



# **Course Project – Anime Database Design & Implementation**

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Database Systems

[CSIS-3222-001]

## **Author**

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Lopez

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# **Database Design**

## **#1 Project Intent**

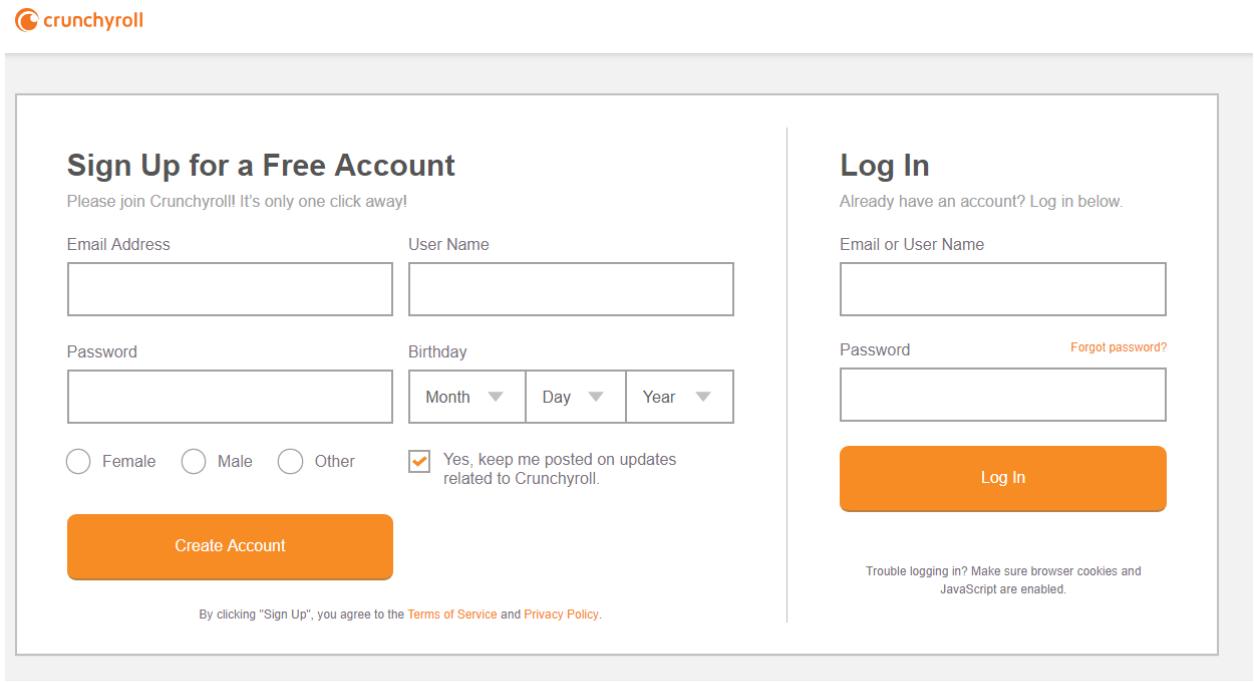
For this project, I'd like to design a database system for anime. Anime is a style of Japanese film and animation. I enjoy watch a lot of anime and thought it would be useful to create a database that contained information about all the different anime that exist. This system is a conceptualization of an Anime database that is inspired from several sites: myanimelist.net which contains information about anime, crunchyroll.com an anime streaming site, and animecharacetdatabase.com which has a database of many characters from anime.

The goal of this system would be to merge elements from these three different websites to create an adequate database for Anime. For this database system, I'd like to make it easy to find anime based on different genre a user enjoys, and lists all the details of that anime in a list with things such as genre type, setting, characters, release date, etc. I think it would be a fun and useful project for anime fans. They could input data about an anime, and the database system can organize it well. A list of the entities can be: Anime, Manga, Genre, Studio Character, Creator, and User.

The scope of this project is to create a database that contains information of the entities previously listed. User will also be able to create accounts and have a list of anime that they enjoy. The system could possibly be self-sustainable since users will be able to input anime data if it does not already exist in the database. In this report I will design a relational database and implement it in SQL Oracle. There will be several figures of diagrams, sample data forms, and prototypes of better forms for a more reliable database system.

## **#2 Sample Forms**

### Crunchyroll Sign Up/Log in Forms



The image shows two side-by-side forms on the Crunchyroll website. The left form is for "Sign Up for a Free Account" and the right form is for "Log In".

**Sign Up for a Free Account:**

- Email Address
- User Name
- Password
- Birthday (Month, Day, Year dropdowns)
- Gender selection: Female, Male, Other
- A checkbox for staying updated with Crunchyroll updates.
- A "Create Account" button.
- Text at the bottom: "By clicking 'Sign Up', you agree to the [Terms of Service](#) and [Privacy Policy](#). " and "© 2006-2019 Elation, Inc."

**Log In:**

- Email or User Name
- Password
- Forgot password?
- A "Log In" button.
- Text at the bottom: "Trouble logging in? Make sure browser cookies and JavaScript are enabled."

These two forms are used for user purposes, either to create a new account or log into an existing account. The Sign Up form asks for a number of things like email address, username, password, date of birth, gender, and crunchyroll updates. These will be filled out by the user and put into a database. The variables that would be in this table would be as follows:

- USERNAME PRIMARY KEY NOT NULL
- EMAIL ADDRESS VARCHAR(30) NOT NULL
- PASSWORD VARCHAR(30) NOT NULL
- BIRTHDAY DATE NOT NULL
- GENDER NOT NULL

The Log In Form asks for the username/email and password. When a user enters this data, the database will be checked for the account and log them into the website.

Animecharactersdatabase Add New Series Form



(required) English Title

Romaji Title

( Please remove all 𩖇𩖈𩖉 )

Furigana

Japanese Title

Release Date

Japanese Studio

English Studio

Media Type

Content Rating

Indexing Progress

0 - ▾

(required) Home Page

Post

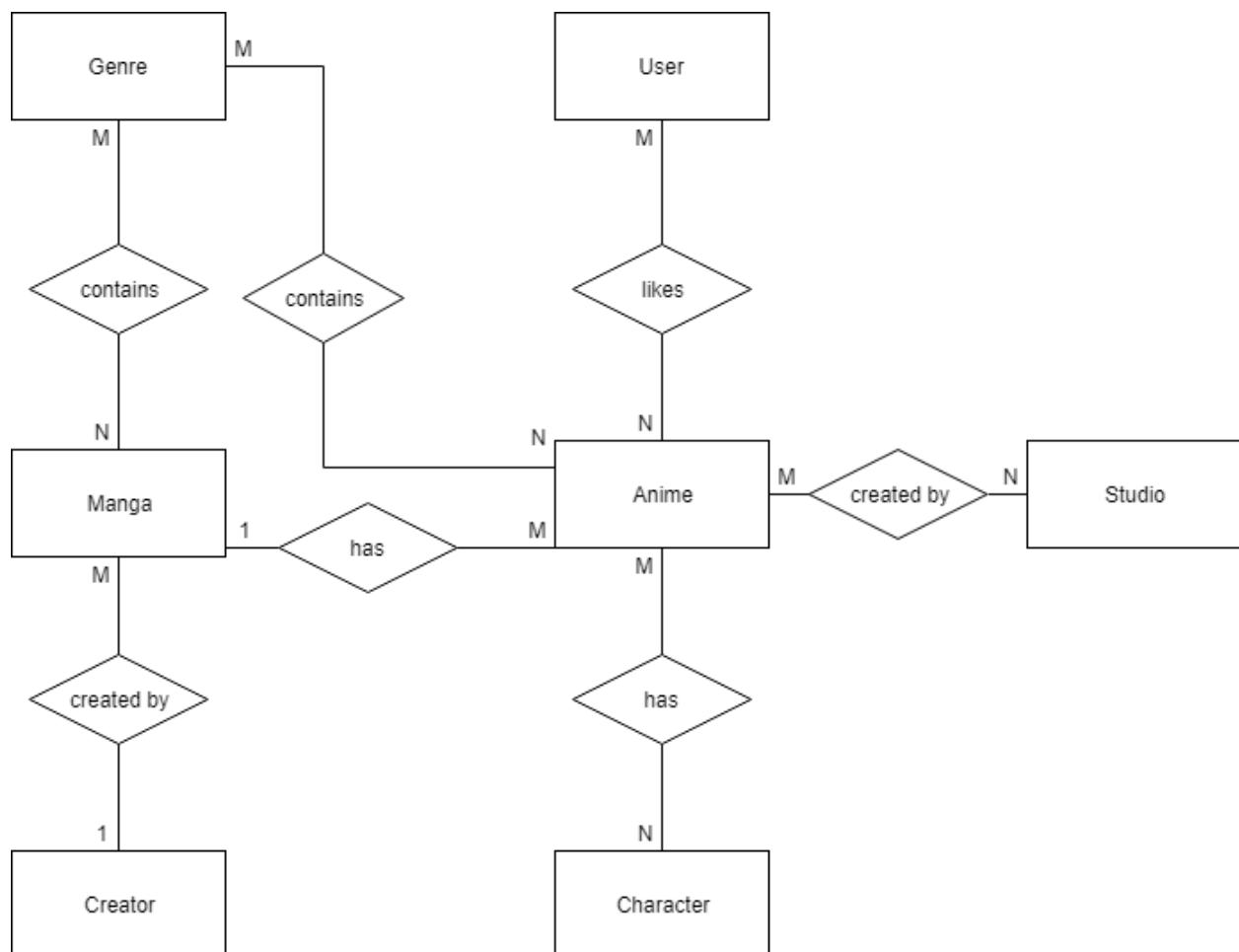
This form is used to add a new series into the already existing database of Anime. It asks for many of the attributes of the Anime entity such as its title, release date, content rating, media type, etc. The purpose of this form is to allow users to add a new series to the website and makes it self-sustainable as long as website traffic is existent.

### #3 Conceptual ER model

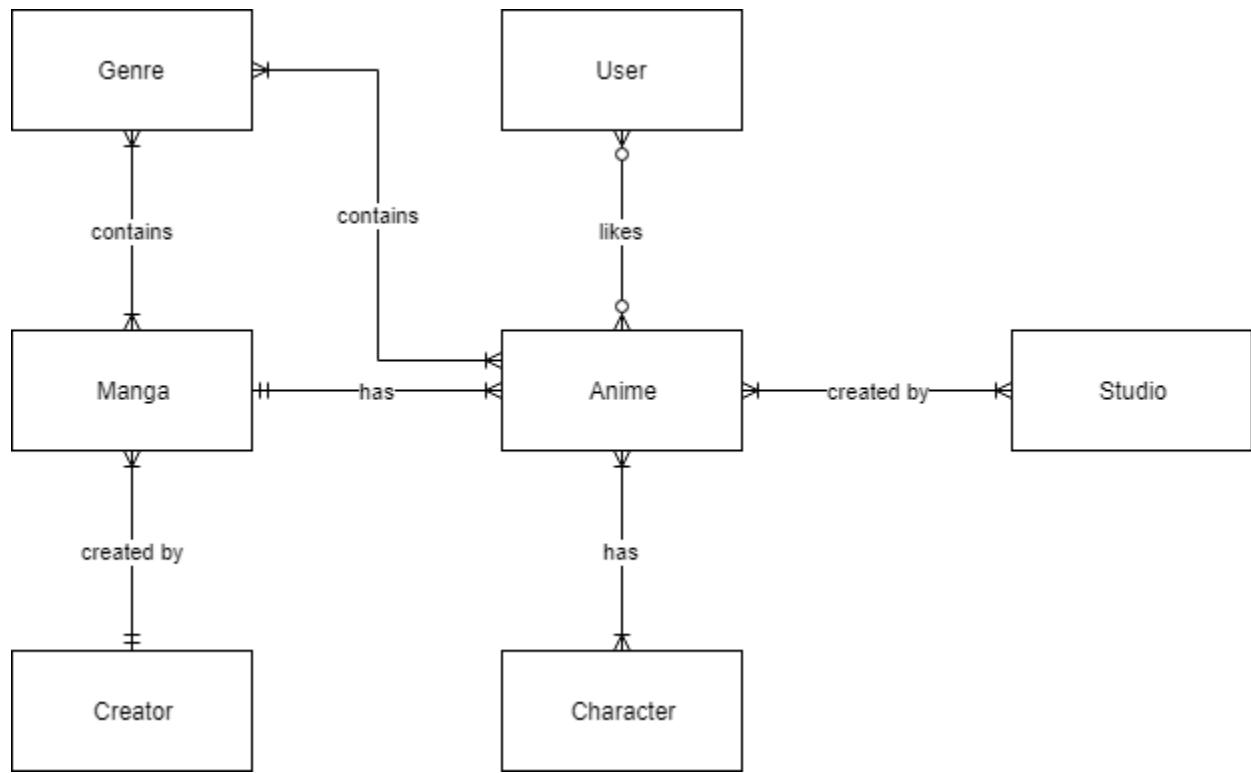
#### List of Entities

- Anime – the name of the anime and its attributes
- Manga – graphic novels that are usually adapted into anime
- Studio – the company or studio that creates and releases anime adaptations
- Genre – all the different genre types
- Character – characters in anime
- Creator – creators of anime
- User – anime fan account

#### Chen's notation model diagram



IE Crow Foot data model diagram (*without attributes*)



