Aaron Shaneen

CS 2550 M/W 11:30pm

Nov 24, 2015

1NF - solve atomicity issues with groups and columns

* Made the multiple author columns into rows, one author each with all respective information listed
* When doing this also separated the author’s names into first and last (authFirst, authLast)
* Made the multiple reviewers within the Reviewer column their own rows with all respective information
* Divided up the date\_reviewed dates as well to match the individual reviewer rows
* Likewise, also separated the customer’s names into first and last (custFirst, custLast)

2NF - choose a primary key and identify and distribute partial dependencies

* The following table is the 1NF table after going through 2NF modifications

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **authFirst(PK)(FK)** | **authLast(PK)(FK)** | **ISBN(PK)(FK)** | **Reviewer(PK)(FK)** | **custFirst(PK)(FK)** | **custLast(PK)(FK)** |
| Greg | Anderson | 978-143908035 | Naadace | John | Locke |
| Greg | Anderson | 978-143908035 | Charles | John | Locke |
| Dave | Ferro | 978-143908035 | Naadace | John | Locke |
| Dave | Ferro | 978-143908035 | Charles | John | Locke |
| Rob | Hilton | 978-143908035 | Naadace | John | Locke |
| Rob | Hilton | 978-143908035 | Charles | John | Locke |
| Alice | Rischert | 978-013714835 | Justice | Kate | Austin |
| John | Dean | 978-0073047027 | Rigo | John | Locke |
| John | Dean | 978-0073047027 | Ruth | John | Locke |
| John | Dean | 978-0073047027 | Bavitha | John | Locke |
| Ray | Dean | 978-0073047027 | Rigo | John | Locke |
| Ray | Dean | 978-0073047027 | Ruth | John | Locke |
| Ray | Dean | 978-0073047027 | Bavitha | John | Locke |
| Greg | Anderson | 978-143908035 | Naadace | Benjamin | Linus |
| Greg | Anderson | 978-143908035 | Charles | Benjamin | Linus |
| Dave | Ferro | 978-143908035 | Naadace | Benjamin | Linus |
| Dave | Ferro | 978-143908035 | Charles | Benjamin | Linus |
| Rob | Hilton | 978-143908035 | Naadace | Benjamin | Linus |
| Rob | Hilton | 978-143908035 | Charles | Benjamin | Linus |

* First I pulled out the partial ISBN -> Title, Price

|  |  |  |
| --- | --- | --- |
| **ISBN(PK)** | **Title(FK)** | **Price** |
| 978-143908035 | Connecting with Computer Science | 94 |
| 978-013714835 | Oracle SQL By Example | 42 |
| 978-0073047027 | Introduction to Programming with Java | 65 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Title(PK)** | **authFirst(PK)** | **authLast(PK)** | **authNum** |
| Connecting with Computer Science | Greg | Anderson | 1 |
| Connecting with Computer Science | Dave | Ferro | 2 |
| Connecting with Computer Science | Rob | Hilton | 3 |
| Oracle SQL By Example | Alice | Rischert | 1 |
| Introduction to Programming with Java | John | Dean | 1 |
| Introduction to Programming with Java | Ray | Dean | 2 |

* Next I pulled out the partial Title, authFirst, authLast -> authNum
* Next I pulled out the partial Reviewer -> reviewDate, Review

|  |  |  |  |
| --- | --- | --- | --- |
| **ISBN** | **custFirst** | **custLast** | **datePurch** |
| 978-143908035 | John | Locke | 9/22/2004 |
| 978-013714835 | Kate | Austin | 9/22/2004 |
| 978-0073047027 | John | Locke | 5/23/2010 |
| 978-143908035 | Benjamin | Linus | 5/23/2010 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **custFirst** | **custLast** | **custEmail** | **custAddress** | **custPhone** |
| John | Locke | jlocke@island.com | 815 Oceanic Cir | 481-516-2342 |
| Kate | Austin | kaustin@island.com | 316 Ajira | 243-261-5184 |
| Benjamin | Linus | blinus@darma.org | 1977 Darma Village |  |

|  |  |  |
| --- | --- | --- |
| **Reviewer(PK)** | **reviewDate** | **Review** |
| Naadace | 11/5/2007 | "I had to buy this book for school" |
| Charles | 10/3/2008 | "I like it" |
| Justice | 9/15/2009 | "I use SQL daily" |
| Rigo | 5/6/2008 | "The best java book" |
| Ruth | 11/15/2008 | "Currently using" |
| Bavitha | 6/4/2008 | "Very good book" |

* The next partial I pulled out was custFirst, custLast -> custEmail, custAddress, custPhone
* And lastly, the partial ISBN, custFirst, custLast -> datePurch to uniquely identify purchase dates