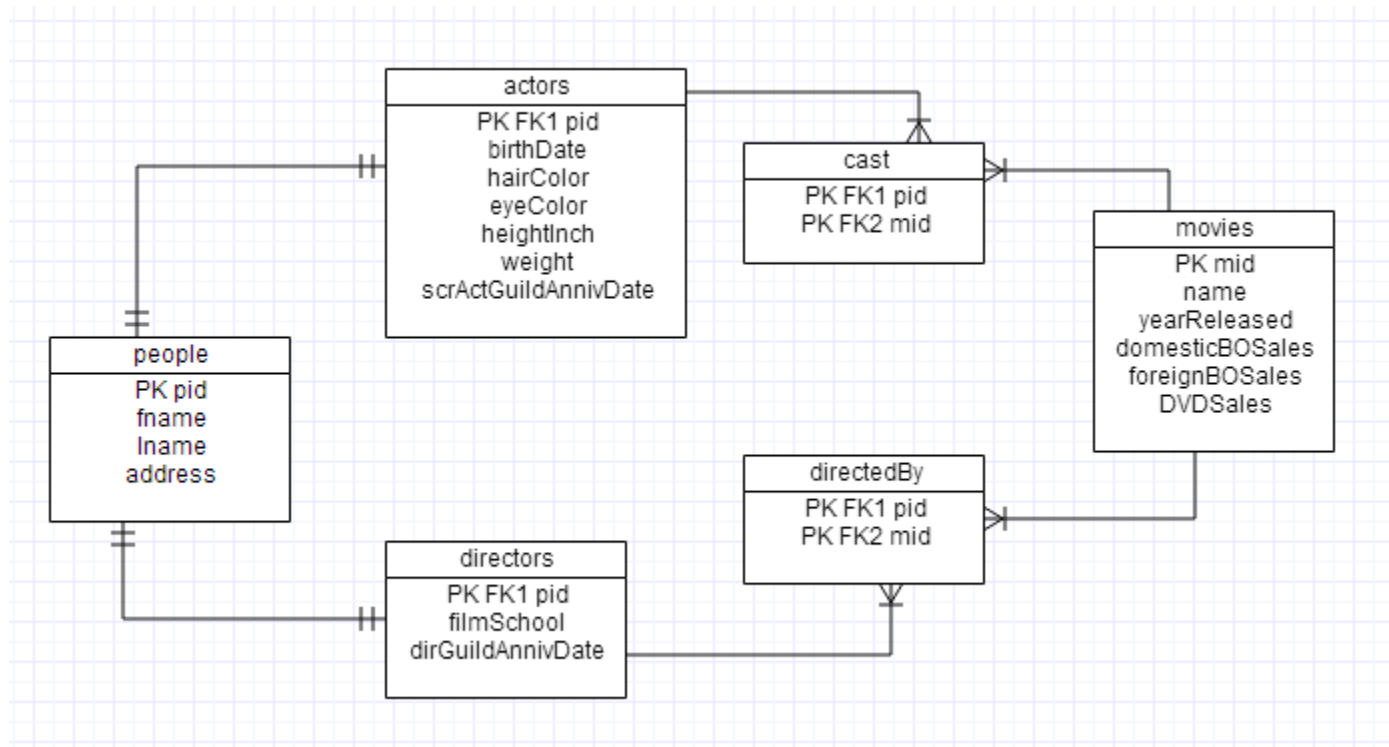


### ER Diagram



### SQL Create statements... 1 for each table

```
--People Table
CREATE TABLE people(
pid      INT NOT NULL,
fname    TEXT NOT NULL,
lname    TEXT NOT NULL,
address  TEXT NOT NULL,
PRIMARY KEY(pid)
);

--Actors table
CREATE TABLE actors(
pid      INT NOT NULL references people(pid),
birthDate    DATE NOT NULL,
hairColor    TEXT NOT NULL,
eyeColor     TEXT NOT NULL,
heightInch   INT NOT NULL,
weight       INT NOT NULL,
scrActGuildAnnivDate  DATE NOT NULL,
PRIMARY KEY(pid)
);

--Directors table
CREATE TABLE directors(
pid      INT NOT NULL references people(pid),
filmSchool    TEXT NOT NULL,
```

```

dirGuildAnnivDate DATE NOT NULL,
PRIMARY KEY(pid)
);

```

--Movies table

```

CREATE TABLE movies(
mid          INT          NOT NULL,
name         TEXT        NOT NULL,
yearReleased INT          NOT NULL,
domesticBOSales DECIMAL  NOT NULL,
foreignBOSales DECIMAL  NOT NULL,
DVDSales     DECIMAL  NOT NULL,
PRIMARY KEY(mid)
);