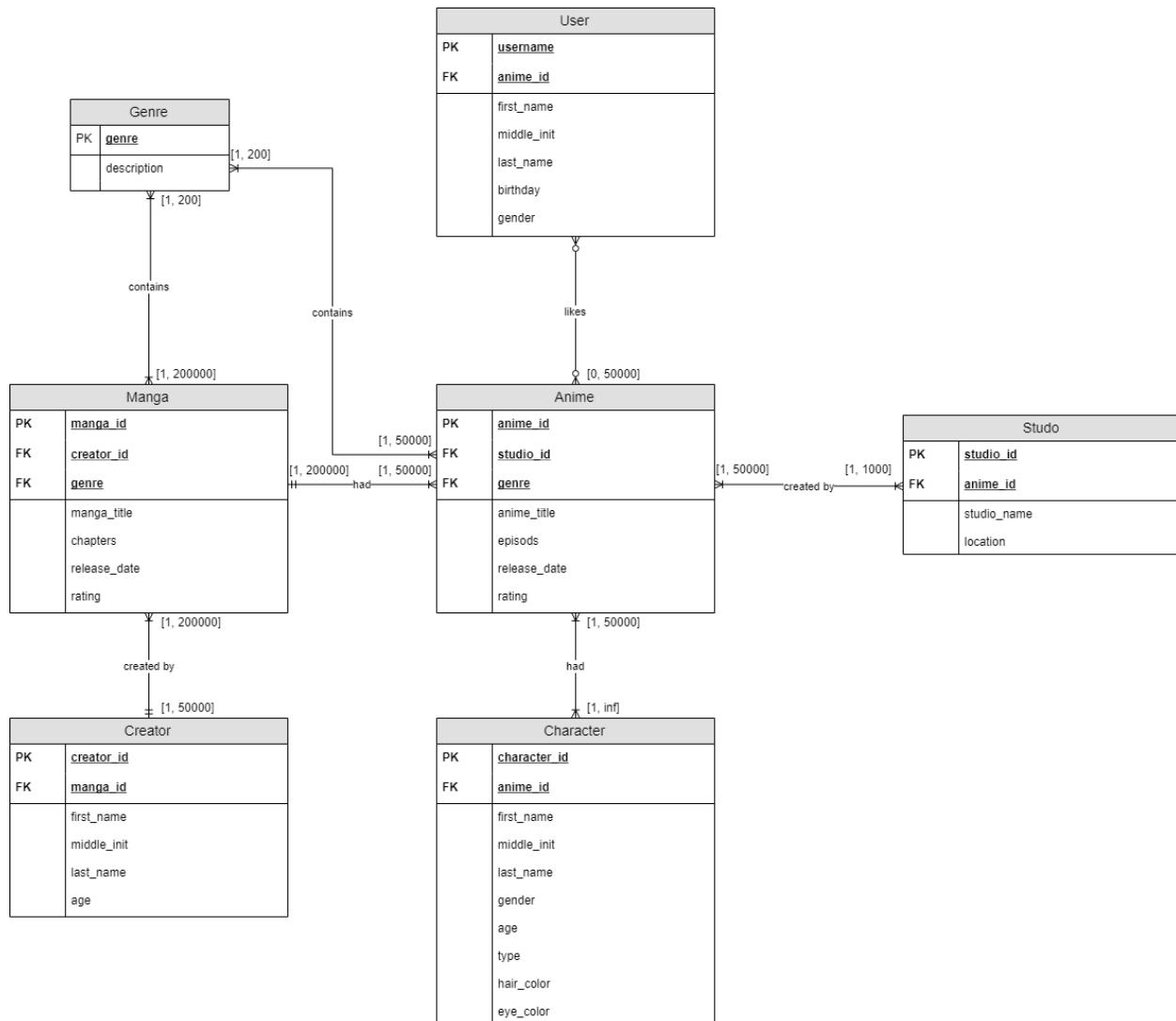
## **#4 Preliminary E-R logical data model**

### **List of Entities**

- Anime – the name of the anime and its attributes
  - AnimeID – used to uniquely identify; a105
  - AnimeTitle – the title of the anime; Steins;Gate
  - Episodes – how many episodes there are in the anime; 34
  - ReleaseDate – when the anime was first aired on TV; April 6, 2011
  - Rating – rating from 1-10 calculated based on what all the users have rated it; 7
  - Genres – what type of genres it contains; thriller, sci-fi
  - Studio – the studio that created the anime; White Fox
- Manga – graphic novels that are usually adapted into anime
  - MangaID – used to uniquely identify; m207
  - MangaTitle – the title of the manga; Bleach
  - Chapters – how many chapters there are in the manga; 765
  - ReleaseDate – when the first chapter was released; August 7, 2011
  - Rating – rating 1-10 from users; 8
  - Genres – type of genres it contains; adventure, supernatural
  - Creator – the creator of the manga; Tite Kubo
- Studio – the company or studio that creates and releases anime adaptations
  - StudioID – used to uniquely identify; s65
  - StudioName – the name of the studio; Toei Animation
  - Anime – the anime that the studio has created; One Piece, Dragon Ball Super, etc
  - Location – where the studio is based at; headquarters; Japan
- Genre – all the different genre types
  - Genre – thriller, action, sci fi
  - Description – scary, suspenseful, action-packed

- Character – characters in anime
  - CharacterID – used to uniquely identify; c1025
  - FirstName – first name of character; Ichigo
  - MiddleInit – middle initial of character if applicable; m, null
  - LastName – last name of character; Kurosaki
  - Gender – gender of character; male, female
  - Age – how old the character is; 17
  - Type – human, cat, dog, fox, demon, etc
  - HairColor – color of hair; orange
  - EyeColor – color of eyes; orange
- Creator – creators of anime
  - CreatorID - – used to uniquely identify
  - FirstName; Tite
  - MiddleInit; H
  - LastName; Kubo
  - Age; 41
  - Manga; Bleach
- User – anime fan account
  - Username J– used to uniquely identify; animefan123
  - FirstName - John
  - MiddleInit - K
  - LastName - Fisher
  - Birthday – March 3, 2000
  - Gender - Male

## Preliminary IE Crow Foot data model diagram (*with attributes*)



Many Anime can be created by many Studios.

Each Studio makes many Anime.

Each Manga has at least 1 creator.

Each Manga has at least 1 Anime.

Each Anime has at least 1 Anime.

Each Creator can many Manga.

Each User can like zero or many Anime.

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Each Anime can be liked by zero or many Users.

Many Anime can have many Characters.

Anime contains atleast 1 Genre.

Manga contains at least 1 Genre.

**#5 Final E-R logical data model**

**#6 Relational schema**

**#7 Physical Model**

Normalization Steps:

**Anime**

<u>anime_id</u>	studio_id	genre	anime_title	episodes	release_date	rating
-----------------	-----------	-------	-------------	----------	--------------	--------

1nf

<u>anime_id</u>	anime_title	episodes	release_date	rating
-----------------	-------------	----------	--------------	--------

studio_id	studio_name	location
-----------	-------------	----------

<u>genre</u>	description
--------------	-------------

Bridge entities

<u>anime_id</u>	genre
-----------------	-------

<u>anime_id</u>	studio_id
-----------------	-----------

**User**

<u>user_id</u>	anime_id	first_name	middle_init	last_name	birthday	gender
----------------	----------	------------	-------------	-----------	----------	--------

1nf

<u>user_id</u>	first_name	middle_init	last_name	birthday	gender
----------------	------------	-------------	-----------	----------	--------

<u>anime_id</u>	anime_title	episodes	release_date	rating
-----------------	-------------	----------	--------------	--------

Bridge entity

<u>user_id</u>	<u>anime_id</u>
----------------	-----------------

## Manga

<u>manga_id</u>	creator_id	genre	manga_title	chapters	release_date	rating
-----------------	------------	-------	-------------	----------	--------------	--------

1nf

<u>manga_id</u>	creator_id	manga_title	chapters	release_date	rating
-----------------	------------	-------------	----------	--------------	--------

<u>genre</u>	description
--------------	-------------

## Bridge entity

<u>manga_id</u>	<u>genre</u>
-----------------	--------------

## Character

<u>character_id</u>	anime_id	first_name	middle_init	last_name	gender	age	type	hair_color	eye_color
---------------------	----------	------------	-------------	-----------	--------	-----	------	------------	-----------

1nf

<u>character_id</u>	first_name	middle_init	last_name	gender	age	type	hair_color	eye_color
---------------------	------------	-------------	-----------	--------	-----	------	------------	-----------

<u>anime_id</u>	anime_title	episodes	release_date	rating
-----------------	-------------	----------	--------------	--------

## Bridge entity

<u>character_id</u>	<u>anime_id</u>
---------------------	-----------------

## List of Entities

- Anime – the name of the anime and its attributes
  - anime\_id – used to uniquely identify; a105
  - anime\_title – the title of the anime; Steins;Gate
  - episodes – how many episodes there are in the anime; 34
  - release\_date – when the anime was first aired on TV; April 6, 2011
  - rating – rating from 1-10 calculated based on what all the users have rated it; 7
- Manga – graphic novels that are usually adapted into anime
  - manga\_id – used to uniquely identify; m207
  - manga\_title – the title of the manga; Bleach
  - chapters – how many chapters there are in the manga; 765
  - release\_date – when the first chapter was released; August 7, 2011
  - rating – rating 1-10 from users; 8
  - creator\_id – the creator of the manga; Tite Kubo
- Studio – the company or studio that creates and releases anime adaptations
  - studio\_id – used to uniquely identify; s65
  - studio\_name – the name of the studio; Toei Animation
  - location – where the studio is based at; headquarters; Japan
- Genre – all the different genre types
  - genre – thriller, action, sci fi
  - description – scary, suspenseful, action-packed
- Character – characters in anime
  - character\_id – used to uniquely identify; c1025
  - first\_name – first name of character; Ichigo
  - middle\_init – middle initial of character if applicable; m, null
  - last\_name – last name of character; Kurosaki
  - gender – gender of character; male, female

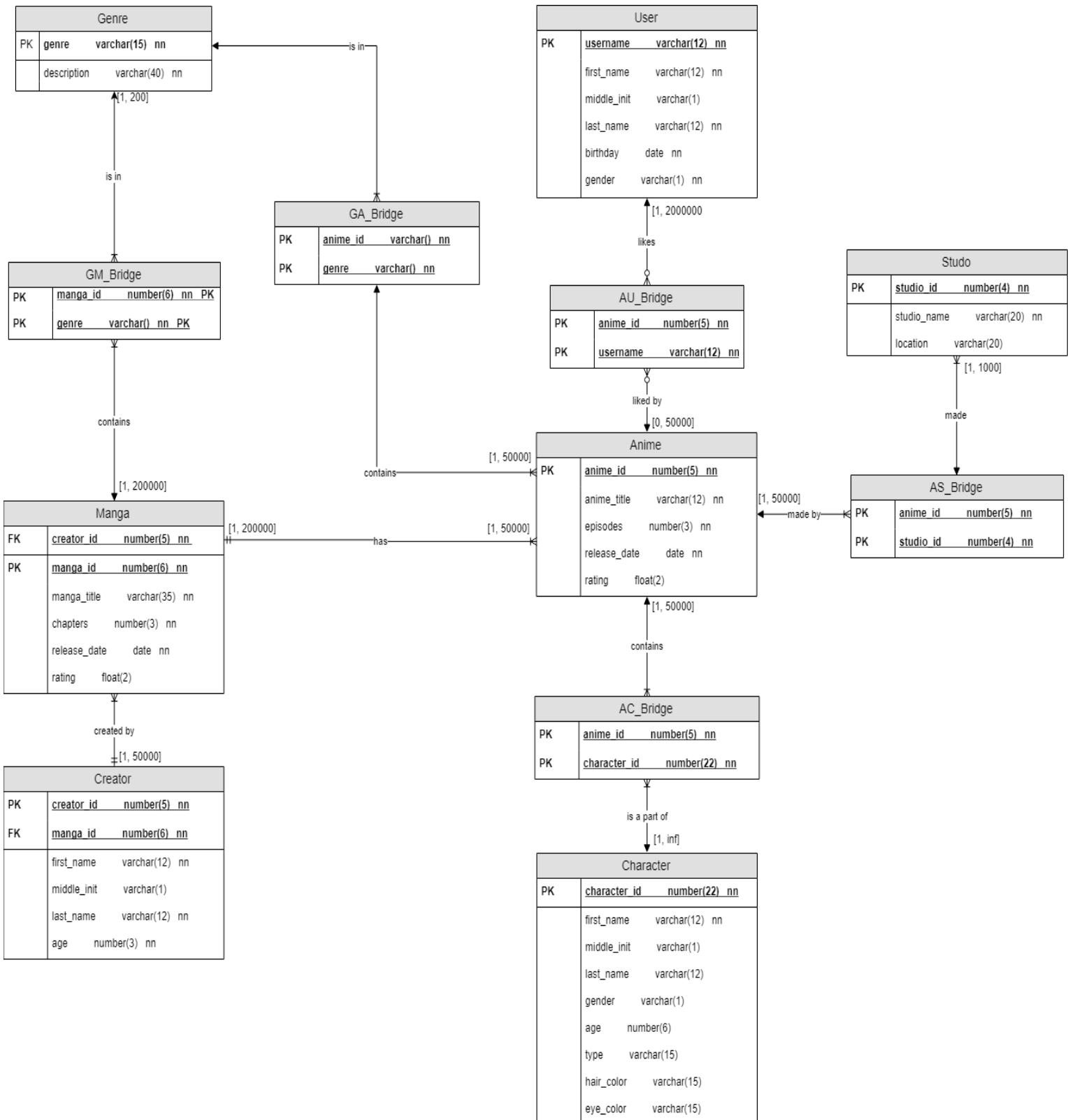
- age – how old the character is; 17
- type – human, cat, dog, fox, demon, etc
- hair\_color – color of hair; orange
- eye\_color – color of eyes; orange
- Creator – creators of anime
  - creator\_id – used to uniquely identify
  - first\_name; Tite
  - middle\_init; H
  - last\_name; Kubo
  - age; 41
  - manga\_id; Bleach
- User – anime fan account
  - username – used to uniquely identify; animefan123
  - first\_name - John
  - middle\_init - K
  - last\_name - Fisher
  - birthday – March 3, 2000
  - gender – Male

