FACULTY OF INFORMATION TECHNOLOGY AND ENGINEERING

CSE 251

RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS) I

WITH

KABIRU ABDULHAMID ISA

kabiru@lincoln.edu.ng

Entity Relationship Diagram (ERD)

Displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts:

Entities

Attributes

Relationships

How is data stored in a database ?

A relational database uses tables to stores data. A table serves as an entity where objects are stored as records in the table.

id	Name	population
1	Nigeria	2300
2	Ghana	1700

countries

id	Name	State
1	Babatunde	2
2	Nasiru	3
3	Kwame	1

people

id	Name	country
1	Kumasi	2
2	Lagos	1
3	Kaduna	1

states

Entity

A real-world thing either living or non-living that is easily recognizable and nonrecognizable. It is anything in the enterprise that is to be represented in our database. It may be a physical thing or simply a fact about the enterprise or an event that happens in the real world.

Examples of entities:

- Person: Employee, Student, Patient
- Place: Store, Building
- Object: Machine, product, and Car
- Event: Sale, Registration, Renewal
- Concept: Account, Course

Attributes

Attributes are the properties of a particular Entity

Example

Book: cover, title, author, isbn
Student: id, name, email, department.

Relationships

- Connection between entities
- One-to-One Relationships
- One-to-Many Relationships
- Many to One Relationships
- Many-to-Many Relationships