Database Description:

Naruto Anime is an entity which completely describes the show Naruto. It has different aspects that state the purpose of the show by its unique identification number providing details like source, type and status of the show currently. This is mainly used by the group of people who have interest in anime shows and it is helpful for the backend unit who build the show by getting to learn the statistical data about revenue and methods of managing for a greater understanding and development of skills. This is an interactive module which provokes users (who are the viewers in our case) to give the feedback in the form of rankings and reviews which displays the trend that provides an idea on the overview of maintaining consistency.

The Databook Naruto consists of the entities NARUTO_ANIME, PRODUCER, RATING, GENRE, STUDIO, LICENSE, BROADCAST, STATS and AWARDS. Each entity has its own unique identifier. The data from each entity gives us the attributes which are used in fetching the required information.

The entity NARUTO_ANIME has the following attributes SHOW_ID, SHOW_TYPE, SHOW_STATUS, SHOW_SOURCE, PRODUCER_ID, RATING_ID, STUDIO_ID, LICENSE_ID, BROADCAST_ID and STATS_ID where SHOW_ID gives us the season identification number, SHOW_TYPE gives the theme of the show , SHOW_STATUS gives the airing status of the show, SHOW_SOURCE gives us the medium in which show is portrayed, whereas PRODUCER_ID, RATING_ID, STUDIO_ID, LICENSE_ID, BROADCAST_ID and STATS_ID are keys referenced from other entities which provides the data related to multiple entities.

The entity PRODUCER has the following attributes PRODUCER_ID, PRODUCER_FNAME, PRODUCER_LNAME, PRODUCER_AGE, PRODUCER_BUDGET and PRODUCER_EXPERIENCE where PRODUCER _ID gives us the producer identification number, PRODUCER_NAME gives the name of the producer, PRODUCER_AGE gives the age of the producer, PRODUCER_BUDGET gives us the budget details of the producer with respective to the show and PRODUCER_EXPERIENCE gives us the experience of the producer in the industry.

The entity RATING has the following attributes RATING_ID, RATING_RANK, RATING_MEMBERS, RATING_POPULARITY and RATING_FEEDBACK where RATING_ID gives us the rating identification number, RATING_ MEMBERS gives the total number of members rating the show, RATING_POPULARITY gives the popularity of the show in various aspects and RATING_FEEDBACK gives us the feedback of the show by review notes.

The entity ARTIST has the following attributes ARTIST_ID, ARTIST_NAME, ARTIST_ROLE, ARTIST_LOCATION, ARTIST_SKILL and SHOW_ID where ARTIST_ID gives us the artist identification number, ARTIST_ NAME gives the name of the artist, ARTIST_ROLE gives the

character role of the artist, ARTIST_LOCATION gives us the location of the artist, ARTIST_SKILL gives us the skill of the artist and SHOW_ID gives us details of the show in which artist is involved.

The entity GENRE has the following attributes GENRE_ID, GENRE_TYPE, GENRE_DESCRIPTION, GENRE_SETTING and ARTIST_ID where GENRE_ID gives us the genre identification number, GENRE_TYPE gives the type of the genre, GENRE_DESCRIPTION gives the information about the genre, GENRE_SETTING gives us the context of the genre and ARTIST_ID gives us the artist details with respective to the genre.

The entity STUDIO has the following attributes STUDIO_ID, STUDIO_LOCATION, STUDIO_NAME, STUDIO_CONTACT, STUDIO_STARTDATE, PRODUCER_ID and LICENSE_ID where STUDIO_ID gives us the studio identification number, STUDIO_LOCATION gives the location of the studio, STUDIO_NAME gives the name of the studio, STUDIO_CONTACT gives us the contact information of the studio, STUDIO_STARTDATE gives us the date on which the studio is started, PRODUCER _ID gives us the producer details of the studio and LICENSE_ID gives us the license details of the studio.

The entity LICENSE has the following attributes LICENSE_ID, LICENSE_NAME, LICENSE_VALIDITY, LICENSE_STARTDATE and LICEN-SOR_NAME where LICENSE_ID gives us the license identification number, LICENSE_NAME gives the name of the license, LICENSE_VALIDITY gives the validity status of the license, LICENSE_STARTDATE gives us the license start date and LICENSOR_NAME gives the name of the licensor.

