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Database Management

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ER Diagram

People

PK	PID
	fName
	lName
	Address

Actors

PK,FK	AID
	DoB
	color_hair
	color_eye
	height_in
	weight_lb
	SAGann

Directors

PK,FK	DID
	filmSchool
	DGann

ActorsInMovies

PK,FK	AID
PK,FK	MID

DirectorsOfMovies

PK,FK	DID
PK,FK	MID

Movies

PK	MID
	title
	yearReleased
	boxOfficeSales_usd_domestic
	boxOfficeSales_usd_foreign
	diskSales
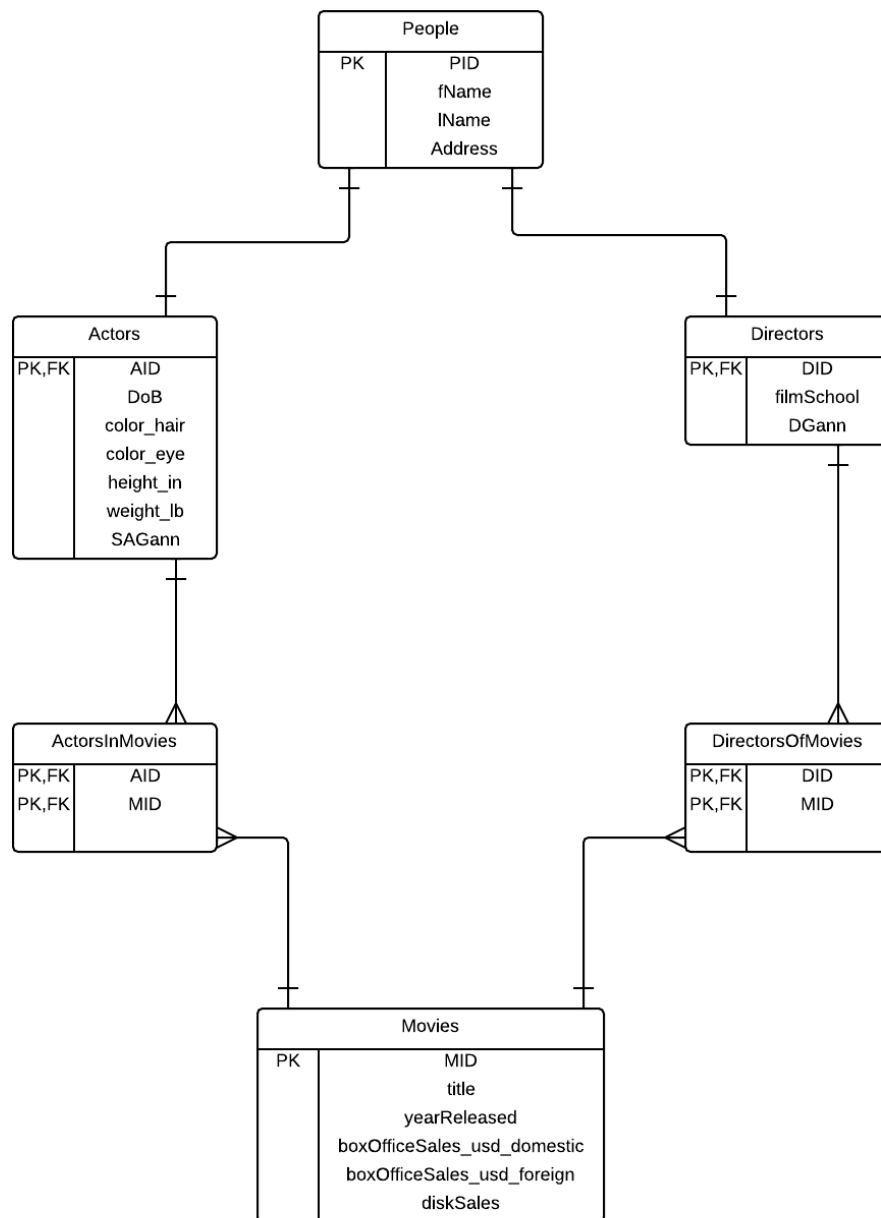
Create Tables

```sql
DROP TABLE IF EXISTS People;
CREATE TABLE People (
    PID char(4) NOT NULL PRIMARY KEY,
    fName text NOT NULL,
    lName text NOT NULL,
    address text NOT NULL
);

DROP TABLE IF EXISTS Actors;
CREATE TABLE Actors(
    AID char(4) NOT NULL PRIMARY KEY REFERENCES People(PID),
    DoB date NOT NULL,
    color_hair text NOT NULL,
    color_eye text NOT NULL,
    height_in int NOT NULL,
    weight_lb int NOT NULL,
    SAGann date NOT NULL
);

DROP TABLE IF EXISTS Directors;
CREATE TABLE Directors(
    DID char(4) NOT NULL PRIMARY KEY REFERENCES people(PID),
    filmSchool text NOT NULL,
    DGann date NOT NULL

);
DROP TABLE IF EXISTS Movies;
CREATE TABLE Movies(
    MID char(4) NOT NULL PRIMARY KEY,
    title text NOT NULL,
    yearReleased int NOT NULL,
    boxOfficeSales_usd_domestic float NOT NULL,
    boxOfficeSales_usd_foreign float NOT NULL,
    diskSales int NOT NULL
);

DROP TABLE IF EXISTS ActorsInMovies;
CREATE TABLE ActorsInMovies(
    AID char(4) NOT NULL,
    MID char(4) NOT NULL,
    PRIMARY KEY (AID,MID),
    FOREIGN KEY (AID) REFERENCES Actors(AID),
    FOREIGN KEY (MID) REFERENCES Movies(MID)
);
```

```sql
DROP TABLE IF EXISTS DirectorsInMovies;
CREATE TABLE DirectorsOfMovies(
     DID char(4) NOT NULL,
     MID char(4) NOT NULL,
     PRIMARY KEY (DID,MID),
     FOREIGN KEY (DID) REFERENCES Directors(DID),
     FOREIGN KEY (MID) REFERENCES Movies(MID)
);
```

