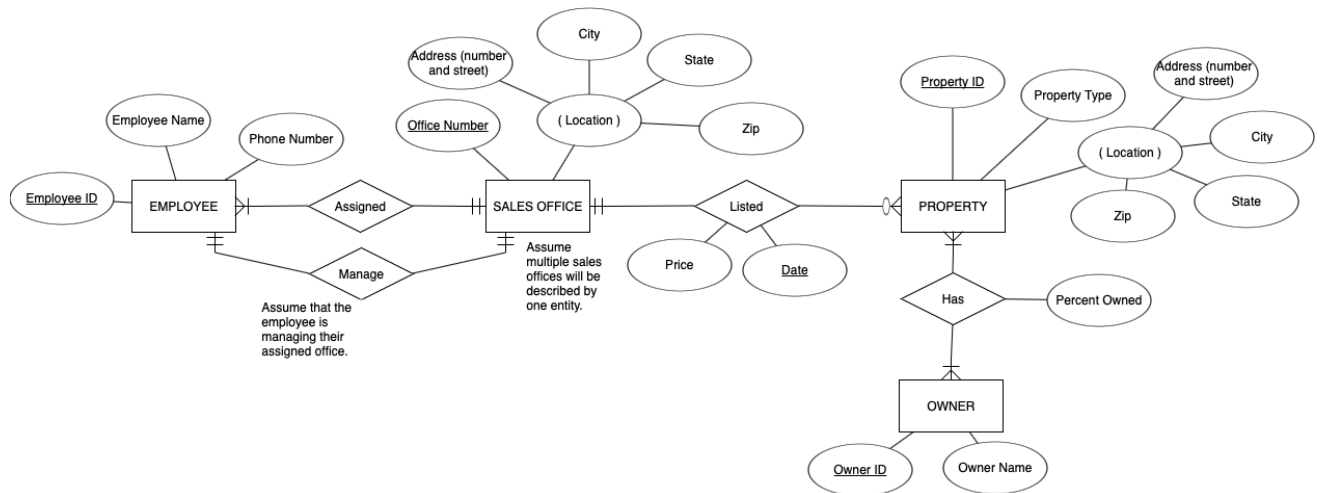


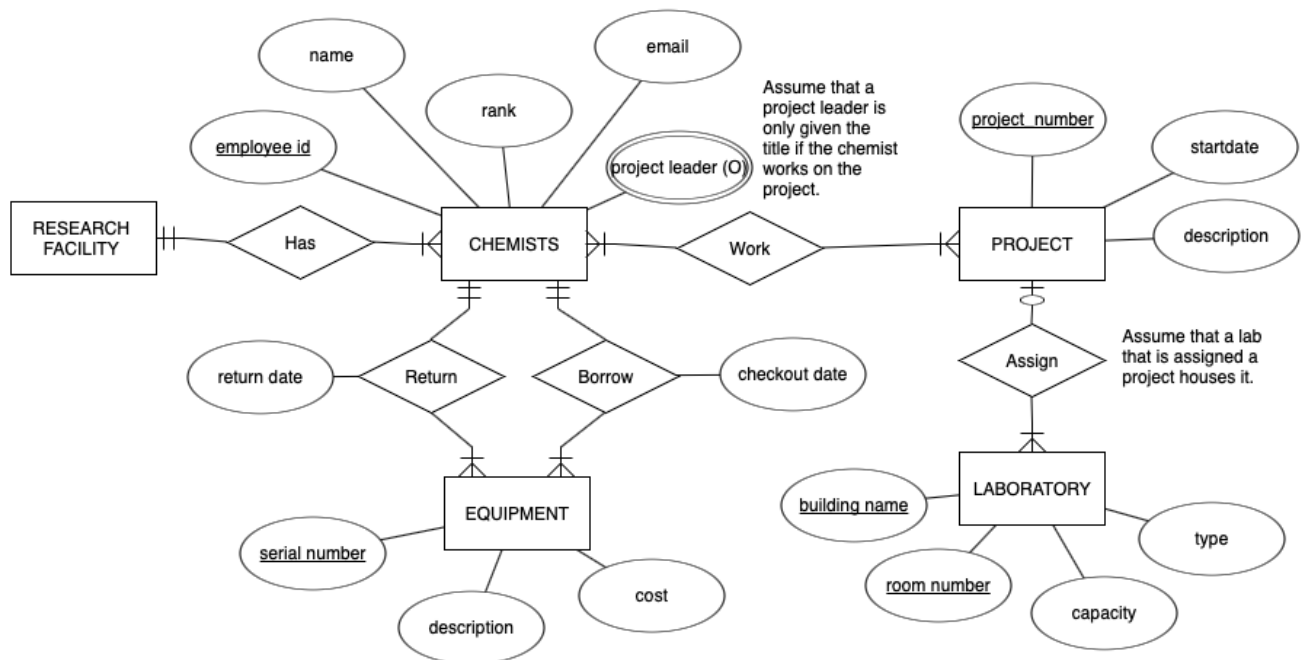
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CS 340: Intro to Databases
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HW1: ER Diagrams

Problem 1



Problem 2



Problem 3

Specific examples of data that would be stored in a DBMS system:

- A university database with class registration and grades. Student, course prerequisites, and departments would be stored
- Airport system with travel locations, flight times, and airline companies
- Package delivery data with tracking numbers, customers, addresses (ie. Amazon)
- Bank customers' names, addresses, social security numbers, transactions, and deposits

Specific examples of storing data in operating systems files:

- A local computer's word processor files organized within a directory and folder structure
- Several code files created by a user

Advantages of a DBMS (from *Fundamentals of Database Systems Vol 7*):

- + Controls redundancy
- + Restricts unauthorized access
- + Provides persistent storage for program objects
- + Provides storage structures and search techniques for efficient query processing
- + Provides backup and recovery
- + Data security
- + Flexibility and scale
- + Availability of up-to-date information

Disadvantages of a DBMS:

- High initial investment in hardware, software, & training
- Too broad for defining data
- Costs for security, recovery, and integrity of the DBMS

Advantages of operating system files:

- + Simple, well defined
- + Efficient
- + Grouping of files

Disadvantages of operating system files:

- May crash: all data would be lost and not be recovered
- No sharing of data
- Data inconsistency and redundancy