

## Utility Service Database

- Design a database to keep track of service calls for a utility company:
  - Customers call to report problems
  - Call center manages “tickets”, assigning workers to jobs
    - Must match specialty and service location
    - Must balance number of assignments
  - Workers call in and ask where their next jobs are
- In SQL, you can perform the following operations:
  - Count the number of rows in a result set
  - Sort the result set according to a field
  - Find the maximum and minimum value of a field

The iSchool  
University of Maryland



## A Possible Answer: Tables

- **Customer:** cid, contact name, phone, address, zip
- **Worker:** wid, name, phone, location code, specialty
- **Ticket:** tid, problem, cid, wid, time assigned, status
- **Area:** zip, location code

The iSchool  
University of Maryland



## One Possible Answer: Queries

- Customer calls: I have a problem!
  - Join customer, area, and worker tables on zip and location code; restrict on cid and specialty → available workers
  - For each worker, count outstanding tickets
  - Insert a record in the ticket table, assigning job to worker to fewest assigned jobs
- Worker calls: Where's my next job? And what's the problem?
  - Join ticket and customer tables on cid; restrict on status = "not yet completed", sort rows by time assigned

