

Part 1:

Case Study 2:

Because description and price each is functionally dependent on order_number via item_number it was normalized to 3NF as ItemData. Therefore, the answer is:

OrderData (Order_Num, Line, *Item_Number*, Qty Ordered)
ItemData (Item_Number, Description, Price Each)

Case Study 3:

1. Screenshot of MS Access Table:

The screenshot shows the 'Publisher' table in MS Access. It displays a hierarchical view of books categorized by publisher. The 'Publisher' table has columns: PublisherID, PublisherName, and Click to Add. Under '1 Pearson', there are two books: 'Modern Database Systems' by Hoffer, Kamesh (BookID 2, PublishedYear 2015) and 'Data Structures' by Weiss (BookID 3, PublishedYear 2014). Under '2 Addison Wesley', there is one book: 'Languages and the Computer' by Sudkamp (BookID 1, PublishedYear 1997). A '(New)' row is also visible under each publisher.

| PublisherID | PublisherName | Click to Add |
|-------------|----------------------------|----------------|
| 1 | Pearson | |
| 2 | Modern Database Systems | Hoffer, Kamesh |
| 3 | Data Structures | Weiss |
| * | (New) | |
| 2 | Addison Wesley | |
| 1 | Languages and the Computer | Sudkamp |
| * | (New) | |
| * | (New) | |

2. The Table is in 2NF:

- Taking a look at the Book table, it is clear that it violates 1NF due to the fact the attribute values in the authors column are not single. Currently, the authors Hoffer, Kamesh, and Topi are all grouped together. To first make the table in 1NF, we would first have to make two new rows and repeat the other column information (Book ID, Book Title, Published Year, PublisherName) for each author. By listing the authors out, we can see that the Author column is a unique value (thereby the PK of the BookInfo table and FK of the Book table). BookTitle, Published Year, and BookID are all dependent upon Author. Book (BookID, BookTitle, Authors, PublishedYear, PublisherName)
BookInfo (Authors, BookID, BookTitle, PublishedYear)

Part 2:

VideoInfo(VideoID, VideoTitle, StreamStart, VideoDuration)
UserInfo (Username, VideoTitle, UserTier)
TierLevel (UserTier, MinTierFollowers)
ContentLevel (VideoID, ContentRating, Rating Description)

