

Lab Activity1/ Assignmnet 1

Problem Definition:

Create database named LIBRARY. Give names to all the constraints (except NULL constraints). The properties of the tables are defined as follows:

●MEMEBERS table

1. CardNo - 5 characters, primary key,
2. Surname - up to 15 characters,
3. Name – as above,
4. Address –up to 150 characters,
5. Name, Surname, Birthday_date – not null,
6. Gender - 1 char: M or F letter,
7. Phone_No – up to 15 characters, unique.

EMPLOYEES table

1. emp_id - primary key
2. Surname, Name and Birthday_date is not null
3. Emp_Hire_Date date not null
4. birthday date must be earlier than date of employment (Emp_Hire_Date)

Publishers table

1. pub_id is a primary key
2. Name, City, - not null, up to 50 characters
3. Phone_No - up to 15 characters

Books table

1. BookID - primary key, 5 characters
2. Pub_ID - foreign key related to Publishers
3. Type - characters, must contain one of the following values: novel, historical, for kids, poems, crime story, science fiction, science
4. Price numeric with precision 7 and scale 2, not null
5. Title - up to 40 characters, not null

BOOK_LOANS table

1. LoanID - integer, primary key,

2. CardNo, BookID and emp_id are foreign keys related to Members, Books and Employees,
3. DateOut must be earlier than DueDate,
4. Penalty can't contain negative values, default is set to 0 (zero)

Insert atleast 10 rows in each table.

SQL> create table member

```
(  
  2 cardno char(5) primary key,  
  3 surname varchar(15) not null,  
  4 name varchar(15) not null,  
  5 address varchar(150),  
  6 bday date not null,  
  7 gender char(1),  
  8 phone number(15) unique,  
  9 constraint gender_ck check(gender in('F','M'))  
10 );
```

SQL> create table emp

```
(  
  2 empid number(3) primary key,  
  3 surname varchar(15) not null,  
  4 name varchar(15) not null,  
  5 bday date not null,  
  6 emp_hire_date date not null,  
  7 constraint c1 check(bday<emp_hire_date)  
  8 );
```

SQL> create table publisher

```
(  
  2 pubid number(3) primary key,  
  3 name varchar(50) not null,  
  4 city varchar(50) not null,
```

```
5 phone number(15),
6 constraint c2 unique(phone)
7 )
```

SQL> create table books

```
(
2 bookid varchar(5),
3 pubid number(3),
4 type varchar(10),
5 price number(7,2) not null,
6 title varchar(50) not null,
7 constraint c3 primary key(bookid),
8 constraint c4 foreign key(pubid) references publisher(pubid),
9 constraint c5 check(type in('novel','historical','forkids','poems','crime story','science
fiction','science'))
10 )
```

SQL> create table book_loans

```
(
2 loanid integer,
3 cardno char(5),
4 bookid varchar(5),
5 empid number(3),
6 dateout date,
7 duedate date,
8 penalty integer default 0,
9 constraint c6 primary key(loanid),
10 constraint c7 foreign key(cardno) references member(cardno),
11 constraint c8 foreign key(bookid) references books(bookid),
12 constraint c9 foreign key(empid) references emp(empid),
13 constraint c10 check (dateout<duedate),
14 constraint c11 check (penalty>0)
```

