MASTER OF SCIENCE IN MANAGEMENT AND SYSTEMS

Database Design & Management MASY1-GC 3500 | Anime

Analysis May 6, 2024

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Project Proposal:

Company Introduction :

With its renowned track record of creating groundbreaking anime series that resonate deeply with audiences worldwide, Anime Galaxy Studio stands at the forefront of innovative storytelling and breathtaking animation.

We propose a strategic project to analyze current market trends, audience preferences, and competitive offerings to identify the optimal anime genre for our next season's launch. This initiative will enable us to continue captivating our audience while exploring new creative horizons, ensuring our next production is both a critical and commercial success.
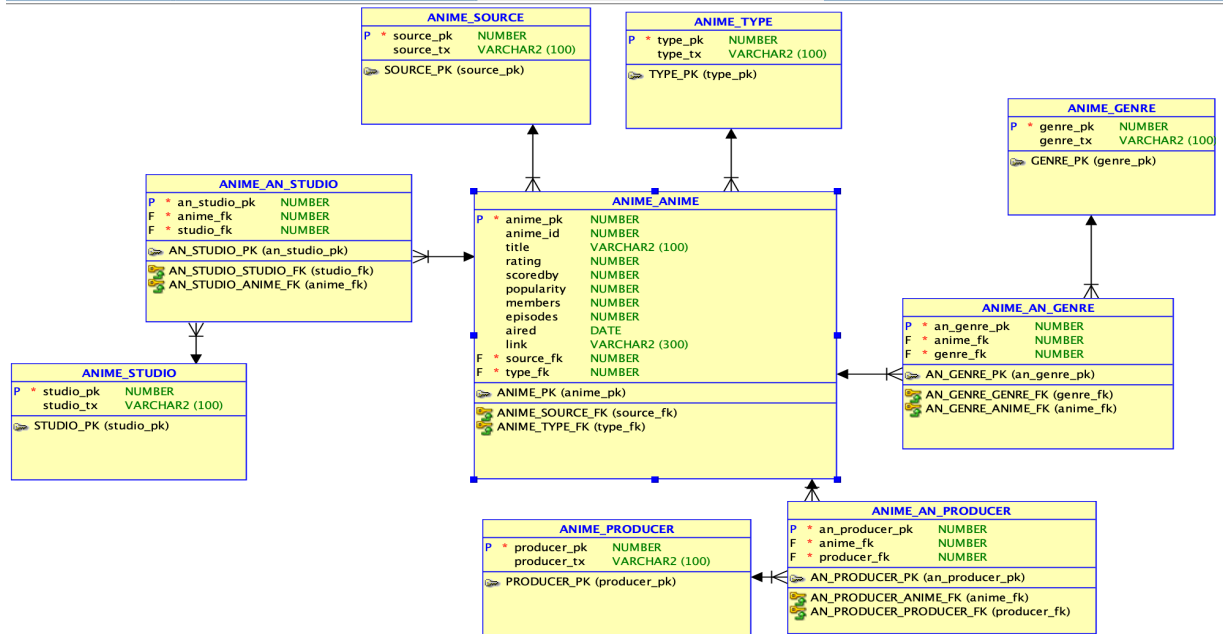
About the data:
The data includes various aspects of anime, including genre, popularity, viewer ratings, etc.
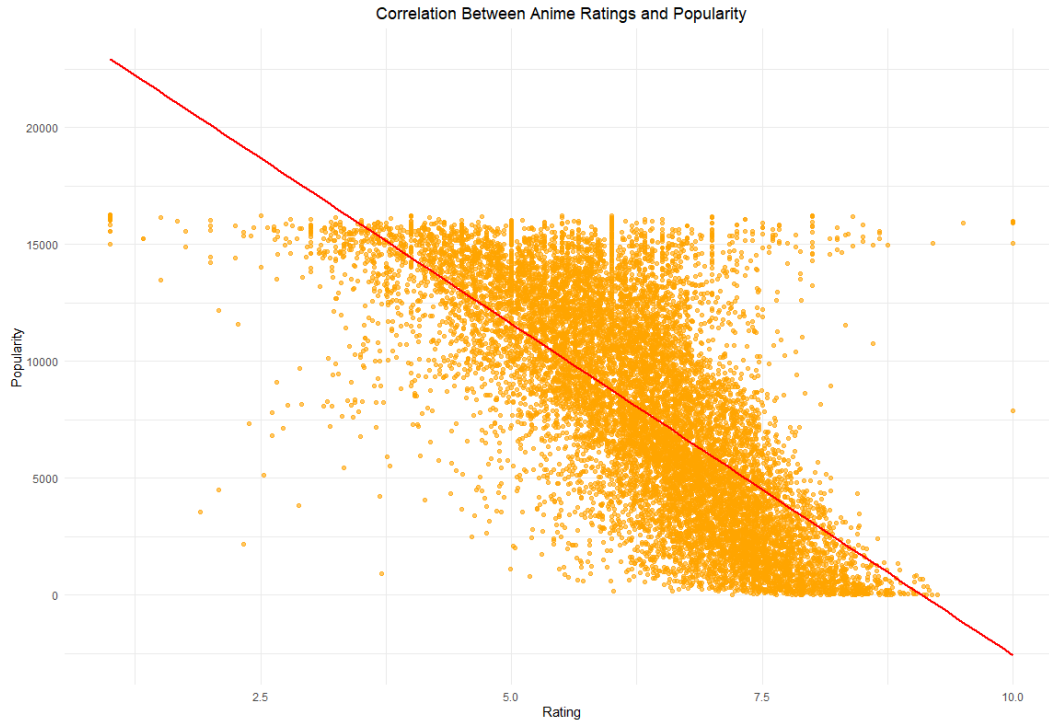
What you want to achieve:

