

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
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- 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

- Next I pulled out the partial Title, authFirst, authLast -> authNum

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 Reviewer -> reviewDate, Review

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

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	

- And lastly, the partial ISBN, custFirst, custLast -> datePurch to uniquely identify purchase dates

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