## Bridge Entities

- GM\_Bridge
  - manga\_id
  - genre
- GA\_Bridge
  - anime\_id
  - genre
- AU\_Bridge
  - anime\_id

- username
- AC\_Bridge
  - anime\_id
  - character\_id
- AS\_Bridge
  - anime\_id
  - studio\_id

## Final IE Crow Foot data model diagram (with attributes)



## **#9 Prototypes**

### **Anime**

Add Anime:

Title : \_\_\_\_\_

Episodes : \_\_\_\_\_

Release Date : \_\_\_\_\_

Genre : \_\_\_\_\_

Studio : → → →

Manga : \_\_\_\_\_

### **Character**

Add Character

First Name : \_\_\_\_\_

Middle Initial : \_\_\_\_\_

Last Name : \_\_\_\_\_

Gender : \_\_\_\_\_

Age : \_\_\_\_\_

Type : \_\_\_\_\_

Hair Color : \_\_\_\_\_

Eye Color : \_\_\_\_\_

Anime : \_\_\_\_\_

**Creator**

Add Creator

First Name : \_\_\_\_\_

Middle Initial : \_\_\_\_\_

Last Name : \_\_\_\_\_

Age : \_\_\_\_\_

**Genre**

Add Genre

Genre : \_\_\_\_\_

Description : \_\_\_\_\_

**Manga**

Add Manga

Title : \_\_\_\_\_

Chapters : \_\_\_\_\_

Release Date: \_\_\_\_\_

Genre : \_\_\_\_\_

Creator : \_\_\_\_\_

**Studio**

Add Studio

Name : \_\_\_\_\_

Location: \_\_\_\_\_

**User**

Create User

Username	:	_____
First Name	:	_____
Middle Initial	:	_____
Last Name	:	_____
Birthday	:	_____
Gender	:	_____

# Appendix

**Sample Data**

Anime						
	anime_id	anime_title	episodes	release_date	rating	
<b>Instance-1</b>	1	Steins;Gate	24	Apr 6, 2011	9.13	
<b>Instance-2</b>	2	Bleach	366	Oct 5, 2004	7.88	
<b>Instance-3</b>	3	One Piece	867	Oct 20, 1999	8.53	
<b>Instance-4</b>	4	Dragonball Z	291	Apr 26, 1989	8.29	
<b>Instance-5</b>	5	Black Clover	88	Oct 3, 2017	7.00	

Manga						
	manga_id	manga_title	chapters	release_date	rating	creator_id
<b>Instance-1</b>	1	Steins;Gate	23	Sep 26, 2009	8.19	1
<b>Instance-2</b>	2	Bleach	705	Aug 7, 2001	7.71	2
<b>Instance-3</b>	3	One Piece	941	Jul 22, 1997	9.07	3
<b>Instance-4</b>	4	Dragon Ball	519	Jun 20, 2015	7.41	4
<b>Instance-5</b>	5	Black Clover	203	Feb 16, 2015	7.59	5

Creator						
	creator_id	first_name	middle_init	last_name	age	manga_id
<b>Instance-1</b>	1	Yomi	J	Sarachi	35	1
<b>Instance-2</b>	2	Tite		Kubo	41	2
<b>Instance-3</b>	3	Oda		Eiichiro	44	3
<b>Instance-4</b>	4	Akira		Toriyama	64	4
<b>Instance-5</b>	5	Yuuki		Tabata	34	5

Studio			
	studio_id	studio_name	location
<b>Instance-1</b>	1	White Fox	Tokyo
<b>Instance-2</b>	2	Studio Pierrot	Tokyo
<b>Instance-3</b>	3	Toei Animation	Tokyo
<b>Instance-4</b>	4	Madhouse	Tokyo
<b>Instance-5</b>	5	TNK	Nerima

Genre		
	genre	description
<b>Instance-1</b>	Action	fights, speed...
<b>Instance-2</b>	Adventure	traveling acr...
<b>Instance-3</b>	Horror	scary...
<b>Instance-4</b>	Slice of life	everyday life...
<b>Instance-5</b>	Fantasy	dream-like ...

Character									
	character_id	first_name	middle_init	last_name	gender	age	type	hair_color	eye_color
<b>Instance-1</b>	1	Monkey	D	Luffy	M		Pirate	Black	Black
<b>Instance-2</b>	2	Ichigo		Kurosaki	M		Soul Reaper	Orange	Orange
<b>Instance-3</b>	3	Yuno			M		Wizard	Black	Yellow
<b>Instance-4</b>	4	Son		Goku	M		Fighter	Black	Black
<b>Instance-5</b>	5	Asta			M		Human	Grey	Green

User						
	username	first_name	middle_init	last_name	birthday	gender
<b>Instance-1</b>	bobby1	Bobby	K	Yu	May 2, 1997	M
<b>Instance-2</b>	bob2	Bob		Rob	Jun 5, 2001	M
<b>Instance-3</b>	tanash	Leroy		Jenkins	Apr 26, 1989	M
<b>Instance-4</b>	coolgamer2	Jen	K	Jane	May 2, 1996	F
<b>Instance-5</b>	yayeet	Alexis		King	May 4, 1965	O

GM_Bridge		
	genre	manga_id
<b>Instance-1</b>	Action	5
<b>Instance-2</b>	Adventure	5
<b>Instance-3</b>	Horror	2
<b>Instance-4</b>	Slice of life	1
<b>Instance-5</b>	Fantasy	5

<b>GA_Bridge</b>		
	<b>genre</b>	<b>anime_id</b>
<b>Instance-1</b>	Action	5
<b>Instance-2</b>	Adventure	5
<b>Instance-3</b>	Horror	2
<b>Instance-4</b>	Slice of life	1
<b>Instance-5</b>	Fantasy	5

<b>AU_Bridge</b>		
	<b>anime_id</b>	<b>username</b>
<b>Instance-1</b>	1	bobby1
<b>Instance-2</b>	2	bobby1
<b>Instance-3</b>	3	bobby1
<b>Instance-4</b>	2	bob2
<b>Instance-5</b>	2	tanash

<b>AC_Bridge</b>		
	<b>anime_id</b>	<b>character_id</b>
<b>Instance-1</b>	1	1
<b>Instance-2</b>	2	1
<b>Instance-3</b>	2	2
<b>Instance-4</b>	2	3
<b>Instance-5</b>	3	4

<b>AS_Bridge</b>		
	<b>anime_id</b>	<b>studio_id</b>
<b>Instance-1</b>	3	3
<b>Instance-2</b>	4	3
<b>Instance-3</b>	2	2
<b>Instance-4</b>	5	2
<b>Instance-5</b>	1	1

### **SQL Data Definition scripts**

## **Script**

SPOOL Output-Anime.txt

--SPOOL Output.txt APPEND

SET ECHO ON

SET LINESIZE 32767

SET TRIMSPOOL ON

SET TRIMOUT ON

drop table GM\_Bridge;

drop table GA\_Bridge;

drop table AU\_Bridge;

drop table AC\_Bridge;

drop table AS\_Bridge;

drop table Manga;

drop table Creator;

drop table Anime;

drop table Studio;

drop table Genre;

drop table Character;

drop table Users;

/\*

Anime Table:

\*/

```
create table Anime(
    anime_id number(5) PRIMARY KEY,
    anime_title varchar(12) not null,
    episodes number(3) not null,
    release_date date not null,
    rating float(2)
);
```

/\*

Creator Table:

\*/

```
create table Creator(
    creator_id number(5) PRIMARY KEY,
    first_name varchar(12) not null,
    middle_init varchar(1),
    last_name varchar(12) not null,
    age number(6) not null
);
```

/\*

Manga Table:

\*/

```
create table Manga(
    manga_id number(5) PRIMARY KEY,
```

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```
manga_title varchar(12) not null,  
chapters number(3) not null,  
release_date date not null,  
rating float(2),  
creator_id number(5) references Creator(creator_id)  
);
```

/\*

Studio Table:

\*/

```
create table Studio(  
studio_id number(4) PRIMARY KEY,  
studio_name varchar(20) not null,  
location varchar(20)  
);
```

/\*

Genre Table:

\*/

```
create table Genre(  
genre varchar(15) PRIMARY KEY,  
description varchar(40) not null  
);
```

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/\*

Character Table:

\*/

```
create table Character(
    character_id number(22) PRIMARY KEY,
    first_name varchar(12) not null,
    middle_init varchar(1),
    last_name varchar(12),
    gender varchar(1),
    age number(6),
    type varchar(15),
    hair_color varchar(15),
    eye_color varchar(15)
);
```

/\*

User Table:

\*/

```
create table Users(
    username varchar(12) PRIMARY KEY,
    first_name varchar(12) not null,
    middle_init varchar(1),
    last_name varchar(12) not null,
    birthday date not null,
    gender varchar(1) not null
);
```

/\*

GM\_Bridge Table:

\*/

create table GM\_Bridge(

genre varchar(15) references Genre(genre),

manga\_id number(6) references Manga(manga\_id)

);

/\*

GA\_Bridge Table:

\*/

create table GA\_Bridge(

genre varchar(15) references Genre(genre),

anime\_id number(6) references Anime(anime\_id)

);

/\*

AU\_Bridge Table:

\*/

create table AU\_Bridge(

anime\_id number(5) references Anime(anime\_id),

username varchar(12) references Users(username)

);

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/\*

AC\_Bridge Table:

\*/

```
create table AC_Bridge(
    anime_id number(5) references Anime(anime_id),
    character_id number(22) references Character(character_id)
);
```

/\*

AS\_Bridge Table:

\*/

```
create table AS_Bridge(
    anime_id number(6) references Anime(anime_id),
    studio_id number(4) references Studio(studio_id)
);
```

DESCRIBE Anime;

DESCRIBE Manga;

DESCRIBE Creator;

DESCRIBE Studio;

DESCRIBE Genre;

DESCRIBE Character;

DESCRIBE Users;

DESCRIBE GM\_Bridge;

DESCRIBE GA\_Bridge;

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DESCRIBE AU\_Bridge;

DESCRIBE AC\_Bridge;

DESCRIBE AS\_Bridge;

SET ECHO OFF

SPOOL OFF

# Output

SQL>

SQL>

SQL> SET LINESIZE 32767

SQL> SET TRIMSPOOL ON

SQL> SET TRIMOUT ON

SQL>

SQL> drop table GM\_Bridge;

Table GM\_BRIDGE dropped.

SQL> drop table GA\_Bridge;

Table GA\_BRIDGE dropped.

SQL> drop table AU\_Bridge;

Table AU\_BRIDGE dropped.

SQL> drop table AC\_Bridge;

Table AC\_BRIDGE dropped.

SQL> drop table AS\_Bridge;

Table AS\_BRIDGE dropped.

SQL> drop table Manga;

Table MANGA dropped.

SQL> drop table Creator;

Table CREATOR dropped.

SQL> drop table Anime;

Table ANIME dropped.

SQL> drop table Studio;

Table STUDIO dropped.

SQL> drop table Genre;

Table GENRE dropped.

SQL> drop table Character;

Table CHARACTER dropped.

SQL> drop table Users;

Table USERS dropped.

SQL>

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```
SQL> /*
SQL> Anime Table:
SQL> */
SQL>
SQL> create table Anime(
  2 anime_id number(5) PRIMARY KEY,
  3 anime_title varchar(12) not null,
  4 episodes number(3) not null,
  5 release_date date not null,
  6 rating float(2)
  7 );
```

Table ANIME created.

```
SQL>
SQL> /*
SQL> Creator Table:
SQL> */
SQL>
SQL> create table Creator(
  2 creator_id number(5) PRIMARY KEY,
  3 first_name varchar(12) not null,
  4 middle_init varchar(1),
  5 last_name varchar(12) not null,
  6 age number(6) not null
  7 );
```

Table CREATOR created.

```
SQL>
SQL>
SQL> /*
SQL>Manga Table:
SQL>/*
SQL>
SQL> create table Manga(
2 manga_id number(5) PRIMARY KEY,
3 manga_title varchar(12) not null,
4 chapters number(3) not null,
5 release_date date not null,
6 rating float(2),
7 creator_id number(5) references Creator(creator_id)
8 );
```

Table MANGA created.

```
SQL>
SQL> /*
SQL>Studio Table:
SQL>/*
SQL>
SQL> create table Studio(
2 studio_id number(4) PRIMARY KEY,
3 studio_name varchar(20) not null,
4 location varchar(20)
5 );
```

Table STUDIO created.

```
SQL>
SQL>
SQL> /*
SQL>Genre Table:
SQL>/*
SQL>
SQL> create table Genre(
  2 genre varchar(15) PRIMARY KEY,
  3 description varchar(40) not null
  4 );
```

Table GENRE created.

```
SQL>
SQL> /*
SQL>Character Table:
SQL>/*
SQL>
SQL> create table Character(
  2 character_id number(22) PRIMARY KEY,
  3 first_name varchar(12) not null,
  4 middle_init varchar(1),
  5 last_name varchar(12),
  6 gender varchar(1),
  7 age number(6),
```

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```
8 type varchar(15),  
9 hair_color varchar(15),  
10 eye_color varchar(15)  
11 );
```

Table CHARACTER created.