We aim to analyze, understand, and recommend anime based on different metrics. This could serve multiple purposes, such as aiding in content curation, audience engagement, and research on anime trends analysis.

Data Model

ANIME_SOURCE

P	* source_pk	NUMBER
	source_tx	VARCHAR2 (100)

SOURCE_PK (source_pk)

ANIME_TYPE

P	* type_pk	NUMBER
	type_tx	VARCHAR2 (100)

TYPE_PK (type_pk)

ANIME_GENRE

P	* genre_pk	NUMBER
	genre_tx	VARCHAR2 (100)

GENRE_PK (genre_pk)

ANIME_AN_STUDIO

P	* an_studio_pk	NUMBER
F	* anime_fk	NUMBER
F	* studio_fk	NUMBER

AN_STUDIO_PK (an_studio_pk)

AN_STUDIO_STUDIO_FK (studio_fk)
AN_STUDIO_ANIME_FK (anime_fk)

ANIME_ANIME

P	* anime_pk	NUMBER
	anime_id	NUMBER
	title	VARCHAR2 (100)
	rating	NUMBER
	scoredby	NUMBER
	popularity	NUMBER
	members	NUMBER
	episodes	NUMBER
	aired	DATE
	link	VARCHAR2 (300)
F	* source_fk	NUMBER
F	* type_fk	NUMBER

ANIME_PK (anime_pk)

ANIME_SOURCE_FK (source_fk)
ANIME_TYPE_FK (type_fk)

ANIME_AN_GENRE

P	* an_genre_pk	NUMBER
F	* anime_fk	NUMBER
F	* genre_fk	NUMBER

AN_GENRE_PK (an_genre_pk)

AN_GENRE_GENRE_FK (genre_fk)
AN_GENRE_ANIME_FK (anime_fk)

ANIME_STUDIO

P	* studio_pk	NUMBER
	studio_tx	VARCHAR2 (100)

STUDIO_PK (studio_pk)

ANIME_PRODUCER

P	* producer_pk	NUMBER
	producer_tx	VARCHAR2 (100)

PRODUCER_PK (producer_pk)

ANIME_AN_PRODUCER

P	* an_producer_pk	NUMBER
F	* anime_fk	NUMBER
F	* producer_fk	NUMBER

AN_PRODUCER_PK (an_producer_pk)

AN_PRODUCER_ANIME_FK (anime_fk)
AN_PRODUCER_PRODUCER_FK (producer_fk)

What is the distribution of popularity, and how do they correlate with rating?

Correlation Between Anime Ratings and Popularity

- The red line slopes downward across the plot. This line is a statistical summary of the general trend in the data, indicating that higher ratings correlate with lower popularity scores.

What are the most common genres of anime, and how do genres influence ratings and popularity?

