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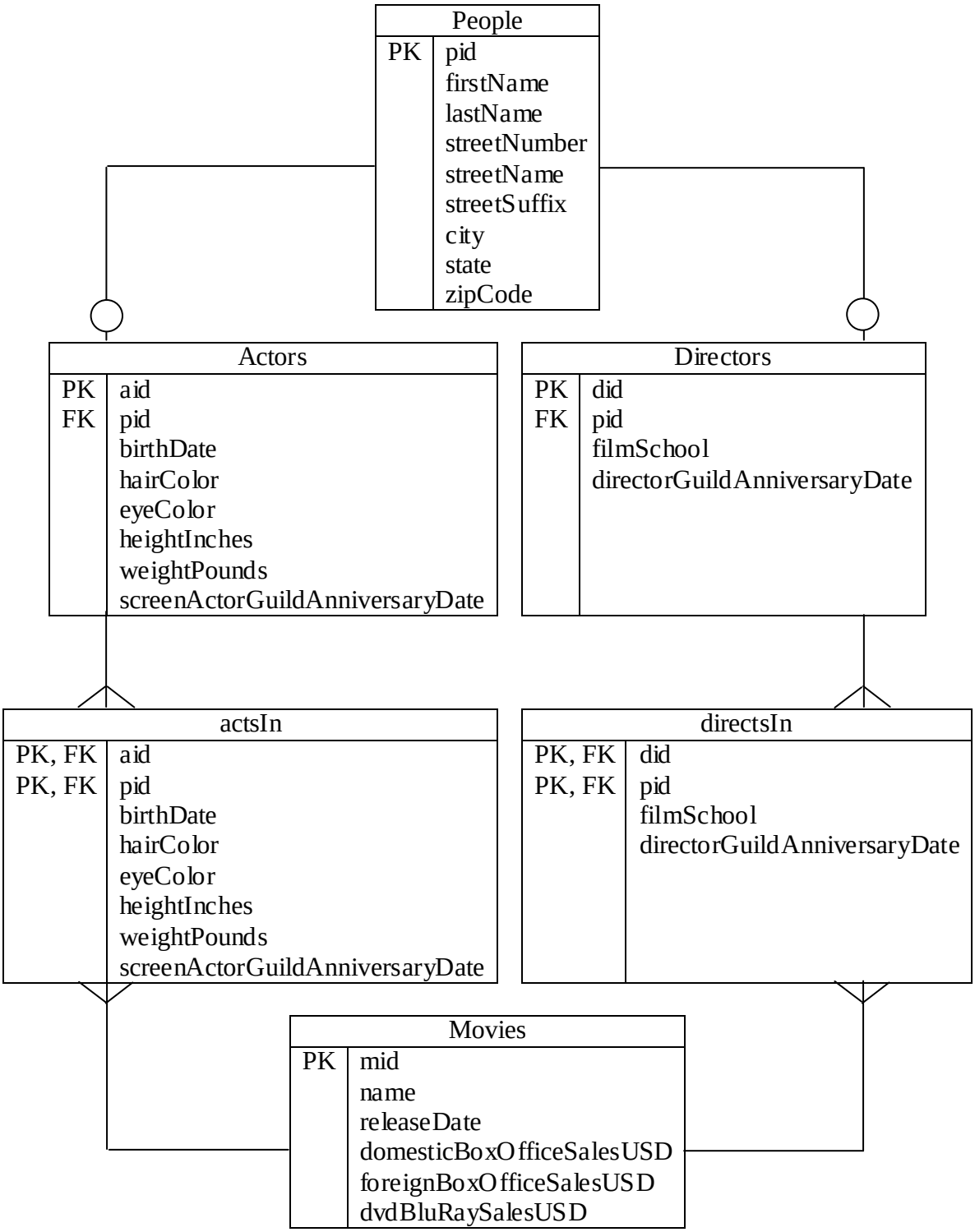
Lab 8: Normalization Lab 2
November 10, 2014

Entity-Relationship Diagram



-- Create Table Statements

```
create table people (
        pid                             char(3) not null,
        firstName                       text,
        lastName                        text,
        streetNumber                    integer,
        streetName                      text,
        streetSuffix                    text,
        city                            text,
        state                           text,
        zipCode                         integer,
primary key(pid)
);
```

-- Functional dependencies for people: pid → firstName, lastName, streetNumber, streetName, streetSuffix, city, state, zipCode

```
create table actors (
        aid                             char(3) not null,
        pid                             char(3) not null references people(pid),
        birthDate                       char(8),
        hairColor                       text,
        eyeColor                        text,
        heightInches                    integer,
        weightPounds                    integer,
        screenActorGuildAnniversaryDate char(8),
primary key(aid)
);
```

-- Functional dependencies for actors: aid → pid, birthDate, hairColor, eyeColor, heightInches, weightPounds, screenActorGuildAnniversaryDate

```
create table directors (
        did                             char(3) not null,
        pid                             char(3) not null references people(pid),
        filmSchool                      text,
        directorGuildAnniversaryDate    char(8),
primary key(did)
);
```

