Database Management Systems Lab 1 Assignment

Library managment System

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Question 1 : What is the purpose of your project? Explain.

An integrated library management system (LMS) is ERP software that helps in simplifying the daily operations of the library. The purpose of a library management system is to manage & track the daily work of the library such as issuing books, return books, due calculations, etc.

Question 2: Draw your E-R diagram (Specifiy all entities-relationships-attributes). Send it as a separate file(.pdf, jpg..). Show (explain in detail) that the database is at least in 3 rd NF.

You can see the ER Diagram in the other pdf file. We wanted to explain third language as given examples. Here you can see in the below.

Staffs: (Staff_id, position, Name)

Staff_id	position	Name
1111111111	*manager*	*kübra*
1111111112	*part − time student*	*kevser*
1111111113	*servant*	*rabia*

Readers: (User_id, Reserve_date, Address, e-mail, name, phone)

User_id	Reserve_date	Address	e-mail	name	phone
00000000001	10.01.2022	blaa	ac@gmail.com	ali	+126665
00000000002	04.04.2022	blaaaaa	bs@outlook.com	veli	+458792
00000000003	20.05.2022	blaaaaaaa	example@gmail.com	mehmet	+322145

Books: (ISBN, Publisher_id, User_id, Title, Price, Category, AuthorNo, Edition_year)

ISBN	Publisher_id	User_id	Title	Price	Category	AuthorNo	Edition_year
897||||||||	1212121212	00000000001	Seranad	35	noval	Zülfü livaneli	2001
878||||||||	2323232323	00000000002	Satranç	12	noval	Stefan zweig	1999
8756|||||||	1414141414	00000000003	Mutluluk	40	noval	Zülfü livaneli	2006

Publisher: (Publisher_id, name, Address)

Publisher_id	name	Address
1212121212	Can	blaaaa
2323232323	Yapı Kredi	blaaa
1414141414	Kevser	blaaa

Staff Salary: (Position, salary)

Position	salary
manager	50.000
Part-time student	10.000
servant	7.000

Question3: Explain your tables and attributes of tables. Explain your data types of attributes of tables. Why you choose that type?

We have five entities. These are Staffs, Readers, Books, Publisher, Staff salary and we have five relationships. These are gets,keep track of, maintain ,published by and reserve/return day.

Staff entity has three attributes and these are : Name,Staff id, and position.
Readers entity has six attributes and these are: First name,Last name,User id, E-mail, Address, and Phone number(multiple.
Books entity has 7 attributes and these are : Title, Edition year, Category, Price, AuthorNo, ISBN,
Publisher entity has three attributes and these are : Published id, Name and Address.
Reserve and Return Relationship Set has three attributes and these are : Reseve data, Return date, Due date.

Staff	Data Type
Name	Varchar(50)
Staff_id	Char(10) **(PK)**
Position	Varchar(20)**(FK)**

I used a varchar type for the attributes Name and Position because varchar is a type which is used **to store character string of variable length but maximum of set length specified**.

I used a char type for the attribute Staff_id because char is **a data type that can store characters of a fixed length**

Readers	Data Type
First_name	Varcahr(50)
Last_name	Varchar(50)
User_id	Char(10)**(PK)**
E-mail	Varchar(50)
Address	Varchar(255)
Phone	Varchar(20)

I used a varchar type for the attributes First_name, Last_name, E-mail, Phone and Addrress because varchar is a type which is used **to store character string of variable length but maximum of set length specified**.

I used a char type for the attribute User_id because char is **a data type that can store characters of a fixed length,**

Books	Data Type
Title	Varchar(20)
Category	Varchar(50)
Price	decimal
AuthorNo	Varchar(20)
ISBN	Char(11)**(PK)**
Edition year	int
Reserve_date	date
User_id	Char(10)**(FK)**
Publisher_id	Char(10)**(FK)**

I used a varchar type for the attributes Title, Category and, AuthorNo because varchar is a type which is used **to store character string of variable length but maximum of set length specified**.

I used a decimal type for attribute Price because The price of the book may be in the form of decimals.

I used a char type for attribute ISBN because char is **a data type that can store characters of a fixed length.**

I used an int type for attribute Edition year because years consist of certain integers.

I used a date type for attribute Reserve_date because it contains a date

Publisher	Data Type
Publisher_id	Char(10)**(PK)**
Name	Varchar(50)
Address	Varchar(250)

I used a varchar type for the attributes Name and Address because varchar is a type which is used **to store character string of variable length but maximum of set length specified**.

I used a char type for attribute Publisher_id because char is **a data type that can store characters of a fixed length.**

Staff Salary	Data Type
salary	float
position	Varchar(20)**(PK)**

I used a float   type for the attribute salary because the staffs get their salaries as money so this money is a numeric value.

I used a varchar type for the attributes Position because varchar is a type which is used **to store character string of variable length but maximum of set length specified**.

Question4: Define your primary and foreign keys. Why they are keys? Explain.

Primary Keys:
Staff_id
Position
User-id
ISBN
Publisher_id

Foreign Keys:
Position
User_id
Reserve_date
Publisher_id

Primary Keys Definitions:

- Staff_id is a Primary Key for Staff entity.
- User_Id is the Primary Key for Readers entity.
- ISBN is the Primary Key for Book Entity.
- Publisher_id is the Primary Key for the Publisher entity.
- Position is a Primary Key for Staff salary entity.

Foreign Keys Definitions:

- Position is a Foreign Key for Staffs.
- User_id is a Foreign Key for Books Entity.
- Reserve_date is a Foreign Key for Readers.
- Publisher_id is a Foreign Key for Books.