Keys

- **Super Key -> A super key is set of one or more attribute which taken collectively, allows us to identify uniquely an entity in the entity set.**

Example: Customer (Social_securityno , Cust_name, Street , City)

- *Social_securityno is a Super Key*
- *Combination of (Social_securityno , Cust_name) is also a super key*

- **Super key may contain extraneous attributes.**

- **Candidate key :->** super key whose proper subset is not a super key. Such minimal super keys are called candidate keys.

Example: In customer relation combination of [Cust_name, street] is sufficient to distinguish among members of the customer entity set.

Candidate keys are

1. *[Social_security no]*
2. *[Cust_name , Street]*

- **Primary Key : ->** Key which uniquely determine the entity in entity set. The minimum candidate key is called primary key. We use term primary key to denote a candidate key that is chosen by the database designer.

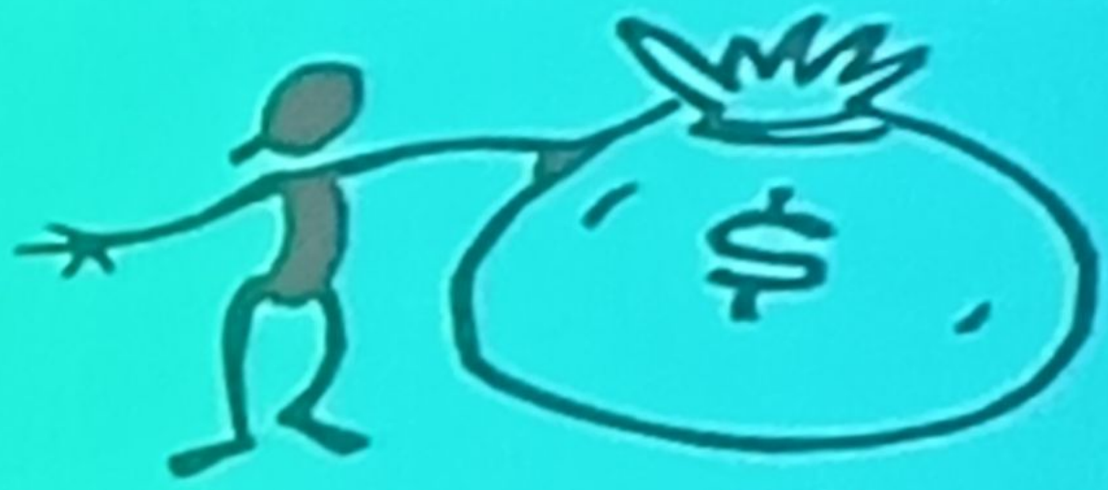
Example: Customer (Social_securityno , Cust_name, Street , City)

» ***Social_securityno is a Primary Key***

- **Alternate Key : ->** One candidate key of a relation would be selected as a primary key and the remaining candidate key would be considered as alternate key.

Example: Customer (Social_securityno , Cust_name, Street , City)

» ***{Cust_name , Street} is a Alternate Key***



- **Foreign Key : ->** A foreign key is an attribute that appears in one table but is the primary key in other table.

  Example: Emp(emp_no, e_name, dept_no, sal)

  Dept(dept_no,d_name,loc)

  - *dept_no is a Primary Key in Dept table*
  - *dept_no is a Foreign Key in Emp table*

- **Composite Key : ->** A composite key is candidate key with two or more attributes.

  Example: Customer (Social_securityno , Cust_name, Street , City)

  - *{Cust_name , Street} is a composite key.*

Unique Key : -> A unique key is a constraint in a relational database management system (RDBMS) that ensures the values in one or more columns within a table are unique across all rows. This means that no two rows can have the same combination of values in the specified column(s). Unlike a primary key, a unique key allows for null values, but only one null value is permitted per unique key constraint.

Example: Customer (Social_securitymo , Cust_name, Street , City , Email_id)

- *Email_id is a Unique Key*

Compare Unique Key and Candidate Key

Both unique keys and candidate keys enforce uniqueness, candidate keys are potential keys that can be chosen as the primary key, whereas unique keys are constraints that ensure uniqueness but may or may not be the primary means of identifying rows. Candidate keys are identified during database design, while unique keys are implemented as constraints in the database schema.