```

--Cast Table

```

CREATE TABLE cast(
pid INT NOT NULL references actors(pid),
mid INT NOT NULL references movies(mid),
PRIMARY KEY(pid, mid)
);

```

--DirectedBy table

```

CREATE TABLE directedBy(
pid INT NOT NULL references directors(pid),
mid INT NOT NULL references movies(mid),
PRIMARY KEY(pid, mid)
);

```

### SQL Insert Statements for test data

```

INSERT INTO people (pid, fname, lname, address)
VALUES (001, 'Christopher', 'Nolan', 'Batman St New York, NY'),
      (002, 'Sean', 'Connery', '007 Ocean Dr Los Angeles CA'),
      (003, 'Jennifer', 'Lawrence', 'Hollywood, CA'),
      (004, 'Bradley', 'Cooper', 'Poughkeepsie, NY'),
      (005, 'Mark', 'Wahlberg', 'Honolulu, HI'),
      (006, 'Heath', 'Ledger', 'Perth, Australia'),
      (007, 'Terence', 'Young', 'Phoenix, AZ'),
      (008, 'Irvin', 'Kershner', 'Dover, DE'),
      (009, 'Lewis', 'Gilbert', 'Albany, NY'),
      (010, 'Gary', 'Ross', 'Columbia, SC'),
      (011, 'David', 'Russell', 'Austin, TX'),
      (012, 'Antoine', 'Fuqua', 'Santa Fe, NM');

```

```

INSERT INTO actors(pid, birthdate, hairColor, eyeColor, heightInch, weight,
scrActGuildAnnivDate)

```

```

VALUES (002, '08/25/1930', 'brown', 'brown', 68, 180, '05/25/1960'),
      (003, '08/15/1990', 'brown', 'blue', 70, 110, '10/03/2011'),
      (004, '01/05/1975', 'brown', 'blue', 73, 200, '01/02/2008'),
      (005, '06/05/1971', 'brown', 'brown', 68, 220, '03/19/2002'),
      (006, '04/04/1979', 'blonde', 'brown', 73, 223, '11/01/2000');

```

```

INSERT INTO directors(pid, filmSchool, dirGuildAnnivDate)
VALUES (001, 'Harvard', '02/02/2002'),
      (007, 'Yale', '04/15/1961'),
      (008, 'Columbia', '02/13/1969'),
      (009, 'Marist', '12/22/1998'),
      (010, 'Molloy', '12/01/2009'),
      (011, 'Loyola', '11/11/2011'),
      (012, 'FIT', '09/07/2002');

```

```

INSERT INTO movies(mid, name, yearReleased, domesticBOSales, foreignBOSales,
DVDSales)
VALUES (001, 'From Russia With Love', 1960, 2000000.00, 1000000.00, 9000.00),
      (002, 'Never Say Never Again', 1970, 1800000.00, 1600000.00, 32000.00),
      (003, 'You Only Live Twice', 1980, 900000.00, 2000000.00, 6500.00),
      (004, 'Hunger Games', 2012, 1800000.00, 1900000.00, 7200.00),
      (005, 'Silver Linings Playbook', 2013, 1600000.00, 1400000.00, 9100.00),
      (006, 'Shooter', 2000, 3400000.00, 9900000.00, 8000.00),
      (007, 'The Dark Knight', 2009, 5800000.00, 4300000.00, 30000.00);

```

```

INSERT INTO cast(pid, mid)
VALUES (002, 001),
      (002, 002),
      (002, 003),
      (003, 004),
      (003, 005),
      (004, 005),
      (005, 006),
      (006, 007);

```

```

INSERT INTO directedBy(pid, mid)
VALUES (007, 001),
      (008, 002),
      (009, 003),
      (010, 004),
      (011, 005),
      (011, 005),
      (012, 006),
      (001, 007);

```

### Functional Dependencies for each table

People table

pid -> fname, lname, address

Actors table

pid -> birthDate, hairColor, eyeColor, heightInch, weight,  
scrActGuildAnnivDate

Directors table

pid -> filmSchool, dirGuildAnnivDate

Movies table

mid -> name, yearReleased, domesticBOSales, foreignBOSales, DVDSales

Cast table

```
(pid, mid) ->
DirectedBy table
(pid, mid) ->
```

### **SQL Query**

**Return all the directors with whom actor "Sean Connery" has worked.**

```
SELECT DISTINCT pdirect.fname,
                pdirect.lname
FROM people pactor,
     people pdirect,
     actors a,
     directors d,
     movies m,
     cast c,
     directedBy db
WHERE  pactor.pid = a.pid
      AND      mc.pid = a.pid
      AND      c.mid = m.mid
      AND      db.mid = m.mid
      AND      db.pid = d.pid
      AND      d.pid = pdirect.pid
      AND pactor.fname = 'Sean'
      AND pactor.lname = 'Connery';
```