

Normalisation

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 - Channel5567 – Normalisation – 1NF, 2NF, 3NF

Normalization - 1NF, 2NF, 3NF and 4NF

Sales Records:

Cust Name	Item	Shipping Address	Newsletter	Supplier	Supplier Phone	Price
Alan Smith	Xbox One	35 Palm St, Miami	Xbox News	Microsoft	(800) BUY-XBOX	250
Roger Banks	PlayStation 4	47 Campus Rd, Boston	PlayStation News	Sony	(800) BUY-SONY	300
Evan Wilson	Xbox One, PS Vita	28 Rock Av, Denver	Xbox News, PlayStation News	Wholesale	Toll Free	450
Alan Smith	PlayStation 4	47 Campus Rd, Boston	PlayStation News	Sony	(800) BUY-SONY	300

- 1st Normal Form**
- Each cell to be Single valued
 - Entries in a column are same type
 - Rows uniquely identified - Add Unique ID, or Add more columns to make unique
(Note: The order of the rows and the order of the columns are irrelevant)

Primary Key

Cust ID	Cust Name	Item	Shipping Address	Newsletter	Supplier	Supplier Phone	Price
at_smith	Alan Smith	Xbox One	35 Palm St, Miami	Xbox News	Microsoft	(800) BUY-XBOX	250
roger25	Roger Banks	PlayStation 4	47 Campus Rd, Boston	PlayStation News	Sony	(800) BUY-SONY	300
wilson44	Evan Wilson	Xbox One	28 Rock Av, Denver	Xbox News	Microsoft	(800) BUY-XBOX	250
wilson44	Evan Wilson	PS Vita	28 Rock Av, Denver	PlayStation News	Sony	(800) BUY-SONY	200
am_smith	Alan Smith	PlayStation 4	47 Campus Rd, Boston	PlayStation News	Sony	(800) BUY-SONY	300

Normalization - 1NF, 2NF and 4NF

2nd Normal Form - All attributes (Non-Key Columns) dependent on the key

Customer Table

Primary Key

Cust ID	Cust Name	Shipping Address	Newsletter
at_smith	Alan Smith	35 Palm St, Miami	Xbox News
roger25	Roger Banks	47 Campus Rd, Boston	PlayStation News
wilson44	Evan Wilson	28 Rock Av, Denver	Xbox News
wilson44	Evan Wilson	28 Rock Av, Denver	PlayStation News
am_smith	Alan Smith	47 Campus Rd, Boston	PlayStation News

Product Table

Primary Key

Item	Supplier	Supplier Phone	Price
Xbox One	Microsoft	(800) BUY-XBOX	250
PlayStation 4	Sony	(800) BUY-SONY	300
PS Vita	Sony	(800) BUY-SONY	200

Transaction Table

Primary Key

Primary Key

Cust ID	Item
at_smith	Xbox One
roger25	PlayStation 4
wilson44	Xbox One
wilson44	PS Vita
am_smith	PlayStation 4

3rd Normal Form - All Fields (columns) can be determined Only by the Key in the table and and no other column

Normalization - 1NF, 2NF, 3NF and 4NF

3rd Normal Form - All Fields (columns) can be determined Only by the Key in the table and no other column

Customer Table

Primary Key

Cust ID	Cust Name	Shipping Address	Newsletter
at_smith	Alan Smith	35 Palm St, Miami	Xbox News
roger25	Roger Banks	47 Campus Rd, Boston	PlayStation News
wilson44	Evan Wilson	28 Rock Av, Denver	Xbox News
am_smith	Alan Smith	47 Campus Rd, Boston	PlayStation News
am_smith	Alan Smith	47 Campus Rd, Boston	PlayStation News

Product Table

Primary Key

Foreign Key

Item	Supplier	Price
Xbox One	Microsoft	250
PlayStation 4	Sony	300
PS Vita	Sony	200

Transaction Table

Primary Key

Primary Key

Cust ID	Item
at_smith	Xbox One
roger25	PlayStation 4
wilson44	Xbox One
wilson44	PS Vita
am_smith	PlayStation 4

Supplier Table

Primary Key

Supplier	Supplier Phone
Microsoft	(800) BUY-XBOX
Sony	(800) BUY-SONY

4th Normal Form - No multi-valued dependencies

Normalization - 1NF, 2NF, 3NF and 4NF

4th Normal Form - No multi-valued dependencies

Customer Table

Primary Key

Cust ID	Cust Name	Shipping Address
at_smith	Alan Smith	35 Palm St, Miami
roger25	Roger Banks	47 Campus Rd, Boston
wilson44	Evan Wilson	28 Rock Av, Denver
am_smith	Alan Smith	47 Campus Rd, Boston

Product Table

Primary Key

Foreign Key

Item	Supplier	Price
Xbox One	Microsoft	250
PlayStation 4	Sony	300
PS Vita	Sony	200

Subscription Table

Primary Key

Cust ID	Newsletter
at_smith	Xbox News
roger25	PlayStation News
wilson44	Xbox News
wilson44	PlayStation News
am_smith	PlayStation News

Transaction Table

Primary Key

Primary Key

Cust ID	Item
at_smith	Xbox One
roger25	PlayStation 4
wilson44	Xbox One
wilson44	PS Vita
am_smith	PlayStation 4

Supplier Table

Primary Key

Supplier	Supplier Phone
Microsoft	(800) BUY-XBOX
Sony	(800) BUY-SONY



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