

Hi.  
  
This video is about identifying relationships from the system description.  
  
So if we are getting the system description, we already analysed this in the previous video.  
  
We can identify entity types looking at nouns and noun phrases.  
  
Relationships between those can be identified by looking for certain words indicating relationships such as has, is composed of, require a number of or is allocated to something like this.  
  
So whenever we have entity, something, a phrase such as has and another entity, that's an indication there should be a relationship.  
  
So what we're going to do now is we're just going back to the same system description that we saw previously and see what exactly the relationships are this example.  
  
So let's start again with the first sentence.  
  
So in this description I highlighted all the potential indicators for relationships.  
  
So you see, for example owns.  
  
Here somebody owns something that's normally an indicator for relationship is allocated to have, has, passes through number.  
  
So something passes through something else.  
  
Could be a relationship is available on, allocated through some or all and have again.  
  
So there are already the keywords are highlighted in the text.  
  
Now let's see what are actually the relationship.  
  
So the owned thing was a bus company owns a number of buses.  
  
So clearly this describes a relationship between a bus company and the buses.  
  
However, we are not going to put this down as a relationship that we want to represent because we said already we don't want to represent the bus company in our database because the bus company is the whole thing.  
  
So we also don't represent relationships to the bus company.  
  
So forget about this one.  
  
Each bus is allocated to a particular route.  
  
So bus is an entity we identified, route is an entity that we identified.  
  
So is allocated to is certainly a relationship that we should take care of.  
  
Some routes may have several buses, so it's again an entity, but a relationship.  
  
But this have is basically the same relationship as the isallocatedto.  
  
It just says that buses are allocated to routes and routes have buses.  
  
It's the same thing.  
  
Basically it's just one relationship.  
  
Here the thing that connects buses to routes and we call it isallocatedto.  
  
Each bus has a unique bus number.  
  
Is this a relationship?  
  
No, because relationships should be between entity types.  
  
Bus is an entity type.  
  
Unique bus number is an attribute, it's not a relationship.  
  
Let's go further.  
  
Each route distinguished by a route number passes through a number of towns.  
  
So here is now a relationship between two entity types, namely route and towns.  
  
And we have the passes through relationship between those.  
  
Then we have information is available on the average number of passengers.  
  
This is not really a relationship for the same Reason that neither information here nor average number are entity types.  
  
So it's not really, even though it connects nouns, it's not really a relationship that we want to put into our database.  
  
One or more drivers are allocated to each stage of a route.  
  
So drivers are allocated to stages.  
  
So we definitely have here a driver allocated to stage relationship, because drivers and stages are entity types that we identified, which corresponds to a journey through some or all of the towns.  
  
So here you have a stage corresponds to a journey through some or all of the towns that indicates, again, a relationship between stages and towns.  
  
So similarly to the one which we had before between routes and towns, we now have something like a passes through towns relationship between stages and towns.  
  
And then furthermore, we have a relationship between stages and the roots, because.  
  
So this one is the more tricky one because it's not explicitly mentioned, but it says to each stage of a root, which is kind of saying that roots have stages.  
  
And we somehow have to represent the fact that which stage corresponds to what root in our system.  
  
So we want to have one more relationship which is called root has stage, which connects the entity type route with the entity type stage.  
  
So this brings us to the following five relationships which are listed here, allocated to between routes and buses, passes through between routes and towns.  
  
Another passes through, which we call passes through two, which is between stages and towns, one between drivers and stages, and one relationship between routes, stages, root has a stage.  
  
So these are the relationships.  
  
We move on to the attributes, and later on we will discuss exactly the nature of those relationships, because we have to be a bit more precise in what kind of relationships these are.  
  
Okay, thanks for listening now.  
  
See you in the next video.