The entity BROADCAST has the following attributes BROADCAST_ID, BROADCAST_COMPANY, BROADCAST_VALIDITY, BROADCAST_IPR, BROADCAST_PARTNER and STUDIO_ID where BROADCAST_ID gives us the broadcast identification number, BROADCAST_COMPANY gives the details of the company which broadcasts, BROADCAST_VALIDITY gives the validity status of the broadcast, BROADCAST_IPR gives us the intellectual property right details of the broadcast, BROADCAST_PARTNER gives us the partners associated with the broadcast and STU-DIO_ID gives us the studio details of the broadcast.

The entity STATS has the following attributes STATS_ID, STATS_TRP, STATS_REVENUE, STATS_REVIEW, STATS_VIEWERS_NUM and RAT-ING_ID where STATS_ID gives us the stats identification number, STATS_TRP gives the rating of the show, STATS_REVENUE gives the revenue flow of the show, STATS_REVIEW gives us the review of the stats, STATS_VIEWERS_NUM gives the number of viewers of the show and RATING _ID gives us the rating details of the stats.

The entity AWARDS has the following attributes AWARDS_ID, AWARDS_NAME, AWARDS_CATEGORY, AWARDS_PRICE, AWARDS_DE-SCRIPTION, GENRE_ID and STATS_ID where AWARDS_ID gives us the award identification number, AWARDS_NAME gives the name of the award, AWARDS_CATEGORY gives the category of the award, AWARDS_PRICE gives us the price value of the award, AWARDS_DESCRIP-TION gives the information and context about the award, GENRE_ID gives us the genre details for the awards and STATS_ID gives us the stats detail of the awards.

Data Dictionary:

ENTITY	ATTRIBUTE NAME	CONTENTS	DATA TYPE	FORMAT	RANGE	REQUIRED	PK or FK
NARUTO_ANIME	SHOW_ID	Show identification number	CHAR (5)	99999	10000-99999	Y	PK
	SHOW_TYPE	Show type	VARCHAR (20)	Xxxxxxxxx		Y	
	SHOW_STATUS	Show status	VARCHAR (13)	Xxxxxxxxx			
	SHOW_SOURCE	Show source	VARCHAR (12)	Xxxxxxxxx			
	PRODUCER_ID	Producer identification number	CHAR (5)	99999	10000-99999	Y	FK
	RATING_ID	Rating identification number	CHAR (5)	99999	10000-99999	Y	FK
	STUDIO_ID	Studio identification number	CHAR (5)	99999	10000-99999	Y	FK
	LICENSE_ID	License identification number	CHAR (5)	99999	10000-99999	Y	FK
	BROADCAST_ID	Broadcast identification number	CHAR (5)	99999	10000-99999	Y	FK

ENTITY	ATTRIBUTE NAME	CONTENTS	DATA TYPE	FORMAT	RANGE	REQUIRED	PK or FK
	STATS_ID	Stats identification number	CHAR (5)	99999	10000-99999	Y	FK
PRO-DUCER	PRODUCER_ID	Producer identification number	CHAR (5)	99999	10000-99999	Y	PK
	PRO-DUCER_FNAME	Producer name	VARCHAR (20)	Xxxxxxxxx		Y	
	PRO-DUCER_LNAME	Producer name	VARCHAR (20)	Xxxxxxxxx		Y	
	PRODUCER_AGE	Producer age	CHAR (3)	999	000-999		
	PRO-DUCER_BUDGET	Producer budget	NUMERIC(9,2)	9999999.99		Y	
	PRO-DUCER_EXPE-RIENCE	Producer Experience	CHAR (3)	999	000-999		
RATING	RATING_ID	Rating identification number	CHAR (5)	99999	10000-99999	Y	PK
	RATING_RANK	Rating Rank	VARCHAR (20)	Xxxxxxxxx		Y	
	RATING_MEM-BERS	Rating members	CHAR (3)	999	000-999		
	RATING_POPULAR-ITY	Rating Popularity	VARCHAR (20)	Xxxxxxxxx			

