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**ISEM 3006 Data Management in Business**

**In-class Exercise**

**For Relational Data Model I**

For the following problems, assumes that the tables have shown all the records.

**The following two tables come from the database that records the books own by a school library. In the Book table, the BookCode is the primary key and the PubCode is a foreign key refers to the PubCode of the Publisher table which holds information about publishers. The PubCode is the primary key of the Publisher table.**

**Book**

|  |  |  |
| --- | --- | --- |
| **BOOKCODE** | **BOOKTITLE** | **PUBCODE** |
| **0180** | **Sky High** | **AH** |
| **0189** | **Magic 101** | **AH** |
| **0200** | **Stranger in City** | **BP** |
| **0189** | **Facing Pandemic** | **GG** |
| **0220** | **Magic 101** |  |

**Publisher**

|  |  |
| --- | --- |
| **PUBCODE** | **PUBNAME** |
| **AH** | **Arkham** |
| **BA** | **Basic Books** |
| **BP** | **Berkley** |

1. **Do the tables violate entity integrity? Explain your answer.**

**Yes, the primary key of Book table (BOOKCODE) has duplicate value (0189) for different books.**

**b. Do the tables violate referential integrity? Why?**

**Yes, the foreign key of Book table has value (GG), which is not in the Publisher table.**

**2. The following two tables come from the database that records the books own by a school library. In the Book table, the BookCode is the primary key and the PubCode is a foreign key refers to the PubCode of the Publisher table which holds information about publishers. The PubCode is the primary key of the Publisher table.**

**Book**

|  |  |  |
| --- | --- | --- |
| **BOOKCODE** | **BOOKTITLE** | **PUBCODE** |
| **0180** | **Sky High** | **AH** |
| **0189** | **Magic 101** | **AH** |
| **0200** | **Stranger in City** | **BP** |
| **0210** | **Facing Pandemic** | **BP** |
| **0220** | **Magic 101** |  |

**Publisher**

|  |  |
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* 1. **Do the tables violate entity integrity? Explain your answer.**

**No, the primary key value of Book table (BOOKCODE) are all unique and not null.**

* 1. **Do the tables violate referential integrity? Why?**

**No, the foreign key value of Book table (PUBCODE) are all in the the primary key value of Publisher table (PUBCODE).**

* 1. **Create the Relational Diagram for Book AND Publisher.**