```
SQL>  
SQL> /*  
SQL>User Table:  
SQL>*/  
SQL>  
SQL> create table Users(  
2 username varchar(12) PRIMARY KEY,  
3 first_name varchar(12) not null,  
4 middle_init varchar(1),  
5 last_name varchar(12) not null,  
6 birthday date not null,  
7 gender varchar(1) not null  
8 );
```

Table USERS created.

```
SQL>  
SQL> /*  
SQL>GM_Bridge Table:  
SQL>*/  
SQL>
```

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```
SQL> create table GM_Bridge(
  2 genre varchar(15) references Genre(genre),
  3 manga_id number(6) references Manga(manga_id)
  4 );
```

Table GM\_BRIDGE created.

```
SQL>
SQL> /*
SQL>GA_Bridge Table:
SQL> */
SQL>
SQL> create table GA_Bridge(
  2 genre varchar(15) references Genre(genre),
  3 manga_id number(6) references Manga(manga_id)
  4 );
```

Table GA\_BRIDGE created.

```
SQL>
SQL> /*
SQL>AU_Bridge Table:
SQL> */
SQL>
SQL> create table AU_Bridge(
  2 anime_id number(5) references Anime(anime_id),
  3 username varchar(12) references Users(username)
  4 );
```

Table AU\_BRIDGE created.

```
SQL>
SQL> /*
SQL>AC_Bridge Table:
SQL> */
SQL>
SQL> create table AC_Bridge(
  2 anime_id number(5) references Anime(anime_id),
  3 character_id number(22) references Character(character_id)
  4 );
```

Table AC\_BRIDGE created.

```
SQL>
SQL> /*
SQL>AS_Bridge Table:
SQL> */
SQL>
SQL> create table AS_Bridge(
  2 anime_id number(6) references Anime(anime_id),
  3 studio_id number(4) references Studio(studio_id)
  4 );
```

Table AS\_BRIDGE created.

```
SQL>
```

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SQL>

SQL> DESCRIBE Anime;

Name Null? Type

-----  
ANIME\_ID NOT NULL NUMBER(5)

ANIME\_TITLE NOT NULL VARCHAR2(12)

EPISODES NOT NULL NUMBER(3)

RELEASE\_DATE NOT NULL DATE

RATING FLOAT(2)

SQL> DESCRIBE Manga;

Name Null? Type

-----  
MANGA\_ID NOT NULL NUMBER(5)

MANGA\_TITLE NOT NULL VARCHAR2(12)

CHAPTERS NOT NULL NUMBER(3)

RELEASE\_DATE NOT NULL DATE

RATING FLOAT(2)

CREATOR\_ID NUMBER(5)

SQL> DESCRIBE Creator;

Name Null? Type

-----  
CREATOR\_ID NOT NULL NUMBER(5)

FIRST\_NAME NOT NULL VARCHAR2(12)

MIDDLE\_INIT VARCHAR2(1)

LAST\_NAME NOT NULL VARCHAR2(12)

AGE NOT NULL NUMBER(6)

SQL> DESCRIBE Studio;

Name Null? Type

---

STUDIO\_ID NOT NULL NUMBER(4)  
STUDIO\_NAME NOT NULL VARCHAR2(20)  
LOCATION VARCHAR2(20)  
SQL> DESCRIBE Genre;  
Name Null? Type

---

GENRE NOT NULL VARCHAR2(15)  
DESCRIPTION NOT NULL VARCHAR2(40)  
SQL> DESCRIBE Character;

Name Null? Type

---

CHARACTER\_ID NOT NULL NUMBER(22)  
FIRST\_NAME NOT NULL VARCHAR2(12)  
MIDDLE\_INIT VARCHAR2(1)  
LAST\_NAME VARCHAR2(12)  
GENDER VARCHAR2(1)  
AGE NUMBER(6)  
TYPE VARCHAR2(15)  
HAIR\_COLOR VARCHAR2(15)  
EYE\_COLOR VARCHAR2(15)  
SQL> DESCRIBE Users;

Name Null? Type

---

USERNAME NOT NULL VARCHAR2(12)  
FIRST\_NAME NOT NULL VARCHAR2(12)  
MIDDLE\_INIT VARCHAR2(1)  
LAST\_NAME NOT NULL VARCHAR2(12)

```
BIRTHDAY NOT NULL DATE
GENDER NOT NULL VARCHAR2(1)
SQL> DESCRIBE GM_Bridge;
Name Null? Type
-----
GENRE      VARCHAR2(15)
MANGA_ID   NUMBER(6)
SQL> DESCRIBE GA_Bridge;
Name Null? Type
-----
GENRE      VARCHAR2(15)
MANGA_ID   NUMBER(6)
SQL> DESCRIBE AU_Bridge;
Name Null? Type
-----
ANIME_ID   NUMBER(5)
USERNAME   VARCHAR2(12)
SQL> DESCRIBE AC_Bridge;
Name Null? Type
-----
ANIME_ID   NUMBER(5)
CHARACTER_ID NUMBER(22)
SQL> DESCRIBE AS_Bridge;
Name Null? Type
-----
ANIME_ID   NUMBER(6)
STUDIO_ID  NUMBER(4)
SQL>
```

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SQL> SET ECHO OFF

## **SQL Data Manipulation scripts**

# **Script**

```
SPOOL Output-AnimeManipulation.txt
```

```
--SPOOL Output.txt APPEND
```

```
SET ECHO ON
```

```
SET LINESIZE 32767
```

```
SET TRIMSPOOL ON
```

```
SET TRIMOUT ON
```

```
/*
```

```
Anime Test Data
```

```
*/
```

```
INSERT INTO Anime(anime_id, anime_title, episodes, release_date, rating)
```

```
VALUES(1, 'Steins;Gate', 24, date'2011-04-06', 9.13);
```

```
INSERT INTO Anime(anime_id, anime_title, episodes, release_date, rating)
```

```
VALUES('2', 'Bleach', '366', date'2004-10-05', '7.88');
```

```
INSERT INTO Anime(anime_id, anime_title, episodes, release_date, rating)
```

```
VALUES('3', 'One Piece', '867', date'1999-05-20', '8.53');
```

```
INSERT INTO Anime(anime_id, anime_title, episodes, release_date, rating)
```

```
VALUES('4', 'Dragonball Z', '291', date'1989-04-26', '8.29');
```

```
INSERT INTO Anime(anime_id, anime_title, episodes, release_date, rating)
```

```
VALUES('5', 'Black Clover', '88', date'2017-10-3', '7.00');
```

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```
/*
Creator Test Data
*/
INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
VALUES('1', 'Yomi', 'J', 'Sarachi', '35');

INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
VALUES('2', 'Tite', "", 'Kubo', '41');

INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
VALUES('3', 'Oda', "", 'Eiichiro', '44');

INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
VALUES('4', 'Akira', "", 'Toriyama', '64');

INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
VALUES('5', 'Yuuki', "", 'Tabata', '34');

/*
Manga Test Data
*/
INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
VALUES('1', 'Steins;Gate', '23', date'2009-09-26', '8.19', '1');

INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
VALUES('2', 'Bleach', '705', date'2001-08-07', '7.71', '2');

INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
```

```
VALUES('3', 'One Piece', '941', date'1997-07-22', '9.07', '3');
```

```
INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
```

```
VALUES('4', 'Dragon Ball', '519', date'2015-06-20', '7.41', '4');
```

```
INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
```

```
VALUES('5', 'Black Clover', '203', date'2015-02-16', '7.59', '5');
```

```
/*  
Lopez
```

```
Studio Test Data
```

```
*/
```

```
INSERT INTO Studio(studio_id, studio_name, location)
```

```
VALUES('1', 'White Fox', 'Tokyo');
```

```
INSERT INTO Studio(studio_id, studio_name, location)
```

```
VALUES('2', 'Studio Pierrot', 'Tokyo');
```

```
INSERT INTO Studio(studio_id, studio_name, location)
```

```
VALUES('3', 'Toei Animation', 'Tokyo');
```

```
INSERT INTO Studio(studio_id, studio_name, location)
```

```
VALUES('4', 'Madhouse', 'Tokyo');
```

```
INSERT INTO Studio(studio_id, studio_name, location)
```

```
VALUES('5', 'TNK', 'Nerima');
```

```
/*
```

```
Genre Test Data
```

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\*/

INSERT INTO Genre(genre, description)

VALUES('Action', 'fights, speed...');

INSERT INTO Genre(genre, description)

VALUES('Adventure', 'traveling across places...');

INSERT INTO Genre(genre, description)

VALUES('Horror', 'scary...');

INSERT INTO Genre(genre, description)

VALUES('Slice of life', 'everyday life...');

INSERT INTO Genre(genre, description)

VALUES('Fantasy', 'dream-like world...');

/\*

Character Test Data

\*/

INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

VALUES('1', 'Monkey', 'D', 'Luffy', 'M', '15', 'Pirate', 'Black', 'Black');

INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

VALUES('2', 'Ichigo', "", 'Kurosaki', 'M', '15', 'Soul Reaper', 'Orange', 'Orange');

INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

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```
VALUES('3', 'Yuno', "", "", 'M', "", 'Wizard', 'Black', 'Yellow');
```

```
INSERT INTO Character(character_id, first_name, middle_init, last_name, gender, age, type, hair_color, eye_color)
```

```
VALUES('4', 'Son', "", 'Goku', 'M', "", 'Figter', 'Black', 'Black');
```

```
INSERT INTO Character(character_id, first_name, middle_init, last_name, gender, age, type, hair_color, eye_color)
```

```
VALUES('5', 'Asta', "", "", 'M', "", 'Human', 'Grey', 'Green');
```

```
/*
```

```
User Test Data
```

```
*/
```

```
INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
VALUES('bobby1', 'Bobby', 'K', 'Yu', date'1997-05-02', 'M');
```

```
INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
VALUES('bob2', 'Bob', "", 'Rob', date'2001-06-05', 'M');
```

```
INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
VALUES('tanash', 'Leroy', "", 'Jenkins', date'1989-04-26', 'M');
```

```
INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
VALUES('coolgamer2', 'Jen', 'K', 'Jane', date'1996-05-02', 'F');
```

```
INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
VALUES('yayeet', 'Alexis', "", 'King', date'1965-05-04', 'O');
```

```
/*
GM_Bridge Test Data
*/
INSERT INTO GM_Bridge(genre, manga_id)
VALUES('Action', '5');
```

```
INSERT INTO GM_Bridge(genre, manga_id)
VALUES('Adventure', '5');
```

```
INSERT INTO GM_Bridge(genre, manga_id)
VALUES('Horror', '2');
```

```
INSERT INTO GM_Bridge(genre, manga_id)
VALUES('Slice of life', '1');
```

```
INSERT INTO GM_Bridge(genre, manga_id)
VALUES('Fantasy', '1');
```

```
/*
GA_Bridge Test Data
*/
INSERT INTO GA_Bridge(genre, anime_id)
VALUES('Action', '5');
```

```
INSERT INTO GA_Bridge(genre, anime_id)
VALUES('Adventure', '5');
```

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```
INSERT INTO GA_Bridge(genre, anime_id)
VALUES('Horror', '2');
```

```
INSERT INTO GA_Bridge(genre, anime_id)
VALUES('Slice of life', '1');
```

```
INSERT INTO GA_Bridge(genre, anime_id)
VALUES('Fantasy', '5');
```

/\*

AU\_Bridge Test Data

\*/

```
INSERT INTO AU_Bridge(anime_id, username)
VALUES('1', 'bobby1');
```

```
INSERT INTO AU_Bridge(anime_id, username)
VALUES('2', 'bobby1');
```

```
INSERT INTO AU_Bridge(anime_id, username)
VALUES('3', 'bobby1');
```

```
INSERT INTO AU_Bridge(anime_id, username)
VALUES('2', 'bob2');
```

```
INSERT INTO AU_Bridge(anime_id, username)
VALUES('2', 'tanash');
```

```
/*
AC_Bridge Test Data
*/
INSERT INTO AC_Bridge(anime_id, character_id)
VALUES('1', '1');

INSERT INTO AC_Bridge(anime_id, character_id)
VALUES('2', '1');

INSERT INTO AC_Bridge(anime_id, character_id)
VALUES('2', '2');

INSERT INTO AC_Bridge(anime_id, character_id)
VALUES('2', '3');

