

6.8. Write appropriate SQL DDL statements for declaring the LIBRARY relational database schema of Figure 6.6. Specify the keys and referential triggered actions.

```
CREATE TABLE BOOK (  
    Book_id varchar(17) NOT NULL,  
    Title varchar(100) NOT NULL,  
    Publisher_name varchar(20) NOT NULL,  
    PRIMARY KEY Book_id  
    CONSTRAINT BOOKPUBLISHERNAMEFK FOREIGN KEY Publisher_name REFERENCES  
    PUBLISHER(Publisher_name) ON DELETE REJECT ON UPDATE CASCADE  
);  
  
CREATE TABLE BOOK_AUTHORS (  
    Book_id varchar(17) NOT NULL,  
    Author_name varchar(50) NOT NULL,  
    PRIMARY KEY (Book_id, Author_name),  
    CONSTRAINT BOOKAUTHORSBOOKIDFK FOREIGN KEY (Book_id) REFERENCES  
    BOOK(Book_id) ON DELETE CASCADE ON UPDATE CASCADE  
);  
  
CREATE TABLE PUBLISHER (  
    Name varchar(20) NOT NULL,  
    Address varchar(100) NOT NULL,  
    Phone varchar(15) NOT NULL,  
    PRIMARY KEY Name  
);  
  
CREATE TABLE BOOK_COPIES (  
    Book_id varchar(17) NOT NULL,  
    Branch_id varchar(20) NOT NULL,  
    No_of_copies int NOT NULL,  
    PRIMARY KEY (Book_id, Branch_id),  
    CONSTRAINT BOOKCOPIESBRANCHIDFK FOREIGN KEY (Branch_id) REFERENCES  
    LIBRARY_BRANCH(Branch_id) ON DELETE CASCADE ON UPDATE CASCADE,  
    CONSTRAINT BOOKCOPIESBOOKIDFK FOREIGN KEY (Book_id) REFERENCES
```

```
BOOK(Book_id) ON DELETE CASCADE ON UPDATE CASCADE  
);
```

```
CREATE TABLE BOOK_LOANS (  
    Book_id varchar(17) NOT NULL,  
    Branch_id varchar(20) NOT NULL,  
    Card_no int NOT NULL,  
    Date_out date NOT NULL,  
    Due_date date NOT NULL,  
    PRIMARY KEY (Book_id, Branch_id, Card_no),  
    CONSTRAINT BOOKLOANSBOOKIDFK FOREIGN KEY (Book_id) REFERENCES BOOK(Book_id)  
ON DELETE CASCADE ON UPDATE CASCADE,  
    CONSTRAINT BOOKLOANSBRANCHIDFK FOREIGN KEY (Branch_id) REFERENCES  
LIBRARY_BRANCH(Branch_id) ON DELETE CASCADE ON UPDATE CASCADE,  
    CONSTRAINT BOOKLOANSCARDNOFK FOREIGN KEY (Card_no) REFERENCES  
BORROWER(Card_no) ON DELETE REJECT ON UPDATE CASCADE  
);
```

```
CREATE TABLE LIBRARY_BRANCH (  
    Branch_id varchar(20) NOT NULL,  
    Branch_name varchar(20) NOT NULL,  
    Address varchar(100) NOT NULL,  
    PRIMARY KEY (Branch_id)  
);
```

```
CREATE TABLE BORROWER (  
    Card_no int NOT NULL,  
    Name varchar(50) NOT NULL,  
    Address varchar(100) NOT NULL,  
    Phone varchar(15) NOT NULL,  
    PRIMARY KEY Card_no,  
);
```