Most Common Genres of Anime

Influence of Genre on Anime Ratings and Popularity
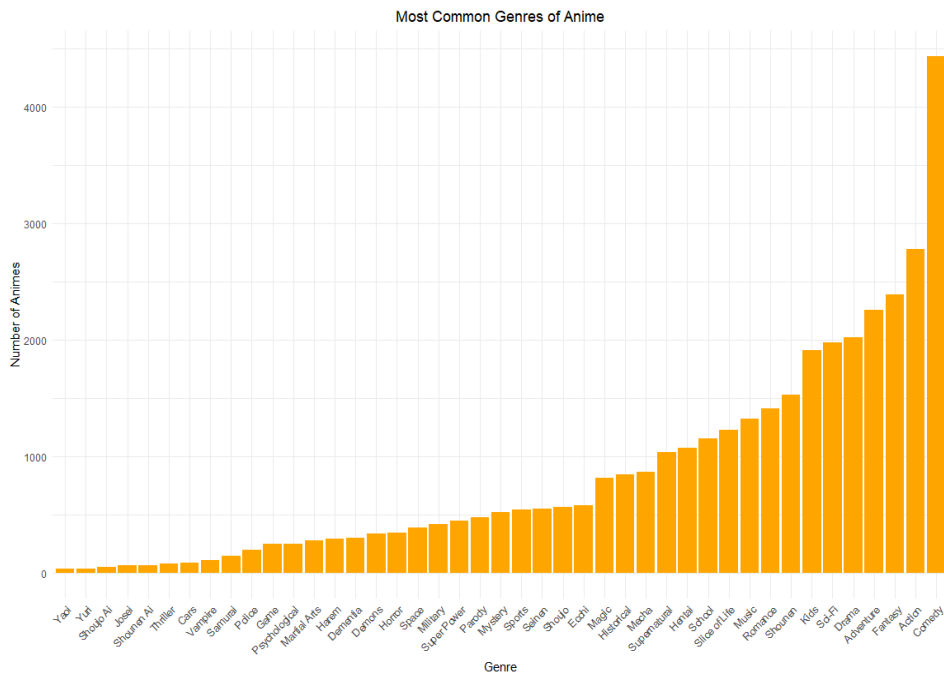
- Comedy and Action are the most prevalent genres, with the highest counts of animes.
- Less common genres include Yaoi, Josei, and Cars, which appear to have very few animes attributed to them.
- The genre is separate from ratings and popularity.

How does the anime type (TV, Movie, etc.) influence its popularity and rating?

Average Ratings by Anime Type
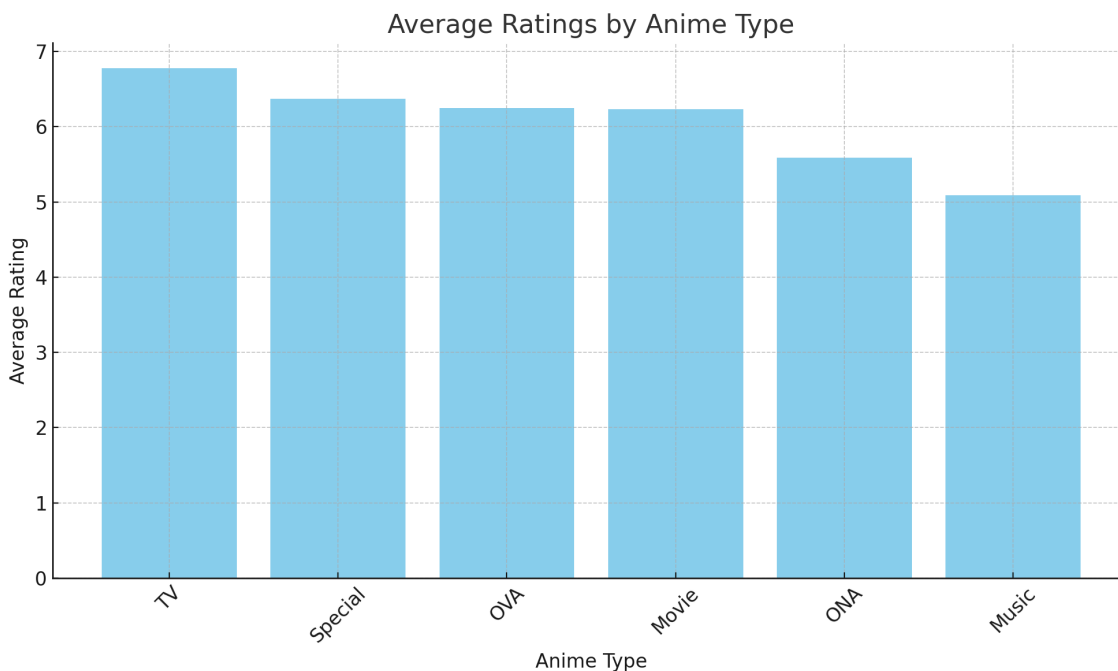
Different types of anime have varying levels of average ratings, with TV anime generally being

rated the highest, likely due to the extended format that allows for deeper storytelling. Special, OVA and Movie types also have high ratings, though slightly lower than TV, which may be due to their limited scope compared to TV series. ONA and music types have the lowest ratings, potentially due to their being more niche or having a limited appeal.

Is there a significant difference in the average number of episodes between different types of anime (e.g., TV vs. Movie)?