ENTITY	ATTRIBUTE NAME	CONTENTS	DATA TYPE	FORMAT	RANGE	REQUIRED	PK or FK
	RATING_FEED-BACK	Rating Feedback	VARCHAR (30)	Xxxxxxxxx			
ARTIST	ARTIST_ID	Artist identification number	CHAR (5)	99999	10000-99999	Y	PK
	ARTIST_FNAME	Artist name	VARCHAR (20)	Xxxxxxxxx		Y	
	ARTIST_LNAME	Artist name	VARCHAR (20)	Xxxxxxxxx		Y	
	ARTIST_ROLE	Artist role	VARCHAR (20)	Xxxxxxxxx		Y	
	ARTIST_LOCATION	Artist location	VARCHAR (20)	Xxxxxxxxx		Y	
	ARTIST_SKILL	Artist skill	VARCHAR (20)	Xxxxxxxxx			
	SHOW_ID	Show identification number	CHAR (5)	99999	10000-99999	Y	FK
GENRE	GENRE_ID	Genre identification number	CHAR (5)	99999	10000-99999	Y	PK
	GENRE_TYPE	Genre type	VARCHAR (20)	Xxxxxxxxx		Y	
	GENRE_DESCRIP-TION	Genre Description	VARCHAR (30)	Xxxxxxxxx			

ENTITY	ATTRIBUTE NAME	CONTENTS	DATA TYPE	FORMAT	RANGE	REQUIRED	PK or FK
	GENRE_SETTING	Genre setting	VARCHAR (20)	Xxxxxxxxx			
	ARTIST_ID	Artist identification number	CHAR (5)	99999	10000-99999	Y	FK
STUDIO	STUDIO_ID	Studio identification number	CHAR (5)	99999	10000-99999	Y	PK
	STUDIO_LOCA-TION	Studio location	VARCHAR (20)	Xxxxxxxxx		Y	
	STUDIO_NAME	Studio name	VARCHAR (20)	Xxxxxxxxx		Y	
	STUDIO_CONTACT	Studio contact	VARCHAR (20)	Xxxxxxxxx		Y	
	STU-DIO_STARTDATE	Studio Startdate	DATE	YYYY-MM-DD			
	PRODUCER_ID	Producer identification number	CHAR (5)	99999	10000-99999	Y	FK
	LICENSE_ID	License identification number	CHAR (5)	99999	10000-99999	Y	FK
LICENSE	LICENSE_ID	License identification number	CHAR (5)	99999	10000-99999	Y	PK
	LICENSE_NAME	License name	VARCHAR (20)	Xxxxxxxxx		Y	

ENTITY	ATTRIBUTE NAME	CONTENTS	DATA TYPE	FORMAT	RANGE	REQUIRED	PK or FK
	LICENSE_VALID-ITY	License validity	VARCHAR (20)	Xxxxxxxxx			
	LI-CENSE_STARTDAT E	License startdate	DATE	YYYY-MM-DD			
	LICENSOR_NAME	Licensor name	VARCHAR (20)	Xxxxxxxxx			
BROADCAST	BROADCAST_ID	Broadcast identification number	CHAR (5)	99999	10000-99999	Y	PK
	BROADCAST_COM-PANY	Broadcast company	VARCHAR (20)	Xxxxxxxxx		Y	
	BROADCAST_VA-LIDITY	Broadcast validity	VARCHAR (20)	Xxxxxxxxx		Y	
	BROADCAST_IPR	Broadcast ipr rights	VARCHAR (20)	Xxxxxxxxx		Y	
	BROADCAST_PART-NER	Broadcast partner	VARCHAR (20)	Xxxxxxxxx			
	STUDIO_ID	Studio identifica-tion number	CHAR (5)	99999	10000-99999	Y	FK
STATS	STATS_ID	Stats identification number	CHAR (5)	99999	10000-99999	Y	PK
	STATS_TRP	Stats trp rating	CHAR (3)	999	000-999	Y	

