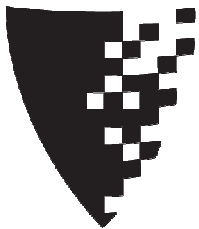


# Relational Database Design: E/R-Relational Translation

Introduction to Databases

CompSci 316 Fall 2014



**DUKE**  
COMPUTER SCIENCE

# Announcements (Tue. Sep. 9)

- Homework #1 due next Tuesday
- Project description available this Thursday
- Homework #2 to be assigned next Tuesday
  
- Office hours posted

# Database design steps: review

- Understand the real-world domain being modeled
- Specify it using a database design model (e.g., E/R)
- Translate specification to the data model of DBMS (e.g., relational)
- Create DBMS schema

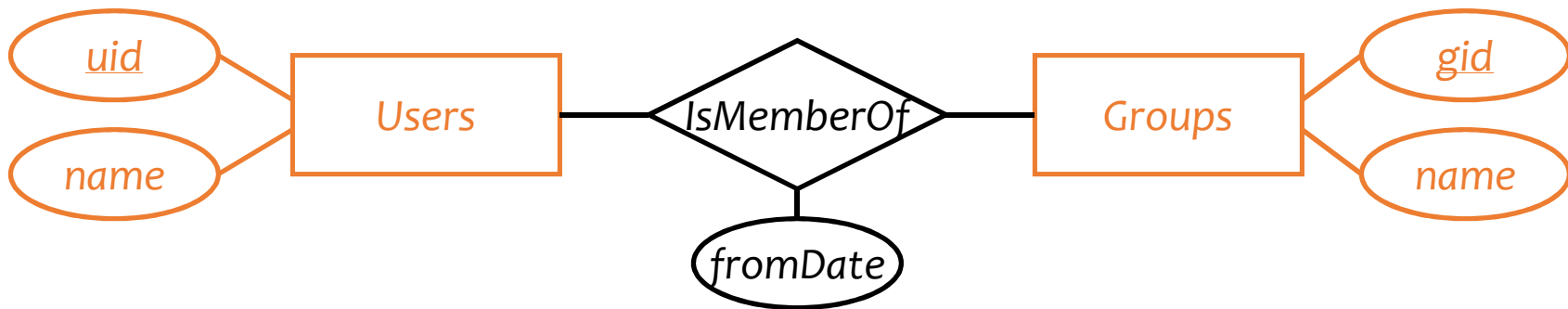
👉 Next: translating E/R design to relational schema

# E/R model: review

- Entity sets
  - Keys
  - Weak entity sets
- Relationship sets
  - Attributes on relationships
  - Multiplicity
  - Roles
  - Binary versus  $n$ -ary relationships
    - Modeling  $n$ -ary relationships with weak entity sets and binary relationships
  - ISA relationships

# Translating entity sets

- An entity set translates directly to a table
  - Attributes → columns
  - Key attributes → key columns



*User (uid, name)*

*Group (gid, name)*

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