THE RELATIONAL MODEL

The relational model represents the database as a collection of relations.

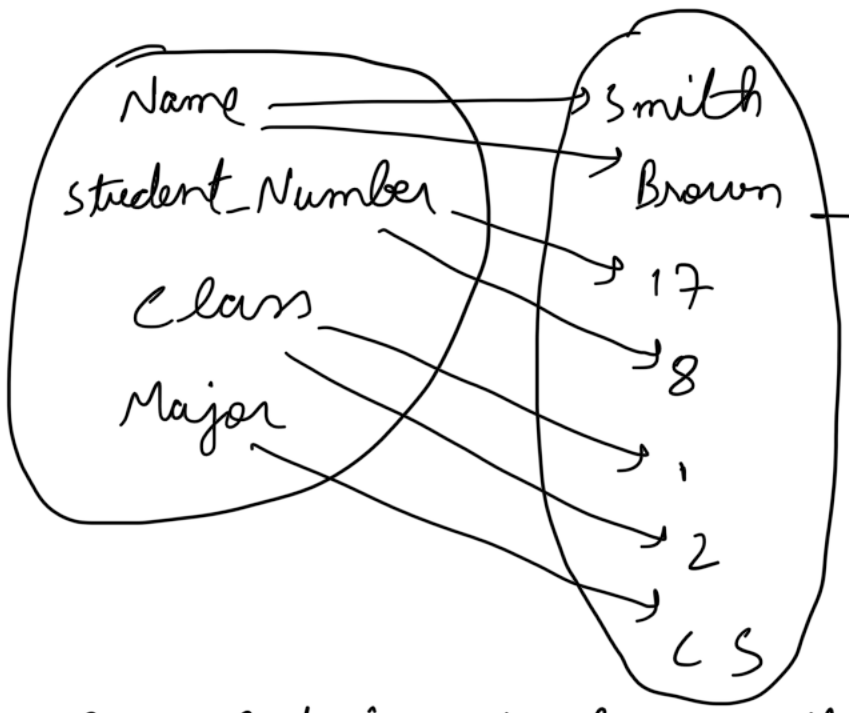
In formal relational model terminology,

- Row is called a **tuple**
- Column header is called an **attribute** (A_i)
- Table is called a **relation**
- Data Type describing types of values that can appear in each column is called **domain**. **dom** (A_i)

Similarity b/w mathematical relations and relations in DB

Name	Student Number	Class	Major
Smith	17	1	CS
Brown	8	2	CS

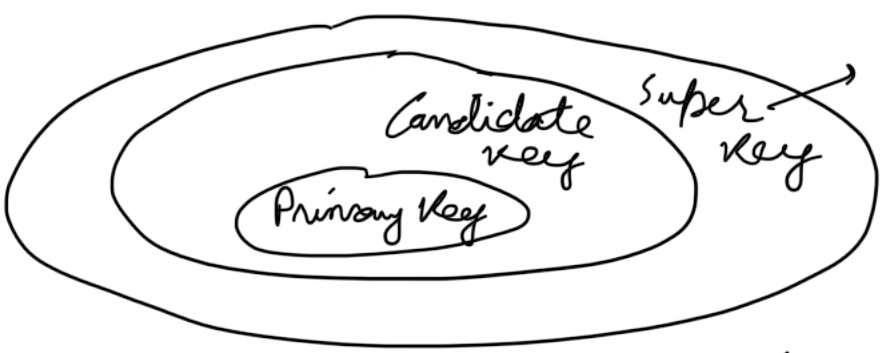
But relational model is more suited for practical purposes.



→ Here Smith, Brown, CS, 1, 2 ... have all been amalgamated to one.

A **relation schema** is used to describe a relation.

Degree of a relation = Number of attributes.



→ Set of attributes that can uniquely identify a tuple.

Entity Integrity Constraint : No primary key can be NULL.

Referential Integrity Constraint : A tuple in one relation that refers to another relation must refer to an existing tuple in that relation.

Functional dependency constraint: A functional relationship among two sets of attributes X and Y.

$$X \rightarrow Y$$