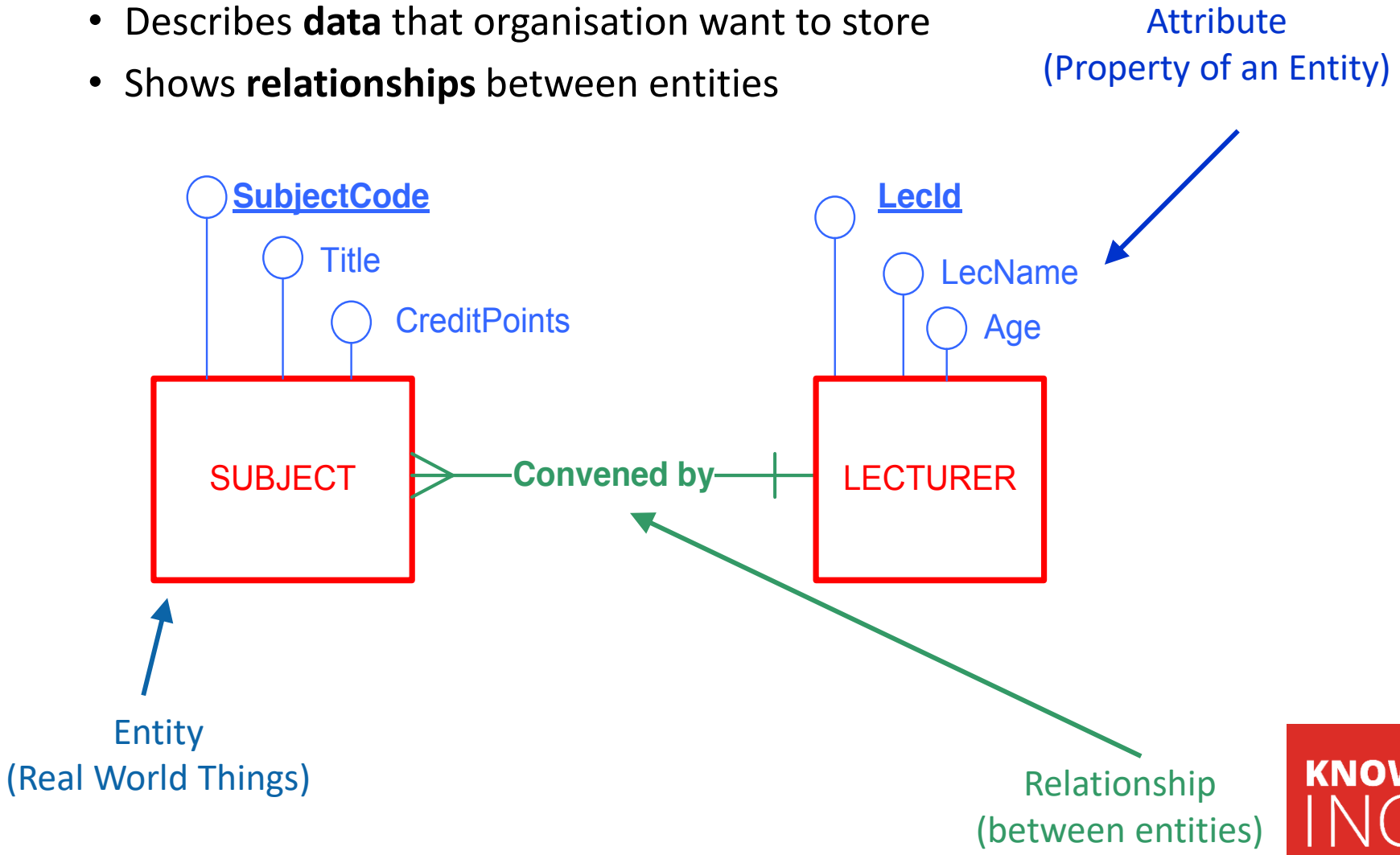
Recap: Entity Relationship Diagrams

ERDs

- Based on **Business Rules**
- Describes **data** that organisation want to store
- Shows **relationships** between entities



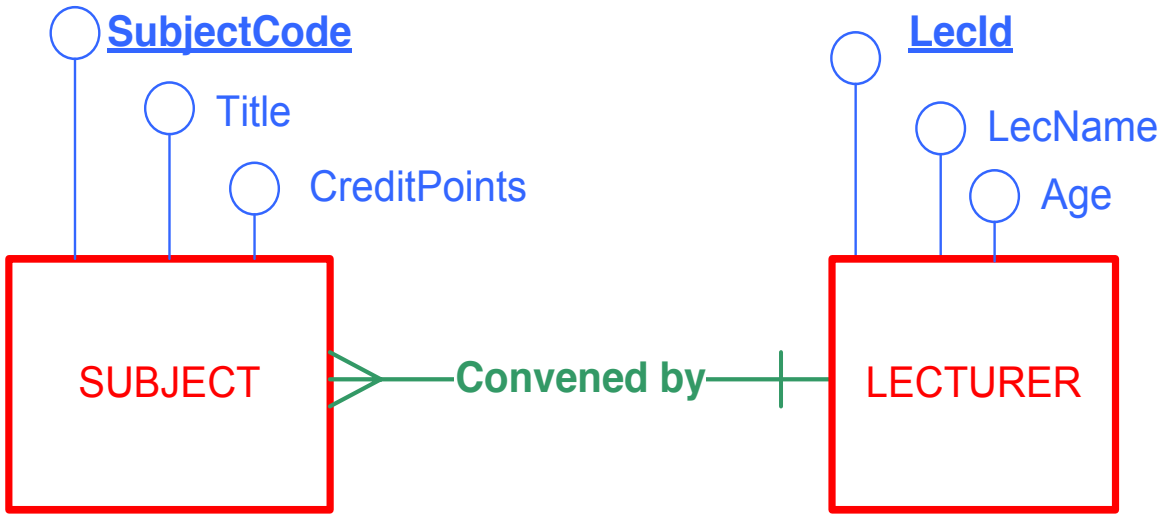
Recap: Convert ERD to Relational Model

The ERD is converted to a Relational Schema

Step 1: Each Entity becomes a **Relation**

Step 2: Add **attributes** to the relations

Step 3: Identifiers become **Primary Keys**



LECTURER (LecId, LecName, Age)

SUBJECT(SubjectCode, Title, CreditPoints)

Recap: Convert ERD to Relational Model

Step 4: The entity at the **Many** end of the the M:1 relationship will give rise to a **Foreign Key** in the matching table

Foreign Key values must **match** Primary Key values (or be null)

LECTURER

LecID	LecName	Age
207	John Smith	37
119	Jane Pitt	26
345	Carol Kent	34

LECTURER (LecId, LecName, Age)

SUBJECT(SubjectCode, Title, CreditPoints, LecId)
Foreign Key LecId References LECTURER

SUBJECT

SubjectCode	Title	CreditPoints	LecId
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Recap: SQL DDL Create Table

The Relational Schema is the **specification** for the database

- The tables are constructed using **SQL DDL** statements
- Primary Key and Foreign Key **constraints** are implemented

```
Create Table LECTURER        (
    LecId          number        ,
    LecName        varchar(50)   ,
    Age            number        ,
    Primary Key  (LecId)       ) ;

Create Table SUBJECT         (
    SubjectCode varchar(10)    ,
    Title          varchar(100)  ,
    CreditPoints number          ,
    LecId          number        ,
    Primary Key  (SubjectCode) ,
    Foreign Key  (LecId)  References LECTURER    ) ;
```