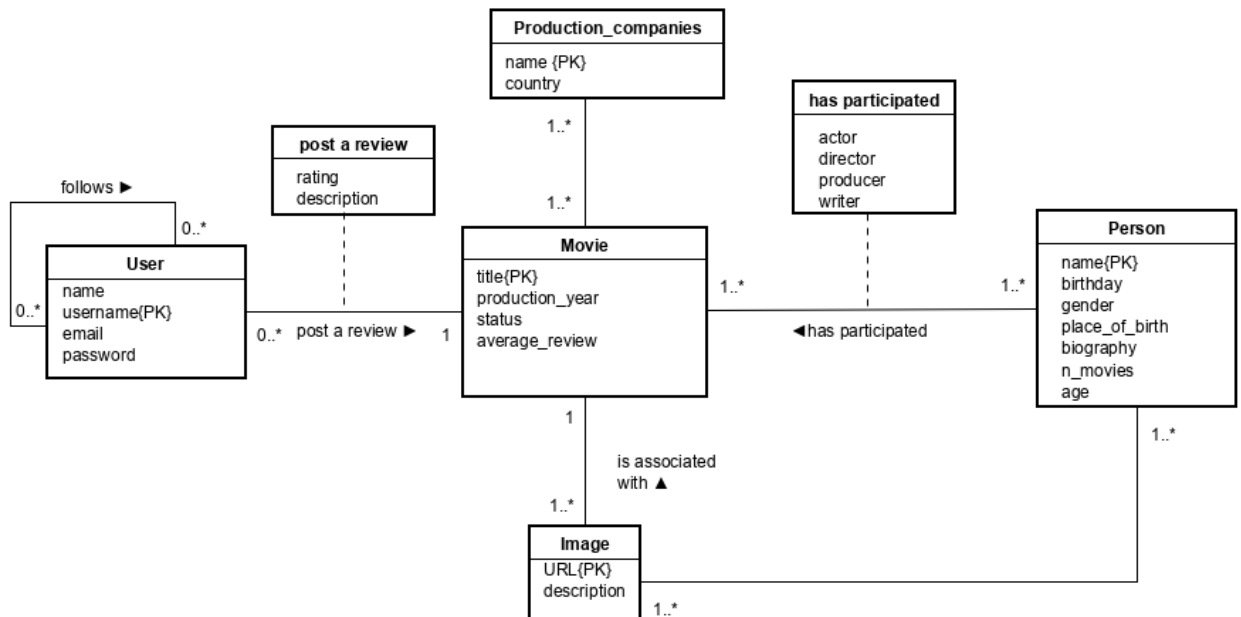# ASSIGNMENT 1

DATABASE SYSTEMS

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1. CONCEPTUAL MODEL

Production_companies
name {PK}
country

1..*

1..*

post a review
rating
description

follows ▶

0..*

0..*

User
name
username{PK}
email
password

0..*   post a review ▶   1

Movie
title{PK}
production_year
status
average_review

1..*

has participated
actor
director
producer
writer

1..*

Person
name{PK}
birthday
gender
place_of_birth
biography
n_movies
age

◀has participated

1..*

1

is associated
with ▲

1..*

Image
URL{PK}
description

1..*

2. LOGICAL MODEL

```
Image(
  URL,
  description,
  is_associated_with)
PRIMARY KEY(URL)
FOREIGN KEY(is_associated_with) REFERENCES Movie(title)


User(
  name,
  username,
  email,
  password
)
PRIMARY KEY(username)

Post_a_review(
  rating{PK}
  description
  username,
  title)
PRIMARY KEY(rating, username, title)
FOREIGN KEY(username) REFERENCES User(username)
FOREIGN KEY(title) REFERENCES Movie(title)

Movie(
  title,
  production_year,
  status,
  average_review,
  post_a_review
)
PRIMARY KEY(title)
FOREIGN KEY(post_a_review) REFERENCES User(username)
```

```
has_participated(
    title,
    name,
    actor,
    director,
    producer,
    writer
)
PRIMARY KEY(name, title)
FOREIGN KEY(name) REFERENCE Person(name)
FOREIGN KEY(title) REFERENCE Movie(title)


Person(
    name,
    birthday,
    gender,
    place_of_birth,
    biography,
    n_movies
    age)
PRIMARY KEY(name)


Person_image(
    URL,
    name)
PRIMARY KEY(URL, name)
FOREIGN KEY(URL) REFERENCE Image(URL)
FOREIGN KEY(name) REFERENCE Person(name)


Production_companies(
    name,
    country)
PRIMARY KEY(name)


Production_companies_movies(
    name,
    title
)
PRIMARY KEY(name, title)
FOREIGN KEY(name) REFERENCE Production_companies(name)
FOREIGN KEY(title) REFERENCE Movie(title)
```