Average Number of Episodes by Anime Type
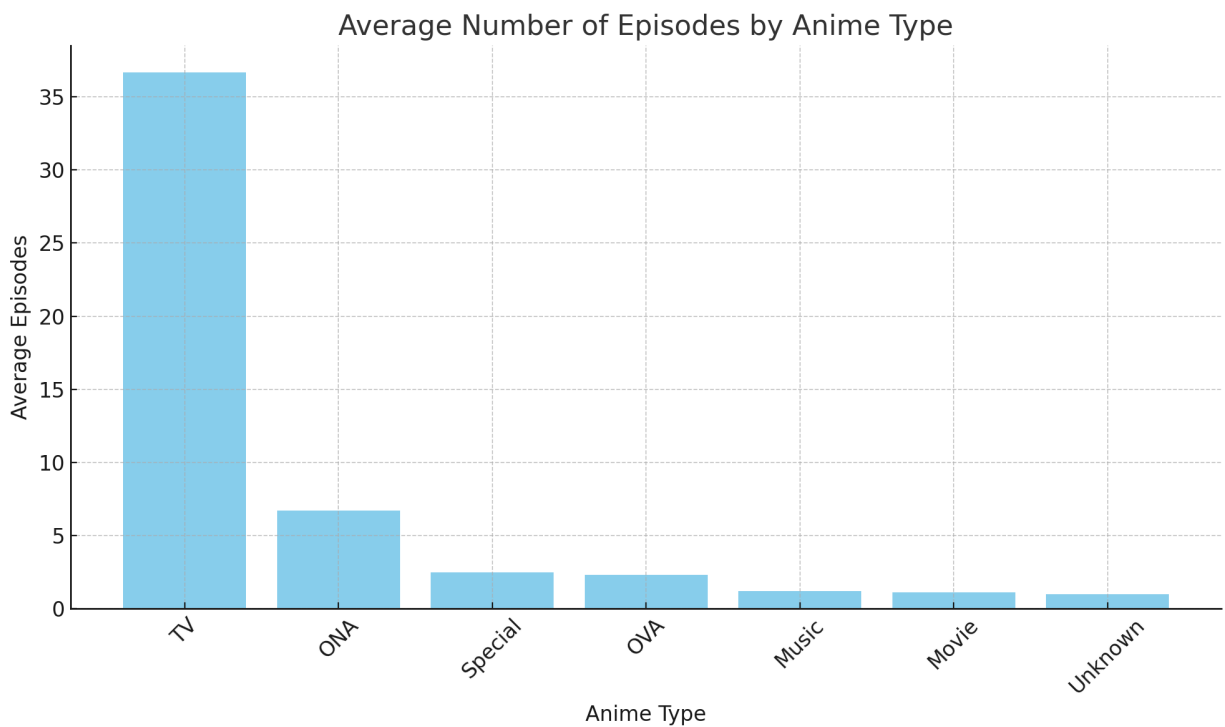
The graph shows a significant difference in the average number of episodes between different anime types. TV series generally have significantly more episodes than other categories. Other types, like ONAs, Specials, and OVAs, have a moderate number of episodes, while Music, Movies, and Unknown types tend to have very few.

What are the most popular genres of anime for each type (TV, Movie, etc.)?

