September 24, 2023

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CPT242 – H02

Chapter 5 PractIce Exersizes

**Question 1**: Potential problems.

Answer:

* Fields have multiple values.
* Bad separation between values in fields.
* Very hard to search for anything in Titles.
* Very hard to add titles.
* Deleting author removes all books.

**Question 2:** Multivalued Columns.

Answer:

* The title column is multivalued.

**Question 3:** Create a table.

Answer: BOOK Entity

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | **AuthCountry** | **Title** | **Publisher** | **City** | **Year** | **Price** |
| James Taylor | England | JavaScript Essentials | South Tech Books | London | 2010 | 14 |
| James Taylor | England | HTML5 Exposed | Webby Books | London | 2012 | 15.50 |
| May Norton | United States | Big Data Big Promise | Data Press | San Francisco | 2012 | 25 |
| Jessica Lewis | United States | Database Development for the  Cloud | Data Press | San Francisco |  | 20.35 |
| Jessica Lewis | United States | Data Services | Future Tech  Press | New York |  | 12.95 |

**Question 4:** Create an entity diagram.

Answer:

A white box with black text

Description automatically generated

**Question 5:** All the functional dependencies

Answer: The repeated themes, or functional dependencies, would the author, book and publisher attributes.

**Question 6:** Potential candidate keys

Answer:

* Author: (Surrogate Key)
* Publisher: (Surrogate Key)
* Books: BookISBN

**Question 7:** Create an entity diagram

Answer:

A screenshot of a computer

Description automatically generated

**Question 8: T**ransitive dependencies

Answer: If books had more than one author, we would need a linking table between books and author.

**Question 9:** Create an entity diagram

Answer:

A screenshot of a computer

Description automatically generated

**Question 10:** Describe the process

Answer: We identified any potential problems in the table. We created a table that took the sample data into first normal form. Then we took that data and put it into an erd. We figured out what functional dependencies, which are the repeated themes, or functional dependencies, would the author, book, and publisher attributes. We found all the potential candidate keys by looking at the important entities that need to be in separate tables. We edited the erd to reflect the second normal form. Then we figured out that if books had more than one author, we would need a linking table between books and author. We don’t so the erd is already in third normal form.