Question 01

a. Data models describe how a database's logical structure is represented. In a database management system, data models are essential for introducing abstraction. Data models describe how data is linked to one another, as well as how it is handled and stored within the system.

b.

Conceptual data modelling	Logical data modelling	Physical data modelling
	• Models that as closely as possible describe the data, regardless of how they will be physically implemented in the database. • The data items and their relationships are defined. • A logical data model is created by data architects and business analysts. • The purpose of a logical data model is to create a technical representation of rules and data structures. • The physical model's purpose is to create a database that can be used. • This model is simple.	• Model that shows the construction of the actual database. • Allows for the creation of an actual database. • physical data model is created by database administrators and developers. • The physical model's purpose is to create a database that can be used. • This is more difficult to understand than the logical data model. •

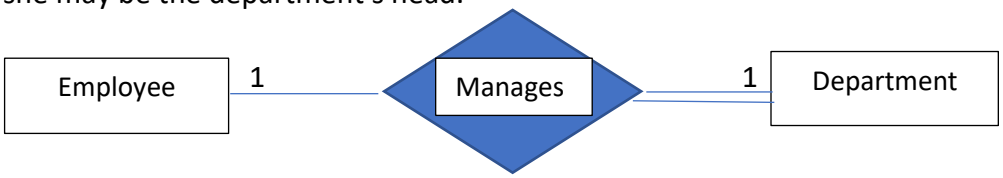
Q2

When an entity is related to another entity in a relationship type, the Participation constraint specifies the existence of that entity. Minimum cardinality constraint is another name for it. The number of instances of an entity that can participate in a relationship type is determined by this constraint.

There are two types of Participation constraint

- Partial Participation

Consider the two entities Employee and Department, which are connected by a Manages relationship. An employee is capable of managing a department; he or she may be the department's head.



But, not each employee in the organization is in responsible of department. But, not each employee in the organization is in responsible of a department. As such reason, employee participation in the Manages relationship type is partial.

- Total Participation

Assume that Employee works for department. And every employee works in at least one department.