Genre distribution for each type
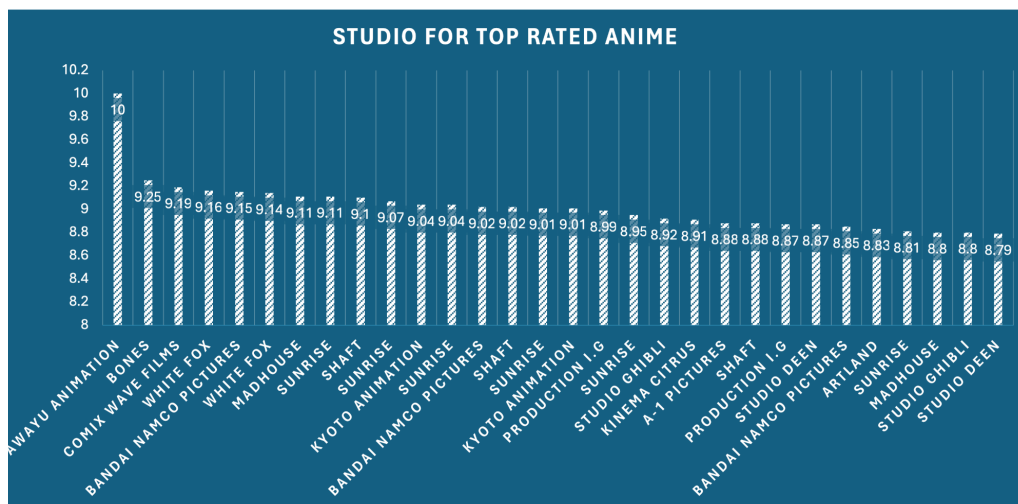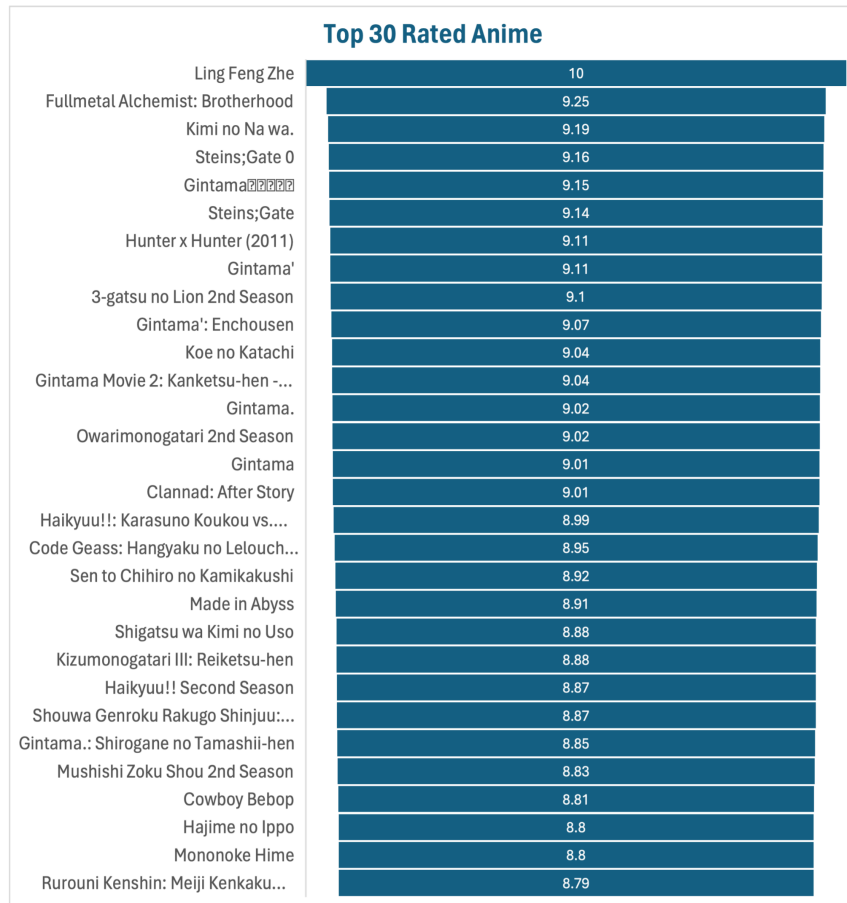

