Database Idea: Anime List

* About: For this database, I wanted to construct a table to accurately monitor and keep track of a user’s account information and information about the Anime they’ve watched and rated.

Part 1 and 2: 1NF

* First normal form is when all redundancy within the table is removed, and there is AT LEAST one Primary key.
* In the first normal form of my Anime List database, I threw all relevant information that I would need into one table.

Anime List Table:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UserID** | **Username** | **Anime** | **User Score** | **Overall Score** | **Genre** | **Format** | **Studio** | **Studio Founded** | **Status** | **Total Days Watched** | **Progress** | **Follower Count** | **Is Favorite** | **Episode Count** | **Anime Released** |
| 177013 | MrMeatBall | One Piece | 85% | 76% | Pirate | TV | Toei Animation | 1948 | Releasing | 53.5 | Watching | 6 | TRUE | 1015 | 1999 |
| 130753 | Delphant | Chainsaw Man | 95% | 86% | Action | TV | MAPPA | 2011 | Finished | 83.6 | Completed | 8 | TRUE | 32 | 2022 |
| 157802 | BerserkFan | Berserk | 100% | 89% | Action | TV | OLM | 1994 | Finished | 12.4 | Completed | 2 | FALSE | 25 | 1999 |
| 123457 | Yoinkers | Devilman Crybaby | 67% | 77% | Horror | ONA | Science SARU | 2013 | Finished | 175.5 | Paused | 1 | FALSE | 10 | 2018 |
| 177013 | MrMeatBall | Attack On Titan | 75% | 85% | Drama | TV | Wit Studio | 2012 | Finished | 53.5 | Completed | 6 | FALSE | 25 | 2013 |
| 183544 | Spokokin | Berserk | 86% | 89% | Action | TV | OLM | 1994 | Finished | 34.1 | Watching | 18 | FALSE | 25 | 1999 |
| 155220 | ExplodingCat | My Neighbor Totoro | 87% | 80% | Adventure | Movie | Ghibli | 1985 | Finished | 22 | Completed | 1 | TRUE | 1 | 1988 |
| 197473 | GokuLover | Dragon Ball Super | 94% | 71% | Action | TV | Toei Animation | 1948 | Finished | 87.2 | Completed | 2 | TRUE | 131 | 2015 |
| 130753 | Delphant | Kiki's Delivery Service | 100% | 81% | Adventure | Movie | Ghibli | 1985 | Finished | 83.6 | Completed | 8 | TRUE | 1 | 1989 |
| 123457 | Yoinkers | Jujutsu Kaisen | 67% | 87% | Action | TV | MAPPA | 2011 | Finished | 175.5 | Watching | 1 | FALSE | 24 | 2020 |

* The Anime List database would be considered first normal form because the primary key would be the UserID and Anime. Since a user, with one ID can have multiple DIFFERENT Anime, together they would create a composite key to identify a specific row.

Part 3: 2NF

* Second normal form is when the tables are in first normal form and ALL partial dependencies within tables are removed.
* In the second normal form of my Anime List database, I split the tables based on the removal of partial dependencies.
* From first normal form, to create second normal form, the tables were divided based on 1) the user and 2) the actual anime to remove partial dependencies that did not relate to each other.

User Table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **UserID** | **Username** | **Follower Count** | **Total Days Watched** | **Anime** | **Is Favorite** | **Progress** | **User Score** |
| 177013 | MrMeatBall | 6 | 53.5 | One Piece | TRUE | Watching | 85% |
| 130753 | Delphant | 8 | 83.6 | Chainsaw Man | TRUE | Completed | 95% |
| 157802 | BerserkFan | 2 | 12.4 | Berserk | FALSE | Completed | 100% |
| 123457 | Yoinkers | 1 | 175.5 | Devilman Crybaby | FALSE | Paused | 67% |
| 177013 | MrMeatBall | 6 | 53.5 | Attack On Titan | FALSE | Completed | 75% |
| 183544 | Spokokin | 18 | 34.1 | Berserk | FALSE | Watching | 86% |
| 155220 | ExplodingCat | 1 | 22 | My Neighbor Totoro | TRUE | Completed | 87% |
| 197473 | GokuLover | 2 | 87.2 | Dragon Ball Super | TRUE | Completed | 94% |
| 130753 | Delphant | 8 | 83.6 | Kiki's Delivery Service | TRUE | Completed | 100% |
| 123457 | Yoinkers | 1 | 175.5 | Jujutsu Kaisen | FALSE | Watching | 67% |