3. CREATE DOMAINS AND TABLES

```sql
1   CREATE SCHEMA IMDB;
2   SET search_path to 'IMDB';
3   CREATE DOMAIN name AS VARCHAR(100);
4   CREATE DOMAIN URL AS VARCHAR(1000);
5   CREATE DOMAIN description AS VARCHAR(100);
6   CREATE DOMAIN username AS VARCHAR(100);
7   CREATE DOMAIN email AS VARCHAR(100);
8   CREATE DOMAIN password AS VARCHAR(100);
9   CREATE DOMAIN rating AS DECIMAL(1)CHECK(value>=0 AND value<=5);
10  CREATE DOMAIN title AS VARCHAR(100);
11  CREATE DOMAIN production_year AS DECIMAL(4);
12  CREATE DOMAIN status AS VARCHAR(100)CHECK(value = 'released' OR value = 'completed' OR value = 'post-production' OR value = 'filming' OR value = 'announced');
13  CREATE DOMAIN average_review AS DECIMAL(3,2);
14  CREATE DOMAIN actor AS BOOLEAN;
15  CREATE DOMAIN director AS BOOLEAN;
16  CREATE DOMAIN producer AS BOOLEAN;
17  CREATE DOMAIN writer AS BOOLEAN;
18  CREATE DOMAIN birthday AS DATE;
19  CREATE DOMAIN gender AS CHAR(1) CHECK(value = 'M' OR value='F');
20  CREATE DOMAIN place_of_birth AS VARCHAR(100);
21  CREATE DOMAIN biography AS VARCHAR(1000);
22  CREATE DOMAIN n_movies AS DECIMAL(2)CHECK(value>=0);
23  CREATE DOMAIN age AS DECIMAL(2)CHECK(value >=0);
24  CREATE DOMAIN country AS VARCHAR(100);

26  CREATE TABLE Production_companies(
27      name Name,
28      country "IMDB"."Country",
29  PRIMARY KEY(name));
30  CREATE TABLE Person(
31      name Name,
32      birthday "IMDB"."Birthday",
33      gender "IMDB"."gender",
34      place_of_birth "IMDB"."place_of_birth",
35      biography "IMDB"."biography",
36      number_of_movies "IMDB"."n_movies",
37      age "IMDB"."age",
38      PRIMARY KEY(name));
39  Create TABLE Users(
40      name Name,
41      username "IMDB"."username",
42      email "IMDB"."email",
43      password "IMDB"."password",
44      PRIMARY KEY(username));
45
46  CREATE TABLE Post_a_review(
47      rating "IMDB"."rating",
48      description "IMDB"."description",
49      username "IMDB"."username",
50      title "IMDB"."title",
51      PRIMARY KEY(rating, title, username)
52  )
```

```sql
CREATE TABLE Movie(
    title "IMDB"."title",
    production_year "IMDB"."production_year",
    status "IMDB"."status",
    average_review "IMDB"."average_review",
    post_a_review Post_a_review
    PRIMARY KEY(title));
ALTER TABLE Movie
ADD FOREIGN KEY(post_a_review) REFERENCES Users(username);
CREATE DOMAIN is_associated_with AS VARCHAR(100);
CREATE TABLE Image(
    URL "IMDB"."url" PRIMARY KEY,
    description "IMDB"."description",
    is_associated_with "IMDB"."is_associated_with"
);
ALTER TABLE Image
ADD FOREIGN KEY(is_associated_with) REFERENCES Movie(title);
CREATE TABLE has_participated(
    actor "IMDB"."actor",
    director "IMDB"."director",
    producer "IMDB"."producer",
    writer "IMDB"."writer",
    title "IMDB"."title",
    name "IMDB"."Name",
    PRIMARY KEY(name, title));
ALTER TABLE has_participated
ADD FOREIGN KEY (name) REFERENCES Person(name);
ALTER TABLE has_participated
ADD FOREIGN KEY (title) REFERENCES Movie(title);

CREATE TABLE Person_image(
    URL "IMDB"."url",
    name "IMDB"."Name",
    PRIMARY KEY(URL, name));

ALTER TABLE Person_image
ADD FOREIGN KEY (URL) REFERENCES Image(URL);

ALTER TABLE Person_image
ADD FOREIGN KEY(name) REFERENCES Person(name);

CREATE TABLE Production_companies_movies(
    name "IMDB"."Name",
    title "IMDB"."title",
    PRIMARY KEY(name, title)
);

ALTER TABLE Production_companies_movies
ADD FOREIGN KEY(name)REFERENCES Production_companies(name);

ALTER TABLE Production_companies_movies
ADD FOREIGN KEY(title)REFERENCES Movie(title);
```