

COMP282  
RDBMS: E-R Model

- E-R data models employ three basic notions:”
  - Entity Sets
  - Relationship sets
  - attributes

# Entities

- Entity: any “thing” or “object” that is distinguishable from all other objects.
  - Each person at a company is a separate entity
  - Every automobile is a separate entity
- Every entity has a set of properties.
  - I.e. Lastname, Firstname and social security number
- some set of the properties for a given entity may be used to uniquely identify the entity.

# Entity Sets

- An Entity Set is a set of entities of the same type that share the same properties, or attributes.
  - The set of customer entities for a bank could be described as the entity set “customers”
  - The entity set loan might be composed of all the loans awarded to customers by the bank.
- Entity sets do not have to be disjoint.
  - An entity may belong to more than one entity set.
  - “Swedish citizens” and “mammals” for instance.

# Attributes

- Each entity is represented by a set of attributes
- attributes are descriptive properties possessed by each member of an entity set.
- Each entity has a value associated with each of its attributes. The set of permitted values is called the “domain” or “value set”

# Relationship sets

- A relationship is an association among several entities.
- $\{(e_1, e_2, \dots, e_n) \mid e_1$