Most Popular GENRE for Each Type
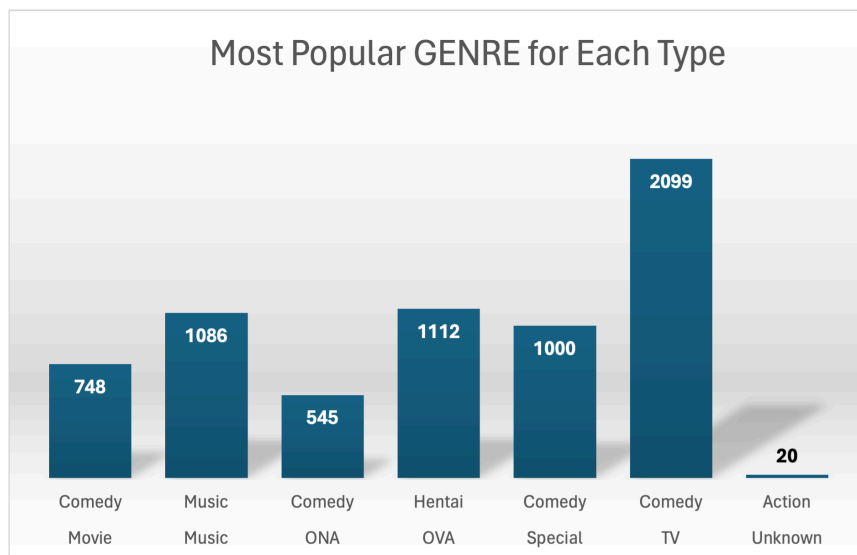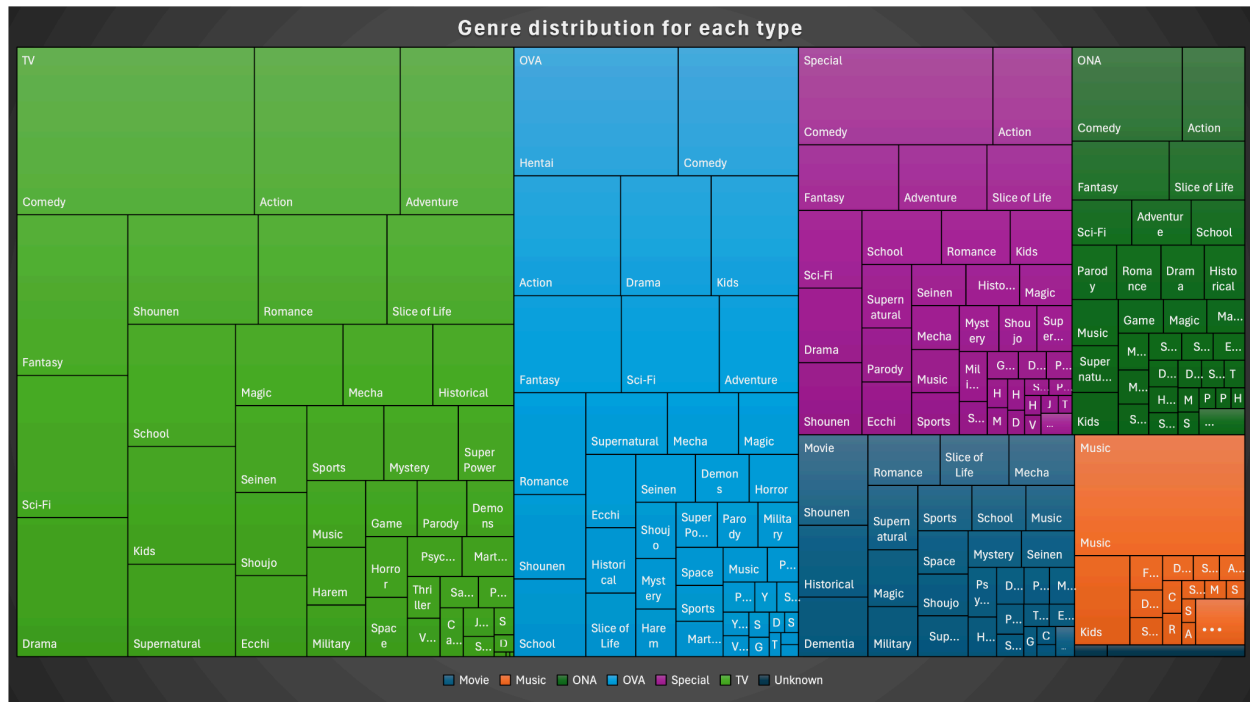
Most Popular Anime Genres for Each Type

- TV Shows: Comedy is the most prevalent genre with 2099 entries, followed by action.
- Movies: Comedy is also dominant in movies, with 748 entries.
- OVAs (Original Video Animations): Surprisingly, hentai is the most common genre

with 1112 entries, surpassing other genres significantly.
- Specials: Here again, comedy leads with 1000 entries.
- ONAs (Original Net Animations): Comedy and music are prominent, with comedy having 545 entries.

What studios or producers are associated with the highest-rated anime?

Top 30 Rated Anime

Anime	Rating
Ling Feng Zhe	10
Fullmetal Alchemist: Brotherhood	9.25
Kimi no Na wa.	9.19
Steins;Gate 0	9.16
Gintama🟦🟦🟦🟦	9.15
Steins;Gate	9.14
Hunter x Hunter (2011)	9.11
Gintama'	9.11
3-gatsu no Lion 2nd Season	9.1
Gintama': Enchousen	9.07
Koe no Katachi	9.04
Gintama Movie 2: Kanketsu-hen -...	9.04
Gintama.	9.02
Owarimonogatari 2nd Season	9.02
Gintama	9.01
Clannad: After Story	9.01
Haikyuu!!: Karasuno Koukou vs....	8.99
Code Geass: Hangyaku no Lelouch...	8.95
Sen to Chihiro no Kamikakushi	8.92
Made in Abyss	8.91
Shigatsu wa Kimi no Uso	8.88
Kizumonogatari III: Reiketsu-hen	8.88
Haikyuu!! Second Season	8.87
Shouwa Genroku Rakugo Shinjuu:...	8.87
Gintama.: Shirogane no Tamashii-hen	8.85
Mushishi Zoku Shou 2nd Season	8.83
Cowboy Bebop	8.81
Hajime no Ippo	8.8
Mononoke Hime	8.8
Rurouni Kenshin: Meiji Kenkaku...	8.79

