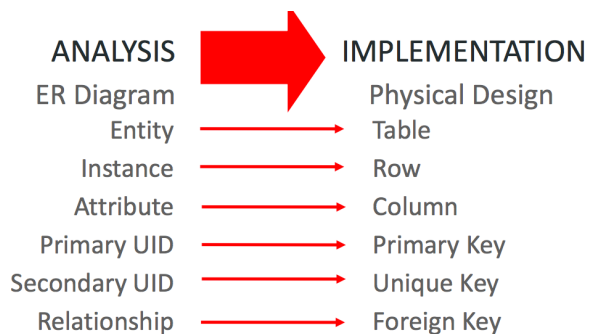


Week-5 Summary

- Second Normal Form (2NF): Any non-UID attribute be dependent on the entire UID. In other words, no partial dependency
- Third Normal Form (3NF): Any non-UID attribute can not be dependent other non-UID. In other words, no transitive dependency
- Data Integrity Rules:

Constraint Type	Explanation	Example
Entity Integrity	A primary key must be unique, and no part of the primary key can be null	The column emp_no in the EMPLOYEES table cannot be null
Referential Integrity	A foreign key must match an existing primary key value (or else be null if nulls are allowed)	The value in the dept_no column of the EMPLOYEES table must match a value in the dept_no column in the DEPARTMENTS table
Column Integrity	A column must contain only values consistent with the defined data format of the column	The value in the balance column of the ACCOUNTS table must be numeric
User-Defined Integrity	The data stored in a database must comply with the rules of the business	If the value in the balance column of the ACCOUNTS table is below 1.00, we must send a letter to the account owner (this will need additional programming to enforce)

- Terminology Mapping:



- Relationships are mapped between primary keys and foreign keys to allow one table to reference another.

Type	Mapping Rule
1:M	Primary key of 1 side would be Foreign key at M side
Barred	Same as 1:M, but the foreign-key would also be part of a primary key
1:1 (mandatory)	Foreign key and a unique key at mandatory side
1:1 (optional)	If the relationship is optional on both sides, you can choose which table gets the foreign key. some guidelines: Implement the foreign key in the table with fewer rows to save space. Implement the foreign key where it makes more sense for the business.