INSERT INTO AC_Bridge(anime_id, character_id)
VALUES('3', '4');

/*
AS_Bridge Test Data
*/
INSERT INTO AS_Bridge(anime_id, studio_id)
VALUES('3', '3');

INSERT INTO AS_Bridge(anime_id, studio_id)
VALUES('4', '3');

INSERT INTO AS_Bridge(anime_id, studio_id)
```

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```
VALUES('2', '2');
```

```
INSERT INTO AS_Bridge(anime_id, studio_id)
VALUES('5', '2');
```

```
INSERT INTO AS_Bridge(anime_id, studio_id)
VALUES('1', '1');
```

```
select * from Anime;
select * from Manga;
select * from Creator;
select * from Studio;
select * from Genre;
select * from Character;
select * from Users;
select * from GM_Bridge;
select * from GA_Bridge;
select * from AU_Bridge;
select * from AC_Bridge;
select * from AS_Bridge;
```

```
select anime_id, anime_title as Title, episodes
from Anime
order by episodes DESC;
```

```
drop view several;
```

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create view several as

```
select Anime.anime_title, Manga.manga_title, Creator.last_name  
from Anime, Manga, Creator  
where Anime.anime_id=2 AND Manga.manga_id=2 AND Creator.creator_id =2;
```

```
select * from several;
```

create or replace view several as

```
select Anime.anime_title, Manga.manga_title, Creator.first_name, Creator.last_name  
from Anime, Manga, Creator  
where Anime.anime_id=2 AND Manga.manga_id=2 AND Creator.creator_id =2;
```

```
select * from several;
```

\*/ mechanism to prevent duplicate primary keys\*/

```
INSERT INTO Character(character_id, first_name, middle_init, last_name, gender, age, type,  
hair_color, eye_color)
```

```
VALUES('1', 'Monkey', 'D', 'Luffy', 'M', '15', 'Pirate', 'Black', 'Black');
```

```
SET ECHO OFF
```

```
SPOOL OFF
```

# Output

SQL>

SQL>

SQL> SET LINESIZE 32767

SQL> SET TRIMSPOOL ON

SQL> SET TRIMOUT ON

SQL> /\*

SQL> Anime Test Data

SQL>\*/

SQL> INSERT INTO Anime(anime\_id, anime\_title, episodes, release\_date, rating)

2 VALUES(1, 'Steins;Gate', 24, date'2011-04-06', 9.13);

1 row inserted.

SQL>

SQL> INSERT INTO Anime(anime\_id, anime\_title, episodes, release\_date, rating)

2 VALUES('2', 'Bleach', '366', date'2004-10-05', '7.88');

1 row inserted.

SQL>

SQL> INSERT INTO Anime(anime\_id, anime\_title, episodes, release\_date, rating)

2 VALUES('3', 'One Piece', '867', date'1999-05-20', '8.53');

1 row inserted.

SQL>

SQL> INSERT INTO Anime(anime\_id, anime\_title, episodes, release\_date, rating)

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```
2 VALUES('4', 'Dragonball Z', '291', date'1989-04-26', '8.29');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Anime(anime_id, anime_title, episodes, release_date, rating)
2 VALUES('5', 'Black Clover', '88', date'2017-10-3', '7.00');
```

1 row inserted.

SQL>

```
SQL> /*
```

```
SQL>Creator Test Data
```

```
SQL>*/
```

```
SQL> INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
2 VALUES('1', 'Yomi', 'J', 'Sarachi', '35');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
2 VALUES('2', 'Tite', "", 'Kubo', '41');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
2 VALUES('3', 'Oda', "", 'Eiichiro', '44');
```

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1 row inserted.

SQL>

```
SQL> INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
  2 VALUES('4', 'Akira', '', 'Toriyama', '64');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Creator(creator_id, first_name, middle_init, last_name, age)
  2 VALUES('5', 'Yuuki', '', 'Tabata', '34');
```

1 row inserted.

SQL>

SQL> /\*

SQL>Manga Test Data

SQL>\*/

```
SQL> INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
  2 VALUES('1', 'Steins;Gate', '23', date'2009-09-26', '8.19', '1');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
  2 VALUES('2', 'Bleach', '705', date'2001-08-07', '7.71', '2');
```

Kaelynn Lopez

1 row inserted.

SQL>

```
SQL> INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
  2 VALUES('3', 'One Piece', '941', date'1997-07-22', '9.07', '3');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
  2 VALUES('4', 'Dragon Ball', '519', date'2015-06-20', '7.41', '4');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Manga(manga_id, manga_title, chapters, release_date, rating, creator_id)
  2 VALUES('5', 'Black Clover', '203', date'2015-02-16', '7.59', '5');
```

1 row inserted.

SQL>

SQL> /\*

SQL>Studio Test Data

SQL>\*/

```
SQL> INSERT INTO Studio(studio_id, studio_name, location)
  2 VALUES('1', 'White Fox', 'Tokyo');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Studio(studio_id, studio_name, location)
  2 VALUES('2', 'Studio Pierrot', 'Tokyo');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Studio(studio_id, studio_name, location)
  2 VALUES('3', 'Toei Animation', 'Tokyo');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Studio(studio_id, studio_name, location)
  2 VALUES('4', 'Madhouse', 'Tokyo');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Studio(studio_id, studio_name, location)
  2 VALUES('5', 'TNK', 'Nerima');
```

1 row inserted.

SQL>

```
SQL> /*
```

```
SQL>Genre Test Data
```

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SQL>\*/

SQL> INSERT INTO Genre(genre, description)

2 VALUES('Action', 'fights, speed...');

1 row inserted.

SQL>

SQL> INSERT INTO Genre(genre, description)

2 VALUES('Adventure', 'traveling across places...');

1 row inserted.

SQL>

SQL> INSERT INTO Genre(genre, description)

2 VALUES('Horror', 'scary...');

1 row inserted.

SQL>

SQL> INSERT INTO Genre(genre, description)

2 VALUES('Slice of life', 'everyday life...');

1 row inserted.

SQL>

SQL> INSERT INTO Genre(genre, description)

2 VALUES('Fantasy', 'dream-like world...');

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1 row inserted.

SQL>

SQL> /\*

SQL>Character Test Data

SQL>\*/

SQL> INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

2 VALUES('1', 'Monkey', 'D', 'Luffy', 'M', '15', 'Pirate', 'Black', 'Black');

1 row inserted.

SQL>

SQL> INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

2 VALUES('2', 'Ichigo', "", 'Kurosaki', 'M', '15', 'Soul Reaper', 'Orange', 'Orange');

1 row inserted.

SQL>

SQL> INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

2 VALUES('3', 'Yuno', "", "", 'M', "", 'Wizard', 'Black', 'Yellow');

1 row inserted.

SQL>

SQL> INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

2 VALUES('4', 'Son', "", 'Goku', 'M', "", 'Figher', 'Black', 'Black');

1 row inserted.

SQL>

```
SQL> INSERT INTO Character(character_id, first_name, middle_init, last_name, gender, age, type, hair_color, eye_color)
```

```
2 VALUES('5', 'Asta', '', 'M', 'Human', 'Grey', 'Green');
```

1 row inserted.

SQL>

```
SQL> /*
```

```
SQL>User Test Data
```

```
SQL>*/
```

```
SQL> INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
2 VALUES('bobby1', 'Bobby', 'K', 'Yu', date'1997-05-02', 'M');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
2 VALUES('bob2', 'Bob', '', 'Rob', date'2001-06-05', 'M');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
```

```
2 VALUES('tanash', 'Leroy', '', 'Jenkins', date'1989-04-26', 'M');
```

Kaelynn Lopez

1 row inserted.

SQL>

```
SQL> INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
  2 VALUES('coolgamer2', 'Jen', 'K', 'Jane', date'1996-05-02', 'F');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO Users(username, first_name, middle_init, last_name, birthday, gender)
  2 VALUES('yayeet', 'Alexis', "", 'King', date'1965-05-04', 'O');
```

1 row inserted.

SQL>

SQL>

SQL> /\*

SQL>GM\_Bridge Test Data

SQL>\*/

```
SQL> INSERT INTO GM_Bridge(genre, manga_id)
  2 VALUES('Action', '5');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO GM_Bridge(genre, manga_id)
  2 VALUES('Adventure', '5');
```

Kaelynn Lopez

1 row inserted.

SQL>

```
SQL> INSERT INTO GM_Bridge(genre, manga_id)
  2 VALUES('Horror', '2');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO GM_Bridge(genre, manga_id)
  2 VALUES('Slice of life', '1');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO GM_Bridge(genre, manga_id)
  2 VALUES('Fantasy', '1');
```

1 row inserted.

SQL>

SQL>

SQL> /\*

SQL>GA\_Bridge Test Data

SQL>\*/

```
SQL> INSERT INTO GA_Bridge(genre, anime_id)
  2 VALUES('Action', '5');
```

Kaelynn Lopez

1 row inserted.

SQL>

```
SQL> INSERT INTO GA_Bridge(genre, anime_id)
  2 VALUES('Adventure', '5');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO GA_Bridge(genre, anime_id)
  2 VALUES('Horror', '2');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO GA_Bridge(genre, anime_id)
  2 VALUES('Slice of life', '1');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO GA_Bridge(genre, anime_id)
  2 VALUES('Fantasy', '5');
```

1 row inserted.

SQL>

```
SQL> /*
```

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SQL>AU\_Bridge Test Data

SQL>\*/

SQL> INSERT INTO AU\_Bridge(anime\_id, username)  
2 VALUES('1', 'bobby1');

1 row inserted.

SQL>

SQL> INSERT INTO AU\_Bridge(anime\_id, username)  
2 VALUES('2', 'bobby1');

1 row inserted.

SQL>

SQL> INSERT INTO AU\_Bridge(anime\_id, username)  
2 VALUES('3', 'bobby1');

1 row inserted.

SQL>

SQL> INSERT INTO AU\_Bridge(anime\_id, username)  
2 VALUES('2', 'bob2');

1 row inserted.

SQL>

SQL> INSERT INTO AU\_Bridge(anime\_id, username)  
2 VALUES('2', 'tanash');

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1 row inserted.

```
SQL>
SQL>
SQL> /*
SQL>AC_Bridge Test Data
SQL>/*
SQL> INSERT INTO AC_Bridge(anime_id, character_id)
2 VALUES('1', '1');
```

1 row inserted.

```
SQL>
SQL> INSERT INTO AC_Bridge(anime_id, character_id)
2 VALUES('2', '1');
```

1 row inserted.

```
SQL>
SQL> INSERT INTO AC_Bridge(anime_id, character_id)
2 VALUES('2', '2');
```

1 row inserted.

```
SQL>
SQL> INSERT INTO AC_Bridge(anime_id, character_id)
2 VALUES('2', '3');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO AC_Bridge(anime_id, character_id)
  2 VALUES('3', '4');
```

1 row inserted.

SQL>

```
SQL> /*
```

```
SQL>AS_Bridge Test Data
```

```
SQL>*/
```

```
SQL> INSERT INTO AS_Bridge(anime_id, studio_id)
  2 VALUES('3', '3');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO AS_Bridge(anime_id, studio_id)
  2 VALUES('4', '3');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO AS_Bridge(anime_id, studio_id)
  2 VALUES('2', '2');
```

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1 row inserted.

SQL>

```
SQL> INSERT INTO AS_Bridge(anime_id, studio_id)
2 VALUES('5', '2');
```

1 row inserted.

SQL>

```
SQL> INSERT INTO AS_Bridge(anime_id, studio_id)
2 VALUES('1', '1');
```

1 row inserted.

SQL>

SQL>

```
SQL> select * from Anime;
```

ANIME_ID	ANIME_TITLE	EPISODES	RELEASE_D	RATING
1	Steins;Gate	24	06-APR-11	9
2	Bleach	366	05-OCT-04	8
3	One Piece	867	20-MAY-99	9
4	Dragonball Z	291	26-APR-89	8
5	Black Clover	88	03-OCT-17	7

