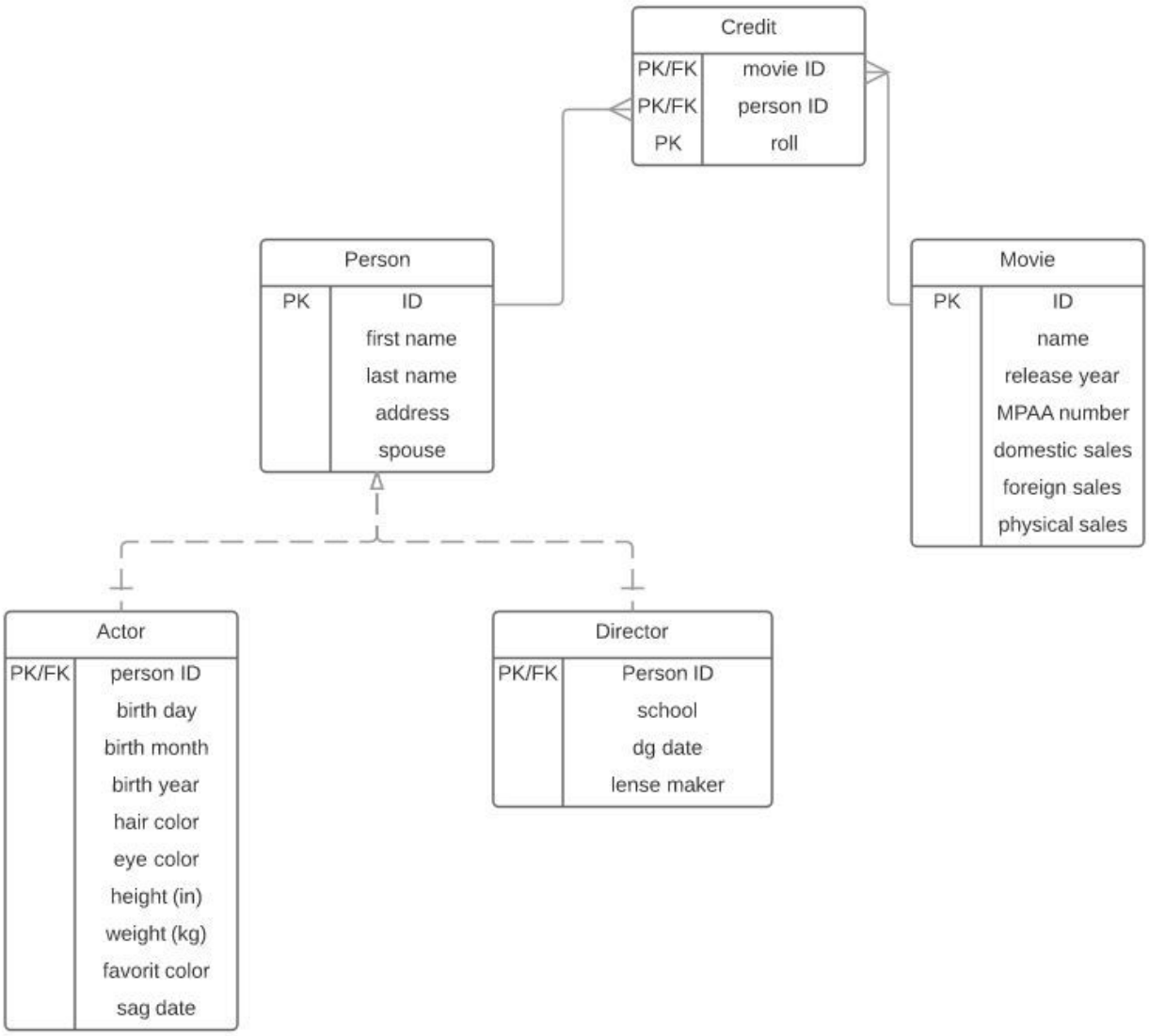
Lab 8
Anders Lykkehoy

1. E / R Diagram:



2. SQL create statements:

```
CREATE TABLE public.Movie
(
  ID INT PRIMARY KEY NOT NULL,
  name TEXT NOT NULL,
  "release year" INTEGER,
  "MPAA number" INTEGER,
  "domestic sales" MONEY,
  "foreign sales" MONEY,
  "physical sales" MONEY
);
```

```
CREATE TABLE public.Person
(
    ID INT PRIMARY KEY,
    "first name" TEXT NOT NULL,
    "last name" TEXT NOT NULL,
    address TEXT,
    spouse TEXT
);

CREATE TABLE public.Director(
  PersonID INT PRIMARY KEY REFERENCES Person(ID) NOT NULL,
  school TEXT,
  "dg date" TEXT,
  "lense maker" TEXT
);

CREATE TABLE public.Actor(
  PersonID INT PRIMARY KEY REFERENCES Person(ID) NOT NULL,
  "birth day" INT,
  "birth month" INT,
  "birth year" INT,
  "hair color" TEXT,
  "eye color" TEXT,
  "height(in)" INT,
  "weight (lbs)" INT,
  "favorite color" text,
  "sag date" text
);

CREATE TABLE public.Credit(
  PersonID INT REFERENCES Person(ID) NOT NULL,
  MovieID INT REFERENCES Movie(ID) NOT NULL,
  roll TEXT NOT NULL CHECK (roll IN ('Director', 'Actor')),

  PRIMARY KEY (PersonID, MovieID, roll)
);
```

3. Functional Dependencies:
    a. Movies table: name, release year, MPAA number, domestic sales, foreign sales. physical sales depends on ID
    b. Person table: first name, last name, address, spouse depends on ID
    c. Director table: school, dg date, lense maker depends on PersonID

d. Actor table: birth day, birth month, birth year, hair color, eye color, height(in), weight(lbs), favorite color, sag date depends on PersonID

4. Query to show all the directors with whom actor “Roger Moore” has worked.

```
SELECT person."first name", person."last name"
FROM credit INNER JOIN person ON credit.PersonID = person.ID
WHERE roll = 'Director'
AND MovieID IN (
  SELECT MovieID
  FROM credit
    INNER JOIN person ON credit.PersonID = person.ID
  WHERE "first name" = 'Roger' AND "last name" = 'Moore'
);
```