STUDIO FOR TOP RATED ANIME

Top-Rated Anime Studios

1. Wawayu Animation is associated with the highest-rated anime, scoring a perfect 10.
2. Bones and Comix Wave Films follow closely with scores around 9.25.
3. White Fox, Bandai Namco Pictures, and Madhouse are also prominent, with ratings above 9.
4. Sunrise and Shaft have multiple entries across various ratings, showing their consistency in producing highly rated anime.
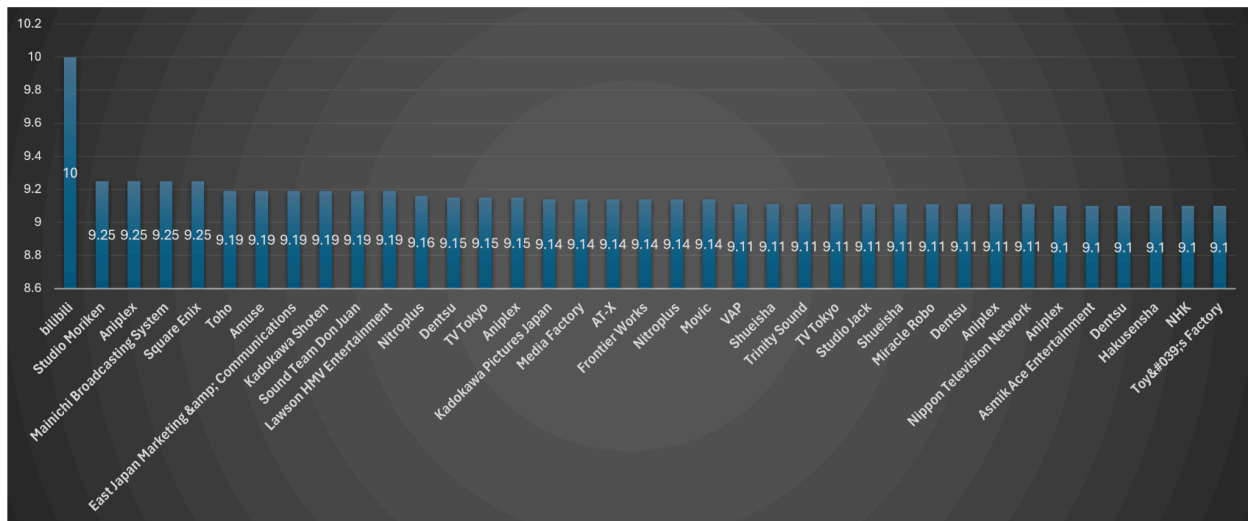
Top-Rated Anime Producers

1. Bilibili holds the highest rating spot with a perfect score of 10, indicating exceptional quality and reception of their productions.
2. Several producers including Studio Moriken, Aniplex, and Broadcasting System have high ratings of 9.25, showcasing their significant impact in delivering well-received anime.
3. East Japan Marketing & Communications and Toho are also among the top-rated with scores of 9.19, underscoring their contributions to notable anime titles.
4. A cluster of producers such as Kadokawa Shoten, TV Tokyo, and Aniplex Japan consistently appear with ratings ranging from 9.16 to 9.14, further highlighting the competitive and high-quality standards in anime production.

Limitation

- **Current Trends:** The data might not reflect the latest trends in anime consumption, especially if it's not frequently updated. Trends in viewer preferences can shift rapidly, influenced by cultural shifts, new platform offerings, or breakout hits that change viewer

expectations.

- **Bias in Data:** There could be inherent biases in how data was collected or what was included. For example, data collected from a particular platform or demographic might not represent the broader audience.
- **Scope and Coverage:** The data might cover only some relevant aspects needed to make comprehensive decisions.

Conclusion

Market Analysis: There is a clear trend towards genres that offer complex narratives and unique cultural elements, which resonate well across diverse viewer bases.

Genre Identification: Given the studio's proven expertise in delivering high-quality fantasy anime and the current market trend favoring immersive, escapist content, focusing on the fantasy genre will align well with both market demands and our creative strengths.

Strategic Alignment: The fantasy genre allows for extensive merchandising opportunities, series longevity, and high engagement across multiple platforms, including interactive media.

Appendix:

1. CREATE OR REPLACE VIEW anime_rating_popularity_ AS

SELECT

  rating,

  popularity,

  COUNT(*) OVER (PARTITION BY rating) AS anime_count,

  ROUND(AVG(popularity) OVER (PARTITION BY rating), 2) AS avg_popularity_per_rating

FROM

  anime_anime

WHERE

  rating IS NOT NULL

  AND popularity IS NOT NULL

ORDER BY

   popularity DESC;

```sql
CREATE OR REPLACE VIEW anime_rating_popularity_ AS
SELECT
    rating,
    popularity,
    COUNT(*) OVER (PARTITION BY rating) AS anime_count,
    ROUND(AVG(popularity) OVER (PARTITION BY rating), 2) AS avg_popularity_per_rating
FROM
    anime_anime
WHERE
    rating IS NOT NULL
    AND popularity IS NOT NULL
ORDER BY
    popularity DESC;
```