-- Functional dependencies for directors: did → pid, filmSchool, directorGuildAnniversaryDate

```
create table movies (
	mid 				char(3) not null,
	name 				text,
	releaseYear 			integer,
	domesticBoxOfficeSalesUSD 	numeric(15, 2),
	foreignBoxOfficeSalesUSD 	numeric(15, 2),
	dvdBluRaySalesUSD 		numeric(15, 2),
primary key(mid)
);

-- Functional dependencies for movies: mid → name, releaseYear,
domesticBoxOfficeSalesUSD, foreignBoxOfficeSalesUSD, dvdBluRaySalesUSD


create table actsIn (
	aid	char(3) not null references actors(aid),
	mid	char(3) not null references movies(mid),
primary key(aid, mid)
);

-- Functional dependencies for actsIn: aid, mid →


create table directsIn (
	did	char(3) not null references directors(did),
	mid	char(3) not null references movies(mid),
primary key(did, mid)
);

-- Functional dependencies for directsIn: did, mid →


-- Insert Into Statements

insert into people(pid, firstName, lastName, streetNumber, streetName, streetSuffix, city, state,
zipCode)
values('p01', 'Sean', 'Connery', 33, 'Maple', 'Drive', 'New York', 'New York', 11365);

insert into people(pid, firstName, lastName, streetNumber, streetName, streetSuffix, city, state,
zipCode)
values('p02', 'Brian', 'Main', 42, 'Marist', 'Street', 'Poughkeepsie', 'New York', 12601);

insert into people(pid, firstName, lastName, streetNumber, streetName, streetSuffix, city, state,
zipCode)
values('p03', 'Alan', 'Labouseur', 7, 'Bond', 'Lane', 'Newburgh', 'New York', 11111);
```

```
insert into people(pid, firstName, lastName, streetNumber, streetName, streetSuffix, city, state,
zipCode)
values('p04', 'Jessica', 'Rodriguez', 164, 'Washington', 'Avenue', 'Newark', 'New Jersey', 99999);


insert into actors(aid, pid, birthDate, hairColor, eyeColor, heightInches, weightPounds,
screenActorGuildAnniversaryDate)
values('a01', 'p01', 1930-08-25, 'White', 'Brown', 60, 200, 1960-08-25);

insert into actors(aid, pid, birthDate, hairColor, eyeColor, heightInches, weightPounds,
screenActorGuildAnniversaryDate)
values('a02', 'p02', 1994-12-25, 'Brown', 'Hazel', 59, 220, 2000-02-01);

insert into actors(aid, pid, birthDate, hairColor, eyeColor, heightInches, weightPounds,
screenActorGuildAnniversaryDate)
values('a03', 'p04', 1950-10-05, 'Blonde', 'Blue', 54, 160, 1988-03-15);


insert into directors(did, pid, filmSchool, directorGuildAnniversaryDate)
values('d01', 'p01', 'Marist', 1994-12-25);

insert into directors(did, pid, filmSchool, directorGuildAnniversaryDate)
values('d02', 'p03', 'Film for Dummies School', 2010-07-30);

insert into directors(did, pid, filmSchool, directorGuildAnniversaryDate)
values('d03', 'p04', 'School of Films', 1999-11-03);


insert into movies(mid, name, releaseYear, domesticBoxOfficeSalesUSD,
foreignBoxOfficeSalesUSD, dvdBluRaySalesUSD)
values('m01', 'Mean Girls', 2004, 600000.00, 290000.00, 400000.00);

insert into movies(mid, name, releaseYear, domesticBoxOfficeSalesUSD,
foreignBoxOfficeSalesUSD, dvdBluRaySalesUSD)
values('m02', 'The Avengers', 2012, 400000000.00, 600000000.00, 518000000.00);

insert into movies(mid, name, releaseYear, domesticBoxOfficeSalesUSD,
foreignBoxOfficeSalesUSD, dvdBluRaySalesUSD)
values('m03', 'Pirates of the Caribbean: The Curse of the Black Pearl', 2003, 293048293.00,
183920495.51, 177295227.49);

insert into movies(mid, name, releaseYear, domesticBoxOfficeSalesUSD,
foreignBoxOfficeSalesUSD, dvdBluRaySalesUSD)
values('m04', 'Frozen', 2013, 1000000000.90, 274219000.00, 8.10);
```

```
insert into actsIn(aid, mid)
values('a01', 'm01');

insert into actsIn(aid, mid)
values('a01', 'm02');

insert into actsIn(aid, mid)
values('a02', 'm01');

insert into actsIn(aid, mid)
values('a03', 'm04');


insert into directsIn(did, mid)
values('d01', 'm04');

insert into directsIn(did, mid)
values('d02', 'm02');

insert into directsIn(did, mid)
values('d02', 'm04');

insert into directsIn(did, mid)
values('d03', 'm01');



-- Write a SQL query to return all the directors with whom actor “Sean Connery” has worked.

select p.firstName, p.lastName
from people p, directors d
where p.pid = d.pid
  and d.did in (select d.did
                from movies m, actsIn a, directsIn d
                where a.mid = m.mid
                and d.mid = m.mid
                and a.aid in (select a.aid
                              from actors a, people p
                              where a.pid = p.pid
                              and p.firstName = 'Sean'
                              and p.lastName = 'Connery'
                              )
                )
```