

Assignment-2

Assignment 2: Design a database schema for a library system, including tables, fields, and constraints like NOT NULL, UNIQUE, and CHECK. Include primary and foreign keys to establish relationships between tables.

```
create table bookdetails (  
    bookid int primary key,  
    isbn varchar(13) unique not null,  
    title varchar(255) not null,  
    author varchar(255) not null,  
    publisher varchar(255),  
);  
  
desc bookdetails;
```

The screenshot shows the Oracle Database Express Edition interface. The user is SYSTEM. The SQL Commands window contains the following commands:

```
create table bookdetails (  
    bookid int primary key,  
    isbn varchar(13) unique not null,  
    title varchar(255) not null,  
    author varchar(255) not null,  
    publisher varchar(255)  
);  
  
desc bookdetails;
```

The Results tab shows the structure of the BOOKDETAILS table:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BOOKDETAILS	BOOKID	Number	-	-	0	1	-	-	-
	ISBN	Varchar2	13	-	-	-	-	-	-
	TITLE	Varchar2	255	-	-	-	-	-	-
	AUTHOR	Varchar2	255	-	-	-	-	-	-
	PUBLISHER	Varchar2	255	-	-	-	✓	-	-

Language: en-us
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```
create table student (  
    studentid int primary key,  
    firstname varchar(255) not null,  
    lastname varchar(255) not null,  
    email varchar(255) unique not null,  
    phonenumber varchar(15) unique,  
    enrollmentdate date not null,  
    status varchar(50) not null check (status in ('active', 'inactive'))  
);  
  
desc student;
```

User: SYSTEM

home > SQL > SQL Commands

☒ Autocommit
 Display 10

Save

Run

```

);

create table student (
  studentid int primary key,
  firstname varchar(255) not null,
  lastname varchar(255) not null,
  email varchar(255) unique not null,
  phonenumber varchar(15) unique,
  enrollmentdate date not null,
  status varchar(50) not null check (status in ('active', 'inactive'))
);

```

desc student;

Results Explain Describe Saved SQL History

Object Type TABLE Object STUDENT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STUDENT	STUDENTID	Number	-	-	0	1	-	-	-
	FIRSTNAME	Varchar2	255	-	-	-	-	-	-
	LASTNAME	Varchar2	255	-	-	-	-	-	-
	EMAIL	Varchar2	255	-	-	-	-	-	-
	PHONENUMBER	Varchar2	15	-	-	-	✓	-	-
	ENROLLMENTDATE	Date	7	-	-	-	-	-	-
	STATUS	Varchar2	50	-	-	-	-	-	-

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```

create table issue (
  issueid int primary key,
  bookid int not null,
  studentid int not null,
  issuedate date not null,
  duedate date not null,
  returndate date,
  foreign key (bookid) references bookdetails(bookid),
  foreign key (studentid) references student(studentid),
  check (duedate > issuedate),
  check (returndate is null or returndate >= issuedate)
);

```

desc issue;

Oracle Database Express Edition

User: SYSTEM

Home > SQL > SQL Commands

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```

create table issue (
  issueid int primary key,
  bookid int not null,
  studentid int not null,
  issuedate date not null,
  duedate date not null,
  returndate date,
  foreign key (bookid) references bookdetails(bookid),
  foreign key (studentid) references student(studentid),
  check (duedate > issuedate),
  check (returndate is null or returndate >= issuedate)
);
desc issue;

```

Results Explain Describe Saved SQL History

Object Type TABLE Object RETURN

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RETURN	RETURNID	Number	-	-	0	1	-	-	-
	ISSUEID	Number	-	-	0	-	-	-	-
	RETURNDATE	Date	7	-	-	-	-	-	-
	CONDITION	Varchar2	50	-	-	-	-	-	-
	FINEAMOUNT	Number	-	10	2	-	✓	0	-

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```

create table return (
  returnid int primary key,
  issueid int not null,
  returndate date not null,
  condition varchar(50) not null check (condition in ('good', 'damaged', 'lost')),
  fineamount decimal(10, 2) default 0 check (fineamount >= 0),
  foreign key (issueid) references issue(issueid)
);

```

desc return;

User: SYSTEM

Home > SQL > SQL Commands

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```

create table return (
  returnid int primary key,
  issueid int not null,
  returndate date not null,
  condition varchar(50) not null check (condition in ('good', 'damaged', 'lost')),
  fineamount decimal(10, 2) default 0 check (fineamount >= 0),
  foreign key (issueid) references issue(issueid)
);
desc return;

```

Results Explain Describe Saved SQL History

Object Type TABLE Object RETURN

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RETURN	RETURNID	Number	-	-	0	1	-	-	-
	ISSUEID	Number	-	-	0	-	-	-	-
	RETURNDATE	Date	7	-	-	-	-	-	-
	CONDITION	Varchar2	50	-	-	-	-	-	-
	FINEAMOUNT	Number	-	10	2	-	✓	0	-

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