Lab 1 - Normalization exercise

You need to apply the three normal forms for the following exercise:

A library database records the authors and the publisher of each book. Normalize the following relation and indicate the primary and foreign key attribute types:

R (ISBN, title, author(name, date_of_birth), publisher(name, address(streetnr, streetname, zipcode, city)), pages, price)

The assumptions are:

- each book has a unique ISBN number;
- each author has a unique name;
- each publisher has a unique name;
- a book can have multiple authors;
- an author can write more than one book;
- a publisher can publish more than one book;
- a book has only one publisher;
- a publisher has only one address.

Suppose that one book can have multiple publishers. How can you extend your model to accommodate this? Where would you put the attribute type "number_of_copies"?

Exercise source:

Lemahieu, W., vanden Broucke, S., & Baesens, B. (2018). *Principles of Database Management: The Practical Guide to Storing, Managing and Analyzing Big and Small Data*. Cambridge University Press