Developing Data Models for Business Databases

The assignment consists of two projects: (1) an Intercollegiate Athletics and (2) Physical Plant key management data models, spread out over a number of examples (steps) shown below. The ERDs created using ER Assistant by going through these steps must be entered into `ERD6_Athletics.erd` and `ERD6_Keys.erd` files, and stored in the `Assign` subfolder of `06_Develop_DM` folder.

Each of the questions is worth **0.2** points.

1. The Intercollegiate Athletic database supports the scheduling and the operation of events along with tracking customers, facilities, locations within facilities, employees, and resources to support events. You must name the file `ERD6_Athletics.erd` and store it in the `Assign` subfolder of `06_Develop_DM` folder.
2. To schedule an event, a customer initiates an event request with the Intercollegiate Athletic Department. If an event request is approved, one or more event plans are made. Typically, event plans are made for the setup, the operation, and the cleanup of an event. An event plan consists of one or more event plan lines.
3. For each event requested, the database records the unique event number, the date held, the date requested, the date authorized, the status, an estimated cost, the estimated audience, the facility number (required), and the customer number (required).
4. For each event plan, the database records the unique plan number, notes about the plan, the work date, the activity (setup, operation, or cleanup), the employee number (optional), and the event number (required).
5. For each event plan line, the database records the line number (unique within a plan number), the plan number (required), the starting time, the ending time, the resource number (required), the location number (required), and the quantity of resources required.
6. For each customer, the database records the unique customer number, the name, the address, the contact name, the phone, the email address, and the list of events requested by the customer. A customer is not stored in the database until submitting an event request.
7. For each employee, the database records the unique employee number, the name, the department name, the email address, the phone number, and the list of event plans supervised by the employee.
8. For each facility, the database records only the facility number for now.
9. For each location, the database records the related facility number, the location number (unique within a facility), the name, and the list of event plan lines in which the location is used.
10. For each resource, the database records the unique resource number, the name, the rental rate, and the list of event plan lines in which the resource is needed.

TURN OVER →

The physical plant is managing assignments of keys to employees, among many other things. The primary purpose of the database is to ensure the proper accounting for keys. You must name the file `ERD6_Keys.erd` and store it in the `Assign` subfolder of `06_Develop_DM` folder.

1. An employee has a unique employee number, a name, a position, and an optional office number.
2. A building has a unique building number, a name, and a location within the campus.
3. A room has a unique room number, a size (physical dimensions), a capacity, a number of entrances, and a description of equipment in the room. Because each room is located in exactly one building, the identification of a room depends on the identification of a building.
4. Key types (also known as master keys) are designed to open one or more rooms, and are created prior to locks and keys being made. A room with a lock may have one or more key types that open it. A key type has a unique key type number, a date designed, and the employee authorizing the key type.
5. A physical copy of a key type is known as a key. Keys are assigned to authorized employees who are alerted to pick them up at the plant. A key type must be authorized before a copy is created. Each key is issued to exactly one employee, but an employee can hold multiple keys. The key type number plus a copy number uniquely identify a key. The date the copy was made should be recorded in the database.

Submission: You must submit two ERD files: `ERD6_Athletics.erd` and `ERD6_Keys.erd` on Canvas by the designated due date.