

## Notes:

### EX: 1

- I breakdown the original table into 4 tables as shown in the lab and created the sql for each table.
- I typed the insert for each one of the 4 tables in a way that matches the data

	total numeric 🔒
1	20.00

in the original table. ## Answers ### 1)

	customername character varying (50) 🔒	city character varying (50) 🔒
1	Martin	Prague

### 2)

## EX: 2

- **1NF:**
  - splited the teacher into first\_name and last\_name.
  - grouped the teacher in a different table with its first and last name and added the teacherId as a primary key for this table. Moreover, left teacherId in the original table after removing the teacher' first and last name columns form the original table.
- **2NF:**
  - I found some functional/partial dependencies between the book and publisher. Thus, I grouped these columns in a differnt table. Additionally, I added bookId to the books table as it is a good practice not to use names as IDs. Also, based on this idea, I added new columns: schoolId, teacherId, and courseId.
  - I found that, publishers maybe duplicated thereby creating a new table for the publisher would be a better design choise.
  - If I know the teacherId and the courseId I can know the room and grade. That's why, I grouped these columns in different table.
  - Same for teacherId, first\_name, last\_name, school\_id.
  - Also, we can have then a different table for school. It contains only: schoolId and schoolName. To avoid duplicates.
- **3NF:**
  - The tables are in 3NF already.
- **codd:**

- Keep only in `loan` table the `courseId`. As, we can know from it the rest of the data. Thus, We don't have redundant data anymore. ##

	<b>bookname</b> character varying (255) 🔒	<b>schoolname</b> character varying (255) 🔒
1	Learning and teaching in early childhood education	Bright Institution
2	Learning and teaching in early childhood education	Horizon Education Institute
3	Know how to educate: guide for Parents and Teache...	Bright Institution
4	Preschool N56	Horizon Education Institute
5	Know how to educate: guide for Parents and Teache...	Horizon Education Institute
6	Early Childhood Education N9	Horizon Education Institute

Answers ### 1)

	<b>schoolname</b> character varying (255) 🔒	<b>bookname</b> character varying (255) 🔒	<b>min_loan_date</b> date 🔒
1	Horizon Education Institute	Learning and teaching in early childhood education	2010-05-05
2	Bright Institution	Learning and teaching in early childhood education	2010-05-06

### 2)