

Create a own Database

use at least four applications in implementing project work including a query language and a programming language

Expected results (**Success criteria**)

- *Are able to create a database in 1,2,3 normal form*
- *Are able to create a database in the XAMPP*
- *Are able to create tables and table attributes in the XAMPP*
- *Are able determine primary and foreign keys for a table*
- *Are able to create links between tables*
- *Are able to fill records for the tables in the XAMPP*
- *Are able to create queries for a database in the XAMPP*

Development a mini project

- Create a database in 1, 2, 3 normal forms
- The 3 normal form of the database is implemented in the XAMPP
 - Create a database
 - Create tables and attributes for tables
 - Identifying primary and foreign keys
 - Create links between tables
 - Fill the records for the table
 - Create the queries for the table

“Library Management System” - should provide the following functions:

- 1. Store book information such as Author, Title, Year, Press*
- 2. Store the location of the book, for example, which shelf*
- 3. Store detail of the people who borrowed than book: who did that, when for how long*
- 4. Fine people in case they don't return the book on time*



“Library Management System”

INF:

*Library(ID, Date_loan, ISBN, Title, Author, Year,
Num_of_books, Press, F_name, L_Name, Address, Phone,
Grade)*

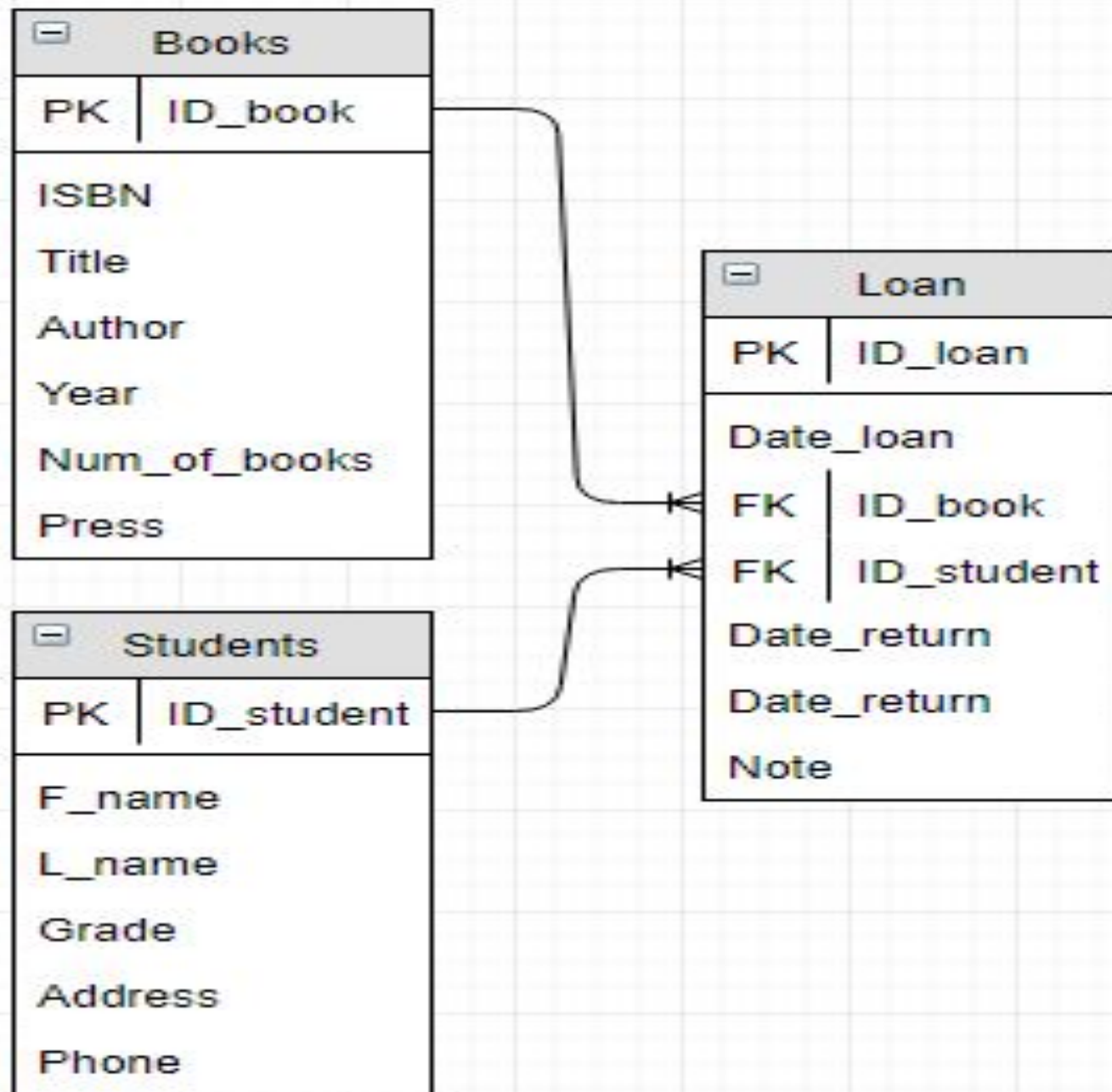


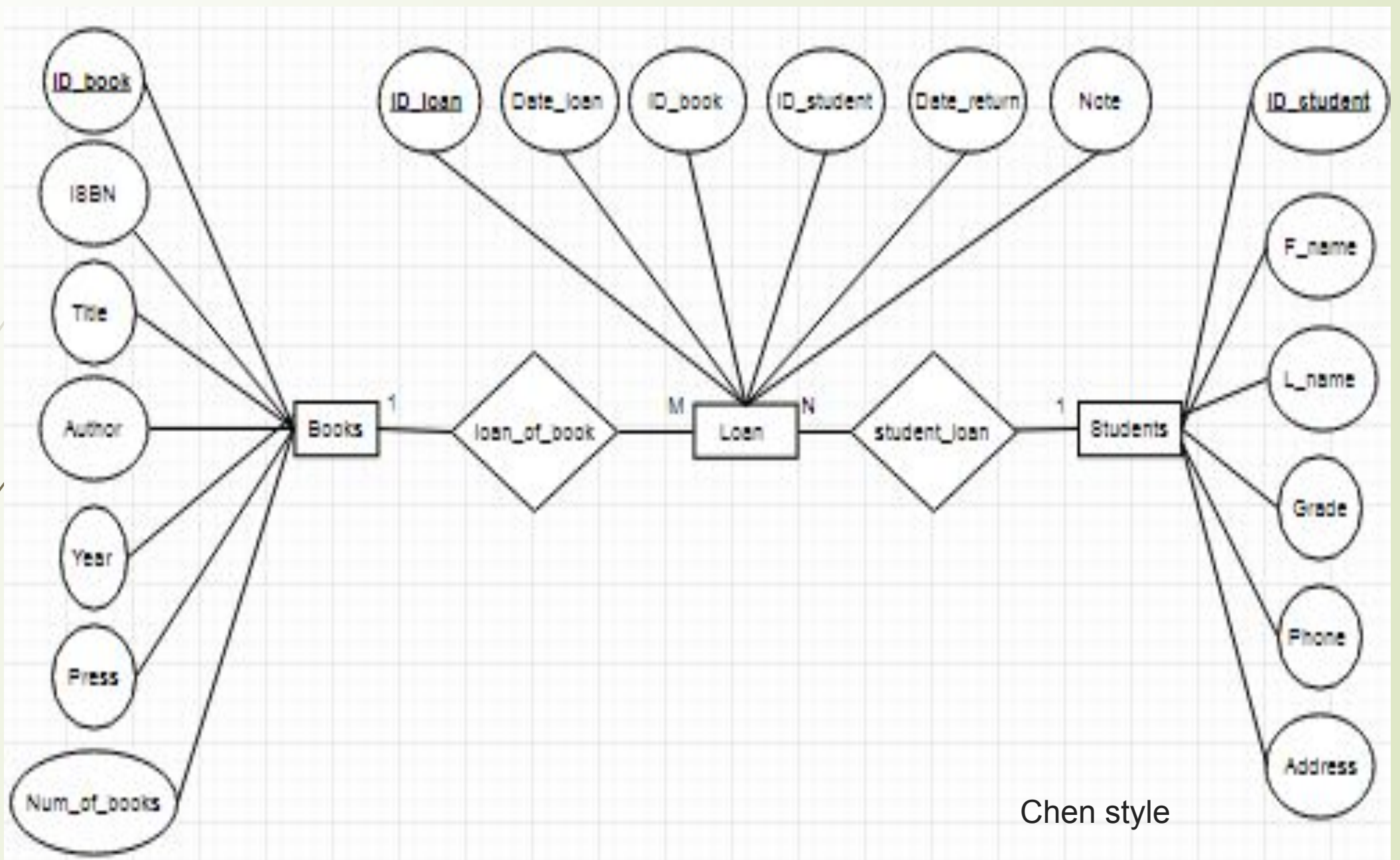
2-3NF:

Books(ID_book, ISBN, Title, Authors, Year, Num_of_books, Press);

Students(ID_student, F_Name, L_Name, Address, Phone, Grade);

Loan(ID_loan, Date_loan, ID_book, ID_student, Date_return, Note)





Chen style


```
CREATE TABLE `books` (  
  `ID_book` char(10) ,  
  `ISBN` char(12),  
  `Title` varchar(25),  
  `Author` varchar(20),  
  `Year` int(4),  
  `Num_of_books` int(2),  
  `Press` varchar(10),  
  PRIMARY KEY (`ID_book`)  
);
```

Table Books

#	Name	Type
1	<u>ID_book</u>	char(10)
2	ISBN	char(12)
3	Title	varchar(25)
4	Author	varchar(20)
5	Year	int(4)
6	Num_of_books	int(2)
7	Press	varchar(10)

```
CREATE TABLE `students` (  
  `ID_student` char(12) ,  
  `F_name` varchar(15),  
  `L_name` varchar(15),  
  `Grade` varchar(5),  
  `Address` varchar(20),  
  `Phone` char(12),  
  PRIMARY KEY (`ID_student`)  
);
```

Table Students

#	Name	Type
1	<u>ID_student</u>	char(12)
2	F_name	varchar(15)
3	L_name	varchar(15)
4	Grade	varchar(5)
5	Address	varchar(20)
6	Phone	char(12)

```
CREATE TABLE `loan` (  
  `ID_loan` int(11) AUTO_INCREMENT,  
  `Date_loan` date,  
  `ID_book` char(10),  
  `ID_student` char(12),  
  `Date_return` date,  
  `Note` tinytext,  
  PRIMARY KEY (`ID_loan`),  
  KEY `ID_book` (`ID_book`, `ID_student`)  
);
```

Table Loan

#	Name	Type
1	<u>ID_loan</u>	int(11)
2	Date_loan	date
3	ID_book	char(10)
4	ID_student	char(12)
5	Date_return	date
6	Note	tinytext

Relationships

library.books
* ID_book : char(10)
* ISBN : char(12)
* Title : varchar(25)
* Author : varchar(20)
* Year : int(4)
* Num_of_books : int(2)
* Press : varchar(10)

library.students
* ID_student : char(12)
* F_name : varchar(15)
* L_name : varchar(15)
* Grade : varchar(5)
* Address : varchar(20)
* Phone : char(12)

library.loan
* ID_loan : int(11)
* Date_loan : date
* ID_book : char(10)
* ID_student : char(12)
* Date_return : date
* Note : tinytext




Queries

SELECT * FROM *books* WHERE *Press* LIKE "M_ _ _ _";

SELECT *Title, Author* FROM *books* WHERE *Press* LIKE "P%";

Select * from *books* WHERE *Num_of_books*=10;

Select * from *books* WHERE *Num_of_books*=10 and *Press* = 'Semey' ;



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<https://visavi.net/blog/blog?act=view&id=444>