CREATE TABLE BOOK(

isbn CHAR(10) NOT NULL PRIMARY KEY,

title VARCHAR(300) NOT NULL);

CREATE TABLE BOOK\_COPIES(

book\_id CHAR(10) NOT NULL,

branch\_id char(1) NOT NULL,

no\_of\_copies SMALLINT NOT NULL,

PRIMARY KEY(book\_id,branch\_id));

CREATE TABLE BORROWER(

card\_no CHAR(8) NOT NULL PRIMARY KEY,

ssn VARCHAR(10) NOT NULL,

fname VARCHAR(50) NOT NULL,

lname VARCHAR(50) NOT NULL,

address VARCHAR(300) NOT NULL,

phone VARCHAR(14) NOT NULL);

CREATE TABLE BOOK\_LOANS(

loan\_id SMALLINT NOT NULL PRIMARY KEY,

isbn CHAR(10) NOT NULL,

branch\_id SMALLINT NOT NULL,

card\_no CHAR(8) NOT NULL,

date\_out DATE NOT NULL,

due\_date DATE NOT NULL,

date\_in DATE NOT NULL);

CREATE TABLE AUTHORS(

author\_id INT NOT NULL PRIMARY KEY,

fullname VARCHAR(150) NOT NULL,

title VARCHAR(20) DEFAULT NULL,

fname VARCHAR(50) NOT NULL,

mname VARCHAR(50) DEFAULT NULL,

lname VARCHAR(50) NOT NULL,

suffix VARCHAR(25) DEFAULT NULL);

CREATE TABLE BOOK\_AUTHORS( isbn CHAR(10) NOT NULL, author\_id INT NOT NULL, PRIMARY KEY(isbn,author\_id), FOREIGN KEY(isbn) REFERENCES book(isbn), FOREIGN KEY(author\_id) REFERENCES authors(author\_id));

CREATE TABLE FINES (loan\_id smallint not null primary key,fine\_amt decimal(10,2) not null, paid Boolean default false);

// Foreign key constraints

ALTER TABLE BOOK\_COPIES ADD CONSTRAINT FK1\_BOOK\_COPIES FOREIGN KEY(book\_id) REFERENCES BOOK(isbn) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE BOOK\_COPIES ADD CONSTRAINT FK2\_BOOK\_COPIES FOREIGN KEY(branch\_id) REFERENCES LIBRARY\_BRANCH(branch\_id) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE BOOK\_LOANS ADD CONSTRAINT FK1\_BOOK\_LOANS FOREIGN KEY(isbn) REFERENCES BOOK(isbn) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE BOOK\_LOANS ADD CONSTRAINT FK2\_BOOK\_LOANS FOREIGN KEY(branch\_id) REFERENCES LIBRARY\_BRANCH(branch\_id) ON DELETE CASCADE ON UPDATE CASCADE;

alter table book\_loans add constraint fk3\_book\_loans foreign key(card\_no) references borrower(card\_no) on delete cascade on update cascade;

alter table fines add constraint fk\_fines foreign key(loan\_id) references book\_loans(loan\_id);