Insert Statements

```sql
INSERT INTO People(pid, fName, lName, address)
VALUES('p001', 'John', 'Doe', '1 people street');

INSERT INTO People(pid, fName, lName, address)
VALUES ('p002', 'Bob', 'Johnson', '2 people street');

INSERT INTO People(pid, fName, lName, address)
VALUES ('p003', 'Tim', 'McGee', '3 people street');

INSERT INTO People(pid, fName, lName, address)
VALUES ('p004', 'Sam', 'Hill', '4 people street');

INSERT INTO People(pid, fName, lName, address)
VALUES ('p005', 'Chris', 'Paul', '5 people street');

INSERT INTO Actors(AID, DoB, color_hair, color_eye, height_in,
weight_lb, SAGann)
VALUES('p001', '1972-05-03', 'Brown', 'Brown', '60', '195',
'2001-09-04');

INSERT INTO Actors(AID, DoB, color_hair, color_eye, height_in,
weight_lb, SAGann)
VALUES('p002', '1976-10-12', 'Blonde', 'Green', '54', '160',
'2002-04-23');

INSERT INTO Actors(AID, DoB, color_hair, color_eye, height_in,
weight_lb, SAGann)
VALUES('p005', '1979-09-05', 'Black', 'Blue', '56', '175',
'2003-06-23');

INSERT INTO Directors(DID, filmSchool, DGann)
```

```sql
VALUES('p002', 'The Best Film School', '2004-05-21');

INSERT INTO Directors(DID, filmSchool, DGann)
VALUES ('p003', 'A Nice Film School', '2003-06-09');

INSERT INTO Directors(DID, filmSchool, DGann)
VALUES ('p004', 'An OK Film School', '2005-07-07');

INSERT INTO Movies(MID, title, yearReleased,
boxOfficeSales_usd_domestic, boxOfficeSales_usd_foreign, diskSales)
VALUES ('M001', 'An  Awesome Film', '2010', '2345126.00',
'527842.00', '89322');

INSERT INTO Movies(MID, title, yearReleased,
boxOfficeSales_usd_domestic, boxOfficeSales_usd_foreign, diskSales)
VALUES('M002', 'The Best Film', '2011', '2378234.23', '123742.58',
'5342');

INSERT INTO ActorsInMovies(AID, MID)
VALUES('p001', 'M001');

INSERT INTO ActorsInMovies(AID, MID)
VALUES ('p002', 'M001');

INSERT INTO ActorsInMovies(AID, MID)
VALUES ('p005', 'M002');

INSERT INTO DirectorsOfMovies(DID, MID)
VALUES ('p002', 'M002');


INSERT INTO DirectorsOfMovies(DID, MID)
VALUES ('p003', 'M002');


INSERT INTO DirectorsOfMovies(DID, MID)
VALUES ('p004', 'M001');
```

Functional Dependencies

People
pid -> fName, lName, address

Actors
aid->DoB, color_hair, color_eye, height_in, weight_lb, sagann

Directors
did->filmSchool, DGann

Movies
mid-> title,yearReleased, boxOfficeSales_usd_domestic, boxOfficeSales_usd_foreign, diskSales

Sean Connery (too good to act in these movies)

```
select fname, lname
from people
where pid in(
      select did
      from directorsOfMovies
      where mid in
            (
            select mid
            from movies
            where mid in
                  (
                  select mid
                  from actorsInMovies
                  where aid in
                        (
                        select pid
                        from people
                        where fname = 'Sean' AND lname = 'Connery'
                        )
                  )
            )
      )
);
```