***Course name:*** Introduction to Database (DBI202)

***Assessment***: Lab3

***Sending mode***: LMS

***Document type***: All models in ONE document (ie. Lab3\_<Your\_student*code*>.docx)

***Deadline***: Before 20/03/2020

Consider the following set of requirements for a library database that is used to keep track of books transactions.

1. Books in library are classified into categories. The library database keeps track of each category’s name, number, and location. Both name and number has unique values for each category.
2. Each category consists of several books, which are grouped by their title. Books are known as title, identification number, status, location, year of publication, publisher, and one or more authors. Identification number has unique values for each book.
3. We store each reader’s name, social security number, address, sex, and birth date. The database also keeps track of number of borrowed books, number of paid books, and number of overdue books for each reader.
4. Each publisher has name, address, phone, and email. The values of name are unique for each publisher company.
5. Each author has name, address, phone, email, job’s description, and working places (if any). Name has unique values for each author.
6. The library keeps track of reader’s borrowing transaction with transaction’s number, borrowed date, paid date (null if not paid yet). Number has unique values for each transaction.

Requirements:

1. Design an ER schema for this application, and draw an ER diagram for that schema. Specify key attributes of each entity type, and structural constraints on each relationship type. Note any unspecified requirements, and make appropriate assumptions to make the specification complete.
2. Convert the above ER schema into relational data model.