Questions

1) Can you think of 5 more rules (other than the ones explicitly described above) that are likely to be used in a company?

1. Each customer may have a preferred communication method (e.g., email, phone, or text).

2. Employees cannot apply to job positions within their current department due to conflict of interest.

3. Job postings expire 60 days after the posted date unless manually renewed.

4. Each department must have at least one active employee at all times.

5. A product cannot be sold if it has no associated parts defined in the system.

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2) Is the ability to model super-class/subclass relationships likely to be important in such an environment? Why or why not?

Yes, superclass/subclass modeling is crucial here because it enables a clear and efficient representation of overlapping roles. For instance, a Person can simultaneously be an Employee and a Customer, or even a PotentialEmployee. If we didn't model this using inheritance (generalization), we'd end up duplicating data across tables and complicating queries and updates. The subclassing structure keeps things normalized, organized, and flexible — especially for roles that change over time.

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3) Justify using a Relational DBMS like Oracle for this project.

A relational DBMS like Oracle is ideal because the data is structured, normalized, and interconnected with well-defined constraints. Oracle supports advanced features like indexing, views, triggers, stored procedures, and strong ACID compliance — all of which help maintain data integrity and performance. It also handles complex join operations efficiently, which is essential for queries involving sales history, interviews, applications, and department assignments. Plus, Oracle offers security, scalability, and robust transaction management that are vital for an enterprise system like this.