After we normalised the PERSON entity for the “Schedule Conference Session” function we were left with the following 3NF relationships:

PERSON (Person#, Contact-details)

PERSON-ATTENDANCE (Person#, Attendance-day)

SESSION (Session #, Session-manager-person #)

PAPER (Paper #, Paper-speaker-person #)

When drawing a Data Structure diagram we connect the relationships based on the foreign keys.

A foreign key is any non-key attribute or partial-key attribute which is also a primary key in another relationship. It allows us to connect the different relationships to meet the business functionality.

The foreign keys in the above relationships are shown in *italics*.

To draw the Data Structure Diagram you draw a box for each 3NF relationship, and then connect each relationship with a one at the primary key end and a many at the foreign key end. You should also name all the relationships (example shown for the PERSON-PAPER relationship).

Each of these relationships would become a database table.

Example:
In terms of functionality, if we were in the PAPER relationship and we wanted to find out the Speaker’s contact details, we would use the Paper-speaker-person # attribute in the PAPER relationship to access the PERSON table, and get the contact details from there.