

Hi.  
  
This video is about the general recipe of turning relationships into tables or representing relationships into the tables that we are creating.  
  
Another way of putting it.  
  
I'm going to tell you how to deal with relationships.  
  
Okay, so the main message of the whole video is just the following slide, which tells it all, in fact, but I'm just discussing some of the things on that slide and then we see how to use this.  
  
So on this slide here you have just a table where you say the rows are basically about the optionality of the relationship you're talking about, and the columns are about the degree of the relationship.  
  
But the idea is in your diagram you have a relationship that has a degree and that has some kind of optionality.  
  
You identified this correctly.  
  
So now you just go to this table, cheque in the right row for the optionality and in the right column for the degree.  
  
And then this table is going to tell you what to do with the relationship.  
  
For example, let's go back to the relationship that we just saw car and employees and assigned to.  
  
It was a one to one relationship, which happens to be in the first column.  
  
The one to one relationship in the first column.  
  
But now what is the optionality?  
  
It's obligatory in both.  
  
That brings us to the bottom row.  
  
And then here we find the information post all attributes in one table.  
  
That's exactly what we did where we ended up with one table and no null values.  
  
The next one is about the relationship between cars and employees, whether it was non obligatory on employee.  
  
So in fact we end up in the same column because it's again a one to one relationship.  
  
But how do we deal with this now?  
  
Well, let's cheque it out.  
  
Obligatory on one.  
  
It says he posts the identifier of the non obligatory to the obligatory table.  
  
The non obligatory table was the employee table.  
  
So we just have to post the identifier of that one.  
  
So we take that number and copy it into the obligatory table of the car.  
  
That's exactly what we did.  
  
And we ended up with no null values.  
  
But if you just want to have a recipe, just look there and then you know what to do.  
  
Now let's go to another relationship.  
  
It's one too many between borrowers and books in the library.  
  
So one borrower can borrow many books and a book is only borrowed by one borrower.  
  
How do we.  
  
And this is all optional on both, or rather non obligatory on both.  
  
How do we resolve this relationship?  
  
Well, first of all, note that we can't just copy the data into one table because, well, how do we Then assign one borrower to many books.  
  
That's a bit tricky without copying the information of the same borrower over and over again.  
  
Instead, what we are doing here is we are creating a new table in the middle between those, so to speak, where we just record the entries of this new table.  
  
Just record all the occurrences of the relationship.  
  
If you remember, a relationship is occurrences here we just create a new table where we just record all the occurrences.  
  
And so the identifier of this new relation, new table is in fact a composite of the identifier of the one side together with the identifier on the other side.  
  
At least that's a candidate for being the key.  
  
If you cheque in this case, it's enough to just take the identifier from the book side to be an identifier of the new table.  
  
So what we do is between the book table and the borrower table, we're also creating a table which is called Onloan 2 where we have information about the book number and the borrower number.  
  
And a row means that this book is borrowed by this borrower.  
  
So you can come up with a solution by thinking about it and seeing what is most natural.  
  
The other option would be to look back into this table that I just shown you.  
  
This is now a one to many relationship.  
  
It's obligatory or neither.  
  
Let's look where we get into the table.  
  
Well, we go into the first row and then the second column.  
  
And then we see we need a new table to represent the relationship.  
  
And we post the identifiers of the two existing tables into this new table, which is exactly what we did.  
  
So with this slide, basically you can just once you identified the degree and the optionality of relationship, follow the exact instructions and you will come up with the right solution for representing the relationships.  
  
Thank you for watching this video.  
  
In the next video we are going to discuss an extended example.