```
SQL> select * from Manga;
```

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MANGA_ID	MANGA_TITLE	CHAPTERS	RELEASE_D	RATING	CREATOR_ID
1	Steins;Gate	23	26-SEP-09	8	1
2	Bleach	705	07-AUG-01	8	2
3	One Piece	941	22-JUL-97	9	3
4	Dragon Ball	519	20-JUN-15	7	4
5	Black Clover	203	16-FEB-15	8	5

SQL> select \* from Creator;

CREATOR_ID	FIRST_NAME	M	LAST_NAME	AGE
1	Yomi	J	Sarachi	35
2	Tite	Kubo		41
3	Oda	Eiichiro		44
4	Akira		Toriyama	64
5	Yuuki		Tabata	34

SQL> select \* from Studio;

STUDIO_ID	STUDIO_NAME	LOCATION
1	White Fox	Tokyo
2	Studio Pierrot	Tokyo
3	Toei Animation	Tokyo
4	Madhouse	Tokyo
5	TNK	Nerima

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SQL> select \* from Genre;

GENRE      DESCRIPTION

GENRE	DESCRIPTION
Action	fights, speed...
Adventure	traveling across places...
Horror	scary...
Slice of life	everyday life...
Fantasy	dream-like world...

SQL> select \* from Character;

CHARACTER\_ID FIRST\_NAME M LAST\_NAME G AGE TYPE  
HAIR\_COLOR EYE\_COLOR

1	Monkey	D Luffy	M	15	Pirate	Black	Black
2	Ichigo	Kurosaki	M	15	Soul Reaper	Orange	Orange
3	Yuno		M		Wizard	Black	Yellow
4	Son	Goku	M		Fighter	Black	Black
5	Asta		M		Human	Grey	Green

SQL> select \* from Users;

USERNAME FIRST\_NAME M LAST\_NAME BIRTHDAY G

bobby1	Bobby	K Yu		02-MAY-97	M
bob2	Bob	Rob		05-JUN-01	M
tanash	Leroy	Jenkins		26-APR-89	M
coolgamer2	Jen	K Jane		02-MAY-96	F

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yayeet    Alexis    King    04-MAY-65 O

SQL> select \* from GM\_Bridge;

GENRE	MANGA_ID
Action	5
Adventure	5
Horror	2
Slice of life	1
Fantasy	1

SQL> select \* from GA\_Bridge;

GENRE	ANIME_ID
Action	5
Adventure	5
Horror	2
Slice of life	1
Fantasy	5

SQL> select \* from AU\_Bridge;

ANIME_ID	USERNAME
1	bobby1
2	bobby1

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3 bobby1

2 bob2

2 tanash

SQL> select \* from AC\_Bridge;

ANIME\_ID CHARACTER\_ID

ANIME_ID	CHARACTER_ID
1	1
2	1
2	2
2	3
3	4

SQL> select \* from AS\_Bridge;

ANIME\_ID STUDIO\_ID

ANIME_ID	STUDIO_ID
3	3
4	3
2	2
5	2
1	1

SQL>

SQL> select anime\_id, anime\_title as Title, episodes  
2 from Anime  
3 order by episodes DESC;

ANIME_ID	TITLE	EPISODES
----------	-------	----------

3	One Piece	867
2	Bleach	366
4	Dragonball Z	291
5	Black Clover	88
1	Steins;Gate	24

SQL>

SQL> drop view several;

View SEVERAL dropped.

SQL>

SQL> create view several as

```
2 select Anime.anime_title, Manga.manga_title, Creator.last_name  
3 from Anime, Manga, Creator  
4 where Anime.anime_id=2 AND Manga.manga_id=2 AND Creator.creator_id =2;
```

View SEVERAL created.

SQL>

SQL> select \* from several;

ANIME_TITLE	MANGA_TITLE	LAST_NAME
-------------	-------------	-----------

Bleach	Bleach	Kubo
--------	--------	------

SQL>

SQL> create or replace view several as

```
2 select Anime.anime_title, Manga.manga_title, Creator.first_name, Creator.last_name  
3 from Anime, Manga, Creator  
4 where Anime.anime_id=2 AND Manga.manga_id=2 AND Creator.creator_id =2;
```

View SEVERAL created.

SQL>

SQL> select \* from several;

ANIME_TITLE	MANGA_TITLE	FIRST_NAME	LAST_NAME
Bleach	Bleach	Tite	Kubo

-----

Bleach	Bleach	Tite	Kubo
--------	--------	------	------

SQL>

SQL> /\* mechanism to prevent duplicate primary keys\*/

Error starting at line : 262 File @ M:\csis3222\proj\AnimeManipulation.sql

In command -

/\* mechanism to prevent duplicate primary keys\*/

Error report -

Unknown Command

SQL> INSERT INTO Character(character\_id, first\_name, middle\_init, last\_name, gender, age, type, hair\_color, eye\_color)

```
2 VALUES('1', 'Monkey', 'D', 'Luffy', 'M', '15', 'Pirate', 'Black', 'Black');
```

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Error starting at line : 263 File @ M:\csis3222\proj\AnimeManipulation.sql

In command -

```
INSERT INTO Character(character_id, first_name, middle_init, last_name, gender, age, type,  
hair_color, eye_color)
```

```
VALUES('1', 'Monkey', 'D', 'Luffy', 'M', '15', 'Pirate', 'Black', 'Black')
```

Error report -

ORA-00001: unique constraint (CSIS3222\_LOPEZK8.SYS\_C00249915) violated

SQL>

SQL>

SQL> SET ECHO OFF

### **SQL queries**

## **Scripts**

```
SPOOL Output-AnimeQueries.txt
```

```
--SPOOL Output.txt APPEND
```

```
SET ECHO ON
```

```
SET LINESIZE 32767
```

```
SET TRIMSPOOL ON
```

```
SET TRIMOUT ON
```

```
/* 1. List Anime by Episodes in descending order */
```

```
select anime_title
```

```
from Anime
```

```
Order by Episodes DESC;
```

```
/* 2. Get anime id that a character belongs to */
```

```
select anime_id
```

```
from AC_Bridge
```

```
where AC_Bridge.character_id=1;
```

```
/* 3. Calculate age of a User from their birthday */
```

```
select first_name, last_name, floor(months_between(sysdate,birthday)/12) as Age
```

```
from Users;
```

```
/* 4. */
```

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/\* 5. \*/

/\* 6. \*/

/\* 7. \*/

/\* 8. \*/

/\* 9. \*/

/\* 10. \*/

SET ECHO OFF

SPOOL OFF

# Output

```
SPOOL Output-AnimeQueries.txt
```

```
--SPOOL Output.txt APPEND
```

```
SET ECHO ON
```

```
SET LINESIZE 32767
```

```
SET TRIMSPOOL ON
```

```
SET TRIMOUT ON
```

```
/* 1. List Anime by Episodes in descending order */
```

```
select anime_title  
from Anime  
Order by Episodes DESC;
```

```
/* 2. Get anime id that a character belongs to */
```

```
select anime_id  
from AC_Bridge  
where AC_Bridge.character_id=1;
```

```
/* 3. Calulate age of a User from their birthday */
```

```
select first_name, last_name, floor(months_between(sysdate,birthday)/12) as Age  
from Users;
```