Anime Table:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Anime** | **Studio** | **Format** | **Genre** | **Overall Score** | **Studio Founded** | **Status** | **Episode Count** | **Anime Released** |
| One Piece | Toei Animation | TV | Pirate | 76% | 1948 | Releasing | 1015 | 1999 |
| Chainsaw Man | MAPPA | TV | Action | 86% | 2011 | Finished | 32 | 2022 |
| Berserk | OLM | TV | Action | 89% | 1994 | Finished | 25 | 1999 |
| Devilman Crybaby | Science SARU | ONA | Horror | 77% | 2013 | Finished | 10 | 2018 |
| Attack On Titan | Wit Studio | TV | Drama | 85% | 2012 | Finished | 25 | 2013 |
| My Neighbor Totoro | Ghibli | Movie | Adventure | 80% | 1985 | Finished | 1 | 1988 |
| Dragon Ball Super | Toei Animation | TV | Action | 71% | 1948 | Finished | 131 | 2015 |
| Kiki's Delivery Service | Ghibli | Movie | Adventure | 81% | 1985 | Finished | 1 | 1989 |
| Jujutsu Kaisen | MAPPA | TV | Action | 87% | 2011 | Finished | 24 | 2020 |

* These tables would be in second normal form because the partial dependencies have been removed between the two tables.
* The Primary/composite key in User Table would be UserID and Anime because it can be used to find all information about that user.
* The Primary key in Anime table would be Anime, since there is only one piece of media with that name, which can find all information.

Part 4: 3NF

* Third normal form is when the tables are in first and second normal form and ALL transitive dependencies are removed.
* In my Anime List database, I transformed the tables into third normal form by taking the second normal form.
  + - I created the table User Info, which contains all information about the specific user and their anime of choice.
    - I then created the table User Anime, which then contains the information about what that user listed about that specific anime.
    - Furthermore, I created the table Anime, which is all the information relating to the anime itself.
    - From there on, I created the Studio Info table, which includes information about the studio for any anime, thus removing transitive dependencies.

User Info: User Anime:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | **UserID** | **Username** | **Follower Count** | **Total Days Watched** | | 177013 | MrMeatBall | 6 | 53.5 | | 130753 | Delphant | 8 | 83.6 | | 157802 | BerserkFan | 2 | 12.4 | | 123457 | Yoinkers | 1 | 175.5 | | 183544 | Spokokin | 18 | 34.1 | | 155220 | ExplodingCat | 1 | 22 | | 197473 | GokuLover | 2 | 87.2 | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **UserID** | **Anime** | **Is Favorite** | **Progress** | **User Score** | | 177013 | One Piece | TRUE | Watching | 85% | | 130753 | Chainsaw Man | TRUE | Completed | 95% | | 157802 | Berserk | FALSE | Completed | 100% | | 123457 | Devilman Crybaby | FALSE | Paused | 67% | | 177013 | Attack On Titan | FALSE | Completed | 75% | | 183544 | Berserk | FALSE | Watching | 86% | | 155220 | My Neighbor Totoro | TRUE | Completed | 87% | | 197473 | Dragon Ball Super | TRUE | Completed | 94% | | 130753 | Kiki's Delivery Service | TRUE | Completed | 100% | | 123457 | Jujutsu Kaisen | FALSE | Watching | 67% | |

Anime: Studio Info:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Anime** | **Status** | **Format** | **Genre** | **Overall Score** | **Studio** | **Episode Count** | **Anime Released** | | One Piece | Releasing | TV | Pirate | 76% | Toei Animation | 1015 | 1999 | | Chainsaw Man | Finished | TV | Action | 86% | MAPPA | 32 | 2022 | | Berserk | Finished | TV | Action | 89% | OLM | 25 | 1999 | | Devilman Crybaby | Finished | ONA | Horror | 77% | Science SARU | 10 | 2018 | | Attack On Titan | Finished | TV | Drama | 85% | Wit Studio | 25 | 2013 | | My Neighbor Totoro | Finished | Movie | Adventure | 80% | Ghibli | 1 | 1988 | | Dragon Ball Super | Finished | TV | Action | 71% | Toei Animation | 131 | 2015 | | Kiki's Delivery Service | Finished | Movie | Adventure | 81% | Ghibli | 1 | 1989 | | Jujutsu Kaisen | Finished | TV | Action | 87% | MAPPA | 24 | 2020 | | |  |  | | --- | --- | | **Studio** | **Studio Founded** | | Toei Animation | 1948 | | MAPPA | 2011 | | OLM | 1994 | | Science SARU | 2013 | | Wit Studio | 2012 | | Ghibli | 1985 | |

* These tables would be in third normal form because I removed all the transitive dependencies, for example studio and studio founded in their own table, same with User Info and User Anime.

Part 5: Keys

* In third normalization form, I used several types of keys to make my database relational.
  + - In the User Info table, the UserID would be considered the primary key because only one user can have a single ID.
    - In the User Anime table, the UserID and Anime columns would be considered the composite keys since both are needed to create a fully unique entity. UserID column from User Info table would be the foreign key to the User Anime table.
    - For the Anime table, the Anime column is the primary key. From the User Anime table, Anime column would also be the foreign key to the Anime table as well.
    - Finally, for the Studio Info table, the studio column is the primary key since there is only one studio with that exact name. From the Anime table, Studio column is the foreign key for the Studio Info table.