Anthony Fuller

## Database Systems

## Review Questions

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|  | Chapter 5 Assignment  Review Questions 4, 5, 7, 14, 18, 21 and 26 on pages 325 - 326  Exercise 36 on pages 326 - 327 (This is a refresher from Chapter 2 concepts). You don’t need to add any additional attributes.  Garden Glory project on page 330  For A – D just complete a single diagram, ensuring that all is correctly diagramed (tables, primary keys, foreign keys, relationships, weak entities, supertypes/subtypes). You do not have to define columns properties. Use your Chapter 4 Garden Glory ERD as the baseline (and refer to feedback received on your assignment).  For E, as stated, complete a chart as you see for Figure 5-29 on page 317.  Also answer F and G. |

4. What is denormalization? **The process of intentionally designing a relation that is not normalized. Denormalization is done to improve performance or security.**

5. When is denormalization justified? **When the design will be easier to use and not cause modification problems.**

7. Explain how the representation of weak entities differs from the representation of strong entities. **In the database the weak entity needs to be designed so that no application will create a weak entity without its proper parent.**

14. Define the terms *parent* and *child* as they apply to concepts in database design and give an example of each. **The parent is on the one side of the relationship, and the child is on the many side. Example: Location 1:N Employee. Employees can work at only one Location but a Location can have many Employees (Location is the parent and Employee is the child).**

18. For 1:N relationship, explain why you must place the key of the parent table in the child table rather than place the key of the child table in the parent table. **Building on previous example. Each Location would only have one employee.**

21. Explain the meaning of the term *intersection table.* **The intersection table is a child table that is connected to two parent tables by two 1:N relationships which replace the single N:M relationship in the data model.**

26. What is an *associative entity* (also called an *association entity*)? What is an *association relationship*? Give an example of an association relationship other than one shown in this text. Illustrate your answer using an IE Crow’s Foot E-R diagram. **A intersection table that has data that is uniquely its own.**

36. Exercise (This is a refresher from Chapter 2 concepts). You don’t need to add any additional attributes.

**Part 1: It’s not normalized because the design will be easier to use and not cause modification problems.**

**Part 2: Inserting a name for a new project, you can’t until an employee starts working on it. Modifying the name of a current project, many projects have code names while it’s being developed and if many employees have worked on a single project that’s being modified that database that has that project name will have to be heavily modified. Deleting an employee that was the only one that worked on a project will erase that project name from the database.**

**Part 3: ASSIGNMENT(EmployeeNumber, *ProjectNumber*, HoursWorked)  
PROJECT(ProjectNumber, ProjectName)**

Garden Glory Project

Part A: **See Garden Glory part A 5-2.xml**

Part B: **I’m not sure how to describe them. I think they are set up correctly.**

Part C: **Again not sure.**

Part D: **It’s already a Crows Foot E-R diagram so I’m not sure what they want modified.**

Part E:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parent** | **Child** | **Referential Integrity Constraint** | **Cascade On Update** | **Cascade On Delete** |
| **OWNER** | **OWNED\_PROPERTY** | **OwnerID in OWNER may exist in OwnerID in OWNED\_PROPERTY** |  |  |
| **OWNED\_PROPERTY** | **subProperty** | **PropertyID in OWNED\_PROPERTY must exist in PropertyID in SubProperty** |  |  |
| **EMPLOYEE** | **PROPERTY\_SERVICE** | **EmployeeID in EMPLOYEE may exist in EmployeeID in PROPERTY\_SERVICE** |  |  |

Part F: **Does a property have to have an owner?**

Part G: **I would found the person that I’m making this database for and ask them questions.**