```
/* 4. */
```

```
/* 5. */
```

/\* 6. \*/

/\* 7. \*/

/\* 8. \*/

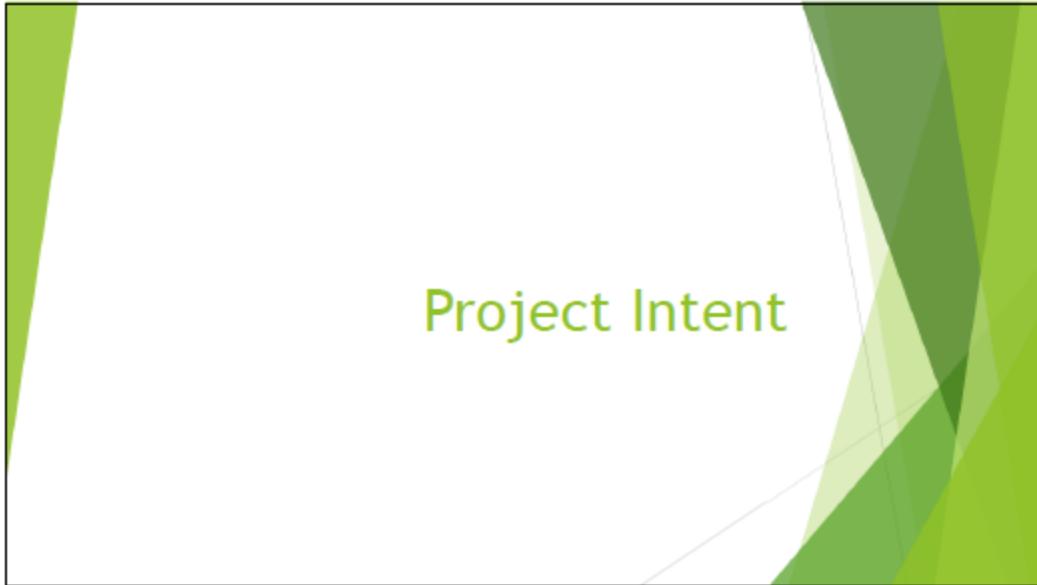
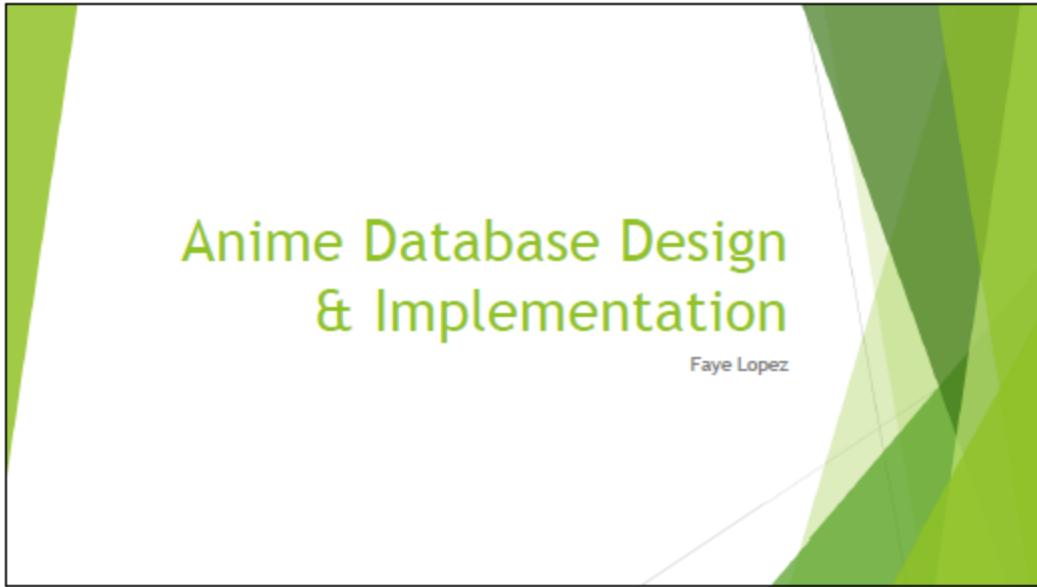
/\* 9. \*/

/\* 10. \*/

SET ECHO OFF

SPOOL OFF

# Slides



### A new database for Anime

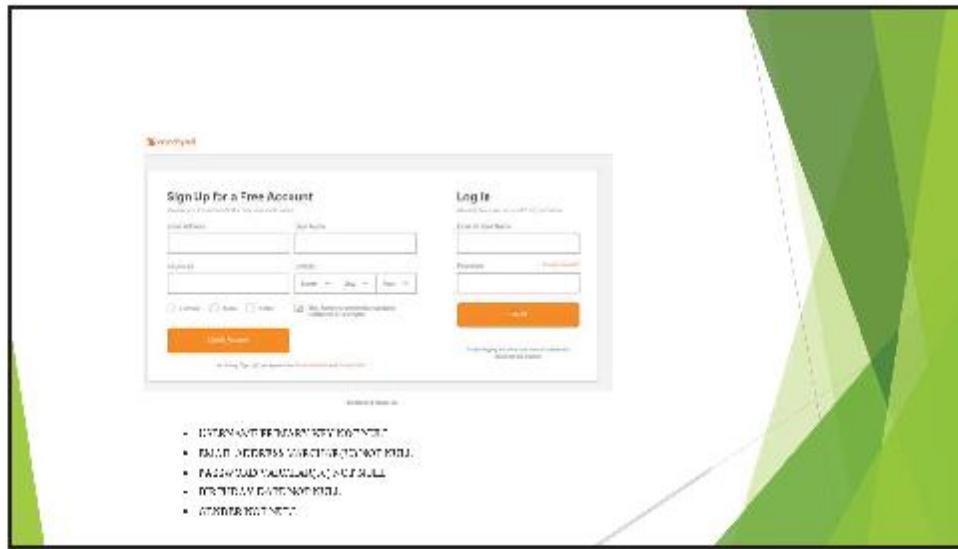
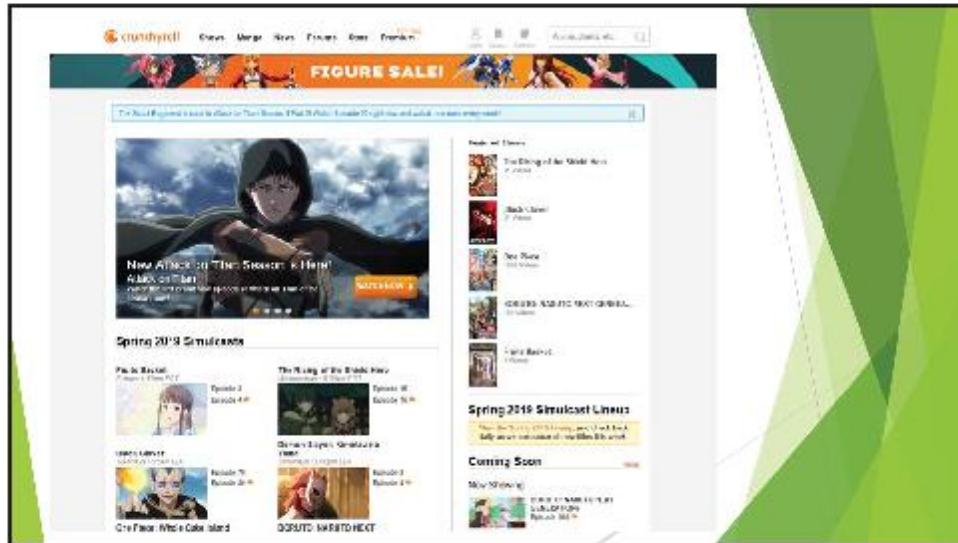
- ▶ Anime is a style of Japanese film and Animation

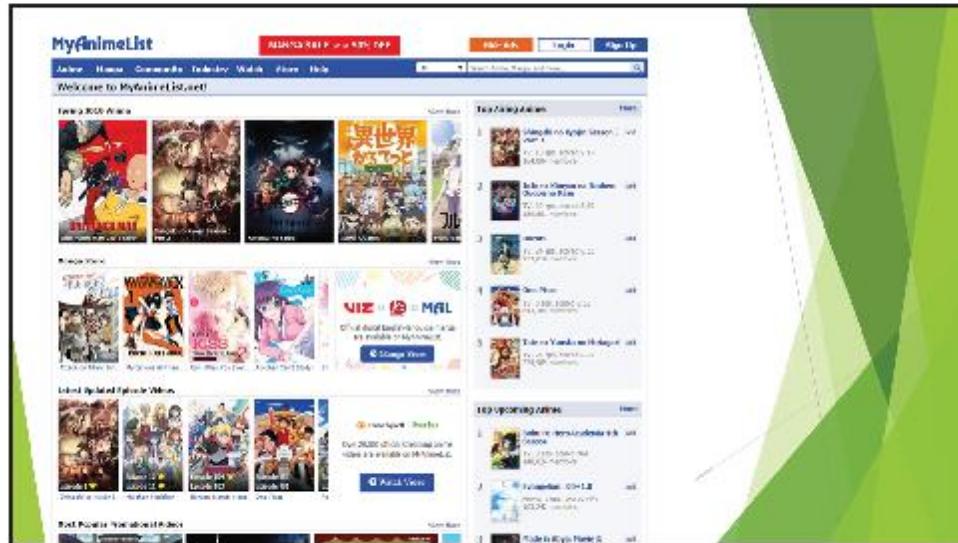


### Merging Three Websites

- ▶ crunchyroll.com
- ▶ myanimelist.net
- ▶ anidb.net





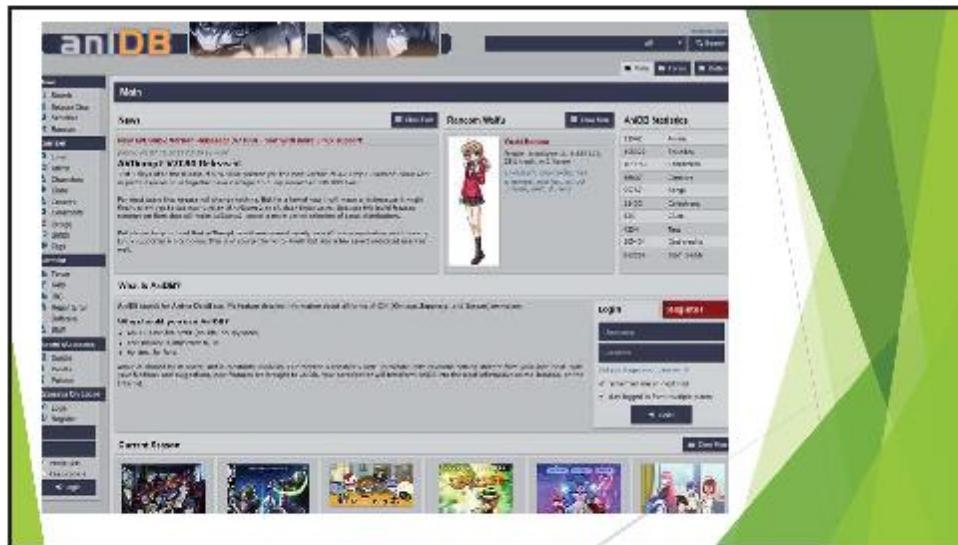


**Information**

Type: TV  
Episodes: Unknown  
Status: Currently Airing  
Aired: Apr 10, 2019 to ?  
Premiered: Spring 2019  
Broadcast: Wednesdays at 01:25 (JST)  
Producers: Shueisha  
Licensors: Viz Media  
Studios: J.C. Staff  
Source: Web manga  
Genres: Action, Sci Fi, Comedy, Family, Super Powers, Supernatural, Seinen  
Duration: Unknown  
Ratings: R - 17+ (violence & profanity)

**Statistics**

A detailed information page for the anime "Webman" on MyAnimeList. The page is titled "Information" and lists various details about the show. It includes the type (TV), number of episodes (Unknown), current status (Currently Airing), broadcast information (Aired: Apr 10, 2019 to ?, Premiered: Spring 2019, Broadcast: Wednesdays at 01:25 (JST)), producers (Shueisha), licensors (Viz Media), studios (J.C. Staff), source (Web manga), genres (Action, Sci Fi, Comedy, Family, Super Powers, Supernatural, Seinen), duration (Unknown), and ratings (R - 17+ (violence & profanity)). There is also a "Statistics" section at the bottom.

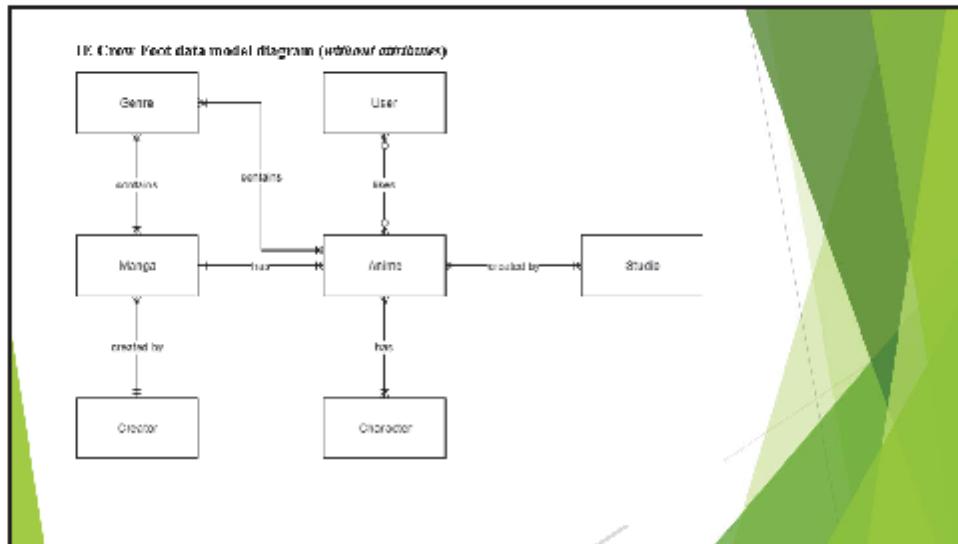
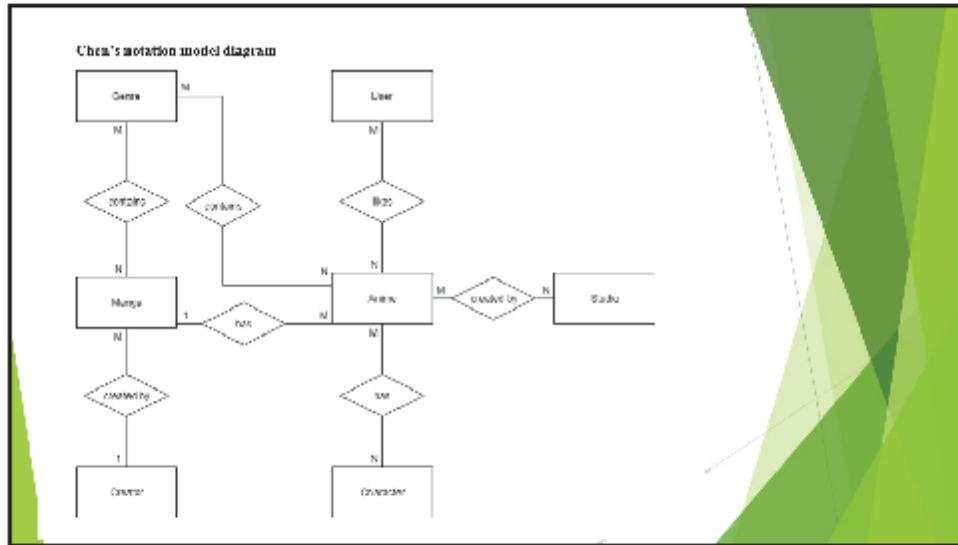


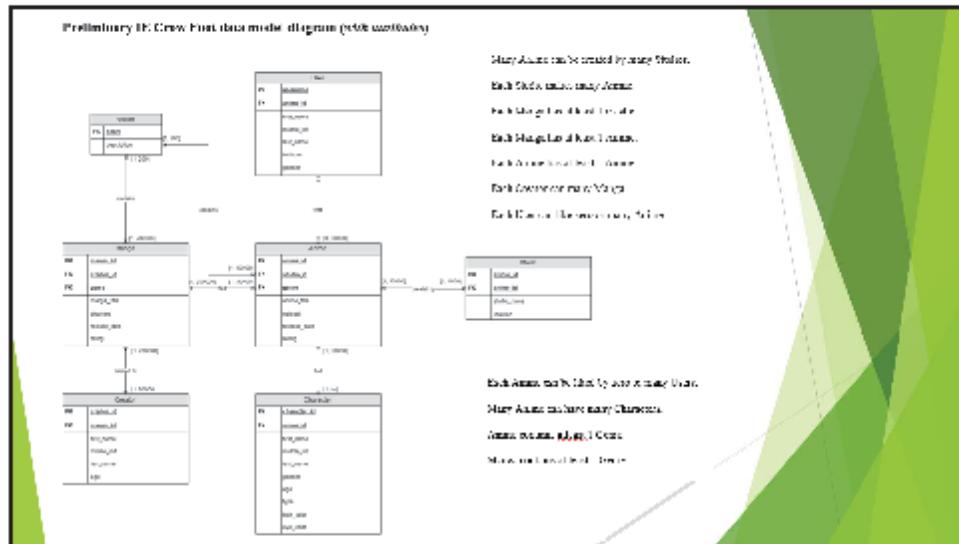
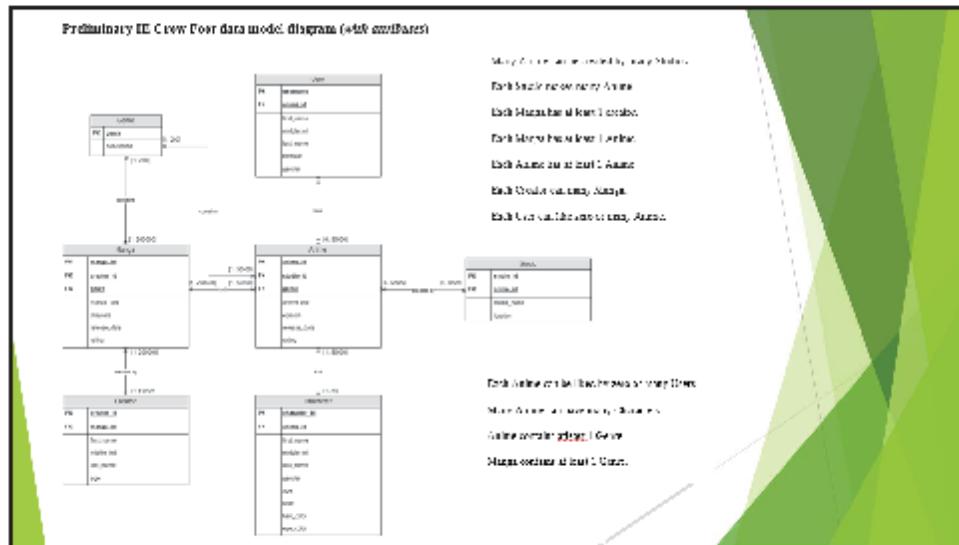
## Scope

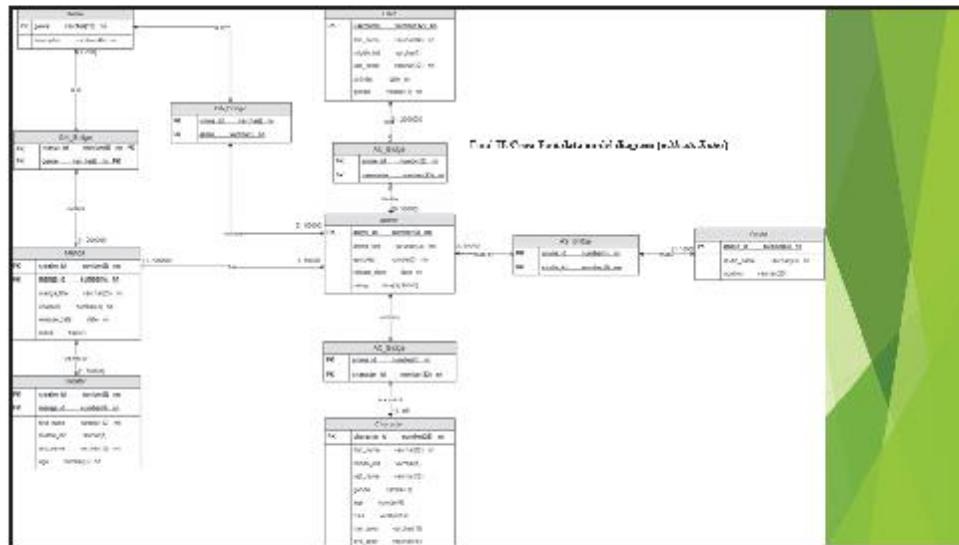
- ▶ Create a database of Anime.
- ▶ Relation database design and implementation.
  - ▶ Diagrams, sample data forms, prototypes
- ▶ More reliable and gets best parts from each website.
- ▶ Self-Sustainable.

## Entities

- ▶ Anime - the name of the anime and its attributes
- ▶ Manga - graphic novels that are usually adapted into anime
- ▶ Studio - the company or studio that creates and releases anime adaptations
- ▶ Genre - all the different genre types
- ▶ Character - characters in anime
- ▶ Creator - creators of anime
- ▶ User - anime fan account

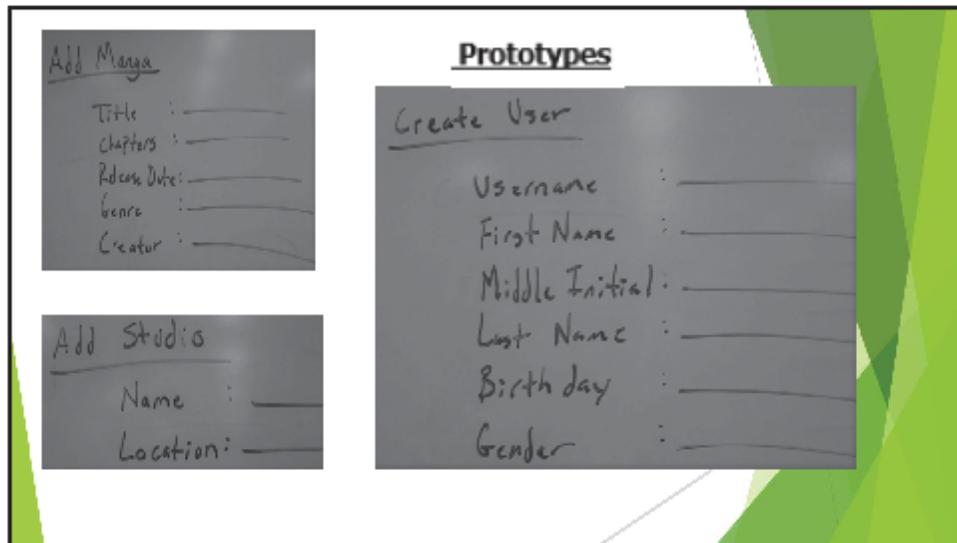






The image shows five handwritten wireframes for character-related screens:

- Add Episode**: Fields for Title, Episode Number, Release Date, Show, Studio, and Play Date.
- Add Character**: Fields for First Name, Middle Initial, Last Name, Gender, Age, Hair Color, Eye Color, and Height.
- Add Character**: Fields for First Name, Middle Initial, Last Name, Gender, Age, Hair Color, Eye Color, and Height.
- Add Creator**: Fields for First Name, Middle Initial, Last Name, and Age.
- Add Genre**: Fields for Name and Description.



Sample Data						
Customer		Product		Order		
OrderID	CustomerID	ProductID	Quantity	OrderDate	ShipAddress	ShipCity
Order-1	Customer-1	Product-1	10	2023-01-01	123 Main St	Anytown
Order-2	Customer-1	Product-2	5	2023-01-02	456 Elm St	Anytown
Order-3	Customer-1	Product-3	15	2023-01-03	789 Oak St	Anytown
Order-4	Customer-2	Product-2	10	2023-01-04	123 Main St	Anytown
Order-5	Customer-2	Product-3	20	2023-01-05	456 Elm St	Anytown
Customer						
CustomerID	CustomerName	Address	City	State	ZipCode	Country
Customer-1	Customer One	123 Main St	Anytown	CA	90210	USA
Customer-2	Customer Two	456 Elm St	Anytown	CA	90210	USA
Customer-3	Customer Three	789 Oak St	Anytown	CA	90210	USA
Customer-4	Customer Four	123 Main St	Anytown	CA	90210	USA
Customer-5	Customer Five	456 Elm St	Anytown	CA	90210	USA
Product						
ProductID	ProductName	SupplierID	CategoryID	UnitPrice	UnitsInStock	UnitCost
Product-1	Product One	Supplier-1	Category-1	\$10.00	100	\$5.00
Product-2	Product Two	Supplier-2	Category-2	\$20.00	50	\$10.00
Product-3	Product Three	Supplier-3	Category-3	\$30.00	30	\$15.00
Product-4	Product Four	Supplier-4	Category-4	\$40.00	20	\$20.00
Product-5	Product Five	Supplier-5	Category-5	\$50.00	10	\$25.00
OrderDetail						
OrderDetailID	OrderID	ProductID	UnitPrice	Quantity	Discount	LineTotal
OrderDetail-1	Order-1	Product-1	\$10.00	10	0.00	\$100.00
OrderDetail-2	Order-1	Product-2	\$20.00	5	0.00	\$100.00
OrderDetail-3	Order-2	Product-1	\$10.00	10	0.00	\$100.00
OrderDetail-4	Order-2	Product-3	\$30.00	15	0.00	\$450.00
OrderDetail-5	Order-3	Product-1	\$10.00	15	0.00	\$150.00
OrderDetail-6	Order-3	Product-2	\$20.00	10	0.00	\$200.00
OrderDetail-7	Order-3	Product-3	\$30.00	20	0.00	\$600.00
OrderDetail-8	Order-4	Product-2	\$20.00	10	0.00	\$200.00
OrderDetail-9	Order-4	Product-3	\$30.00	20	0.00	\$600.00
OrderDetail-10	Order-5	Product-1	\$10.00	20	0.00	\$200.00
OrderDetail-11	Order-5	Product-2	\$20.00	10	0.00	\$200.00
OrderDetail-12	Order-5	Product-3	\$30.00	30	0.00	\$900.00
CustomerDemographic						
CustomerTypeID	CustomerType	DemographicID	Demographic	Value	OrderCount	AvgOrder
CustomerType-1	Business	Demographic-1	Demographic One	100	10	\$100.00
CustomerType-2	Consumer	Demographic-2	Demographic Two	200	10	\$200.00
CustomerType-3	Private	Demographic-3	Demographic Three	300	10	\$300.00
CustomerType-4	Corporate	Demographic-4	Demographic Four	400	10	\$400.00
CustomerType-5	Domestic	Demographic-5	Demographic Five	500	10	\$500.00
Region						
RegionID	RegionName	RegionDesc	RegionType	RegionValue	RegionCount	AvgRegion
Region-1	Region One	Region Description One	Region Type One	100	10	\$100.00
Region-2	Region Two	Region Description Two	Region Type Two	200	10	\$200.00
Region-3	Region Three	Region Description Three	Region Type Three	300	10	\$300.00
Region-4	Region Four	Region Description Four	Region Type Four	400	10	\$400.00
Region-5	Region Five	Region Description Five	Region Type Five	500	10	\$500.00

US-Region		
	actual_A	predicted_A
Instance 1	0.15	0.15
Instance 2	0.055555555	1
Instance 3	0.15	0.15
Instance 4	0.055555555	1
Instance 5	0.15	0.15
Instance 6	0.15	0.15

AE-Region		
	actual_AE	predicted_AE
Instance 1	0.055555555	0.055555555
Instance 2	1	1
Instance 3	0.5	0.5
Instance 4	0.5	0.5
Instance 5	0.5	0.5
Instance 6	0.5	0.5

AS-Region		
	actual_AS	predicted_AS
Instance 1	1	1
Instance 2	1	1
Instance 3	0.5	0.5
Instance 4	0.5	0.5
Instance 5	0.5	0.5
Instance 6	0	0

SI-Region		
	actual_SI	predicted_SI
Instance 1	1	1
Instance 2	1	1
Instance 3	2	2
Instance 4	2	2
Instance 5	1	1

## Creating Tables