2. CREATE VIEW anime_genre_stats AS

SELECT

   genre.genre_tx,

   COUNT(*) AS anime_count,

   ROUND(AVG(anime.RATING), 2) AS average_rating,

   ROUND(AVG(anime.POPULARITY), 2) AS avg_popularity_per_rating

FROM

   anime_an_genre an_genre

JOIN

   anime_anime anime ON an_genre.anime_fk = anime.ANIME_pk

JOIN

   anime_genre genre ON genre.genre_pk = an_genre.genre_fk

WHERE

   anime. RATING IS NOT NULL

   AND anime. POPULARITY IS NOT NULL

GROUP BY

   genre.genre_tx

ORDER BY

   anime_count DESC, average_rating DESC;

```sql
CREATE VIEW anime_genre_stats AS
SELECT
    genre.genre_tx,
    COUNT(*) AS anime_count,
    ROUND(AVG(anime.RATING), 2) AS average_rating,
    ROUND(AVG(anime.POPULARITY), 2) AS avg_popularity_per_rating
FROM
    anime_an_genre an_genre
JOIN
    anime_anime anime ON an_genre.anime_fk = anime.ANIME_pk
JOIN
    anime_genre genre ON genre.genre_pk = an_genre.genre_fk
WHERE
    anime.RATING IS NOT NULL
    AND anime.POPULARITY IS NOT NULL
GROUP BY
    genre.genre_tx
ORDER BY
    anime_count DESC, average_rating DESC;
```

5.CREATE MATERIALIZED VIEW anime_type_popularity_rating_mv AS

SELECT

   tp.type_tx AS anime_type,

   ROUND(AVG(aa.RATING), 2) AS avg_rating,

   ROUND(AVG(aa.POPULARITY), 2) AS avg_popularity,

   COUNT(*) AS total_animes

FROM

   anime_anime aa

INNER JOIN

   anime_type tp ON aa.type_pk = tp.type_pk

GROUP BY

   tp.type_tx

ORDER BY

   avg_rating DESC, avg_popularity DESC;

SELECT * FROM anime_type_popularity_rating_mv;

```
--How does the anime type (TV, Movie, etc.) influence its popularity and rating?
CREATE MATERIALIZED VIEW anime_type_popularity_rating_mv AS
SELECT
    tp.type_tx AS anime_type,
    ROUND(AVG(aa.RATING), 2) AS avg_rating,
    ROUND(AVG(aa.POPULARITY), 2) AS avg_popularity,
    COUNT(*) AS total_animes
FROM
    anime_anime aa
INNER JOIN
    anime_type tp ON aa.type_pk = tp.type_pk
GROUP BY
    tp.type_tx
ORDER BY
    avg_rating DESC, avg_popularity DESC;

SELECT * FROM anime_type_popularity_rating_mv;
```

Script Output × ▷ Query Result ×

SQL | All Rows Fetched: 7 in 0.028 seconds

	ANIME_TYPE	AVG_RATING	AVG_POPULARITY	TOTAL_ANIMES
1	Unknown	(null)	5830.24	136
2	TV	6.78	5743.64	15004
3	Special	6.37	7664.56	6652
4	OVA	6.25	8071.29	12604
5	Movie	6.23	8944.86	9268
6	ONA	5.59	10073.31	4100
7	Music	5.09	12590.4	3800

6. CREATE MATERIALIZED VIEW anime_type_avg_episodes_mv AS

SELECT

    tp.type_tx AS anime_type,

    ROUND(AVG(aa.EPISODES), 2) AS avg_episodes,

    COUNT(*) AS total_animes

FROM

    anime_anime aa

INNER JOIN

    anime_type tp ON aa.type_pk = tp.type_pk

GROUP BY

    tp.type_tx

ORDER BY

    avg_episodes DESC;

SELECT * FROM anime_type_avg_episodes_mv;

```sql
--Is there a significant difference in the average number of episodes between different types of anime (e.g., TV vs. Movie)
CREATE MATERIALIZED VIEW anime_type_avg_episodes_mv AS
SELECT
    tp.type_tx AS anime_type,
    ROUND(AVG(aa.EPISODES), 2) AS avg_episodes,
    COUNT(*) AS total_animes
FROM
    anime_anime aa
INNER JOIN
    anime_type tp ON aa.type_pk = tp.type_pk
GROUP BY
    tp.type_tx
ORDER BY
    avg_episodes DESC;

SELECT * FROM anime_type_avg_episodes_mv;
```

Script Output × ▶ Query Result ×

🖨 🔁 📑 SQL | All Rows Fetched: 7 in 0.035 seconds

	ANIME_TYPE	AVG_EPISODES	TOTAL_ANIMES
1	TV	36.68	15004
2	ONA	6.71	4100
3	Special	2.49	6652
4	OVA	2.31	12604
5	Music	1.2	3800
6	Movie	1.11	9268
7	Unknown	1	136