

SQL Constraints Lab - review

Start up SQLite and perform the following steps. You may find it easier to do your work in a text editor, and then paste into SQLite.

1. Start up SQLite and turn on foreign key constraint checking: `PRAGMA foreign_keys = ON;`
2. Create a table actor, with fields 'name' and 'birthyear'. Add an integer ID field that will be the primary key. Birthyear should be greater than 1800.

```
create table actor (  
  ID integer primary key,  
  name varchar(30),  
  birthyear integer check(birthyear > 1800)  
);
```

3. Insert Simon Pegg with ID 1 and birth year 1970, and then try to insert an actor into the actor table with ID 3, name 'Neil Old', and birthyear 1754.

```
insert into actor values(1, "Simon Pegg", 1970);  
insert into actor values(3, "Neil Old", 1754);
```

4. Create another table 'movie', with fields title, year, and director. Use type varchar(30) for title and director, and integer for year. Define the primary key to be the attributes title and year. Include a check so that the year is greater than 1880.

```
create table movie (  
  title varchar(30),  
  year integer check(year > 1880),  
  director varchar(30),  
  primary key (title, year)  
);
```

5. Insert a movie into the movie table, with title 'Paul', year 2011, and directory 'Greg Mottola'.

```
insert into movie values ("Paul", 2011, "Greg Mottola");
```

6. Create another table 'appears', with fields actor_ID, title, and year. Add a constraint so that the actor_ID is the ID of an actor in the actor table, and so that title and year appear in some row of the movie table. The primary key should be the attributes actor_ID, title, year.

```
create table appears (  
  actor_ID integer,  
  title varchar(30),  
  year integer,  
  foreign key (actor_ID) references actor,  
  foreign key (title, year) references movie,  
  primary key (actor_ID, title, year)
```

);

7. Insert a row into the 'appears' table with actor_ID = 1, title = 'Paul', and year = 2010 (NOT 2011).

```
insert into appears values (1, "Paul", 2010);
```

8. The problem could be fixed by changing the year of the movie 'Paul' in the movie table to 2010, or by changing the insert statement to use 2011. The movie was actually 2011, so try the insert statement again, but this time with 2011.

```
insert into appears values (1, "Paul", 2011);
```