```
SQL> /*
** ADD Structure Tables
SQL> */
SQL> /
SQL> create table Animes(
  1 anime_id number(10) PRIM KEY,
  2 anime_title varchar2(100) not null,
  3 episodes number(10) not null,
  4 releasedate date not null,
  5 rating float(2)
  6 );
SQL>

```

## Inserting Tables

```

SQL> select * from anime;
+-----+-----+
| anime_id | anime_title |
+-----+-----+
| 1       | Stein's Gate |
| 2       | Bleach      |
| 3       | One Piece   |
| 4       | Dragonball Z |
| 5       | Black Clover |
+-----+-----+
5 rows selected.

SQL> select * from manga;
+-----+-----+
| manga_id | manga_title |
+-----+-----+
| 1       | Death Note  |
| 2       | Bleach      |
| 3       | One Piece   |
| 4       | Dragonball Z |
| 5       | Black Clover |
+-----+-----+
5 rows selected.

SQL> select * from creator;
+-----+-----+
| creator_id | first_name | last_name |
+-----+-----+
| 1       | Wada       | Toriyama |
| 2       | Kubo       | Akira    |
| 3       | Oda        | Eiichiro |
| 4       | Araki      | Tatsuya  |
| 5       | Yamada     | Naoya   |
+-----+-----+
5 rows selected.

SQL> select * from studio;
+-----+-----+
| studio_id | studio_name |
+-----+-----+
| 1       | Studio Pierrot |
| 2       | Studio Color |
| 3       | Studio Color |
| 4       | Madhouse    |
| 5       | TMS          |
+-----+-----+
5 rows selected.

SQL> select * from index;
+-----+-----+-----+-----+
| index_id | anime_id | manga_id | creator_id |
+-----+-----+-----+-----+
| 1       | 1       | 1       | 1       |
| 2       | 1       | 2       | 1       |
| 3       | 2       | 2       | 2       |
| 4       | 2       | 3       | 2       |
| 5       | 3       | 3       | 3       |
| 6       | 3       | 4       | 3       |
| 7       | 4       | 4       | 4       |
| 8       | 4       | 5       | 4       |
| 9       | 5       | 5       | 5       |
| 10      | 5       | 1       | 5       |
+-----+-----+-----+-----+
10 rows selected.

```

SQL> select \* from index;

index_id	anime_id	manga_id	creator_id
1	1	1	1
2	1	2	1
3	2	2	2
4	2	3	2
5	3	3	3
6	3	4	3
7	4	4	4
8	4	5	4
9	5	5	5
10	5	1	5

SQL> select \* from manga;

manga_id	manga_title	chapters	release_d	rating	creator_id
1	Death Note	22	20-SEP-04	9	1
2	Bleach	300	05-OCT-01	8	2
3	One Piece	941	20-MAR-99	9	3
4	Dragonball Z	264	20-JUN-98	8	4
5	Black Clover	90	05-OCT-17	7	5

SQL> select \* from creator;

creator_id	first_name	last_name	age
1	Wada	Satoru	55
2	Kubo	Akira	54
3	Oda	Eiichiro	53
4	Araki	Tatsuya	51
5	Yamada	Naoya	54

SQL> select \* from studio;

studio_id	studio_name	location
1	Studio Pierrot	Tokyo
2	Studio Color	Tokyo
3	Studio Color	Tokyo
4	Madhouse	Tokyo
5	TMS	Hokkaido

## Manipulating Data

```

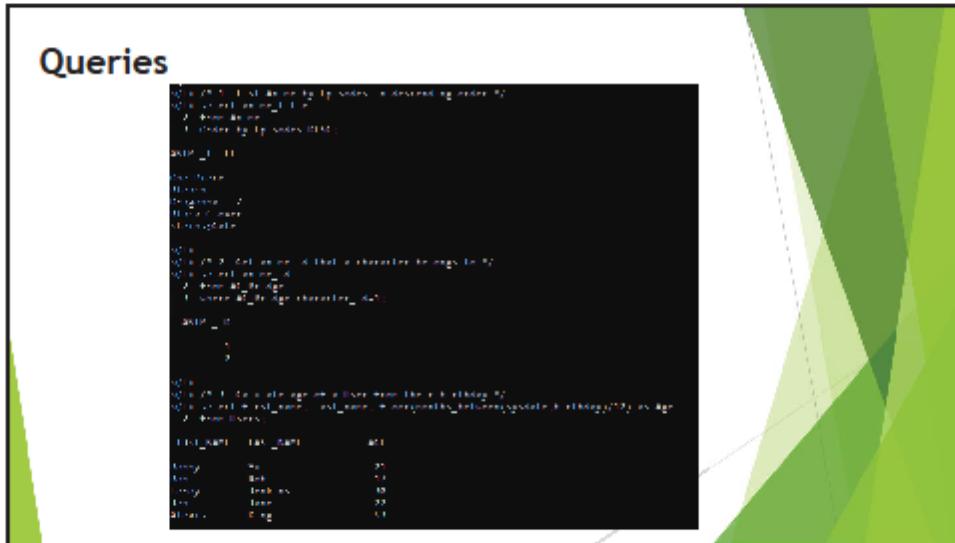
SQL> select anime_id, anime_title as title, episodes
  2  from Anime
  3  order by episodes DESC;

ANIME_ID TITLE           EPISODES
         3 One Piece        887
         2 Bleach           566
         4 Dragonball Z     291
         5 Black Clover     88
         1 Steins;Gate       24

```

## Creating Views

## Integrity



End