ENTITY	ATTRIBUTE NAME	CONTENTS	DATA TYPE	FORMAT	RANGE	REQUIRED	PK or FK
	STATS_REVENUE	Stats revenue	NUMERIC(9,2)	9999999.99			
	STATS_REVIEW	Stats review	VARCHAR (20)	Xxxxxxxxx			
	STATS_VIEW-ERS_NUM	Stats number of viewers	CHAR (4)	9999	0000-9999		
	RATING_ID	Rating identification number	CHAR (5)	99999	10000-99999	Y	FK
AWARDS	AWARDS_ID	Awards identification number	CHAR (5)	99999	10000-99999	Y	PK
	AWARDS_NAME	Awards name	VARCHAR (20)	Xxxxxxxxx		Y	
	AWARDS_CATE-GORY	Awards category	VARCHAR (20)	Xxxxxxxxx		Y	
	AWARDS_PRICE	Awards price	NUMERIC(9,2)	9999999.99		Y	
	AWARDS_DESCRIP-TION	Awards descrip-tion	VARCHAR (20)	Xxxxxxxxx			
	GENRE_ID	Genre identification number	CHAR (5)	99999	10000-99999	Y	PK
	STATS_ID	Stats identification number	CHAR (5)	99999	10000-99999	Y	FK

Business Rules:

	Entity #1	Verb	Entity #2	Relationship
Entity Relationship Information	NARUTO_ANIME	produced by	PRODUCER	1:M
Shorthand	NARUTO_ANIME produced by PRODUCER			
Business Rule	One naruto anime can be produced by many producers; a producer produces only one naruto anime			
Entity Relationship Information	PRODUCER	works in	STUDIO	1:M
Shorthand	PRODUCER works in STUDIO			
Business Rule	One producer can work in many studios; a studio can be used for work by only one producer			
Entity Relationship Information	RATING	provided by	STATS	M:N
Shorthand	RATING provided by STATS			
Business Rule	One rating can be provided by many stats; one stat can provide many ratings			
Entity Relationship Information	ARTIST	performs in	GENRE	1:M
Shorthand	ARTIST performs in GENRE			
Business Rule	One artist performs in many genres; one genre can be performed by only one artist			
Entity Relationship Information	GENRE	consists of	AWARDS	1:M

	Entity #1	**Verb**	**Entity #2**	**Relationship**
Shorthand	GENRE consists of AWARDS			
Business Rule	One genre consists of many awards; one award can be provided by only one genre			
Entity Relationship Information	STUDIO	includes	BROADCAST	1:M
Shorthand	STUDIO includes BROADCAST			
Business Rule	One studio can include many broadcasts; one broadcast can be included by only one studio			
Entity Relationship Information	LICENSE	validates	STUDIO	1:M
Shorthand	LICENSE validates STUDIO			
Business Rule	One license can validate many studios; one studio can be validated by only one license			
Entity Relationship Information	BROADCAST	transmits	NARUTO_ANIME	1:1
Shorthand	BROADCAST transmits NARUTO_ANIME			
	Entity #1	**Verb**	**Entity #2**	**Relationship**
Business Rule	One broadcast can transmit only one naruto anime show; one Naruto anime show can be transmitted by only one broadcast			
Entity Relationship Information	STATS	provides	AWARDS	M:N
Shorthand	STATS provides AWARDS			
Business Rule	One stat provides many awards; one award can be provided by many stats			

ERM components:

ENTITY	RELATIONSHIP	CONNECTIVITY	ENTITY
NARUTO_ANIME	produced by	1:M	PRODUCER
PRODUCER	works in	1:M	STUDIO
RATING	provided by	M:N	STATS
ARTIST	performs in	1:M	GENRE
GENRE	consists of	1:M	AWARDS
STUDIO	includes	1:M	BROADCAST
LICENSE	validates	1:M	STUDIO
BROADCAST	transmits	1:1	NARUTO_ANIME
STATS	provides	M:N	AWARDS

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Relational Schemas

NARUTO_ANIME (**SHOW_ID**, SHOW_TYPE, SHOW_STATUS, SHOW_SOURCE, PRODUCER_ID, RATING_ID, GENRE_ID, STUDIO_ID, LICENSE_ID, BROADCAST_ID, STATS_ID)

PRODUCER (**PRODUCER_ID**, PRODUCER_FNAME, PRODUCER_LNAME, PRODUCER_AGE, PRODUCER_BUDGET, PRODUCER_EXPERIENCE)

RATING (**RATING_ID**, RATING _RANK, RATING _MEMBERS, RATING_POPULARITY, RATING _FEEDBACK)

ARTIST (**ARTIST_ID**, ARTIST_FNAME, ARTIST_LNAME, ARTIST_ROLE, ARTIST_LOCATION, ARTIST_SKILL, SHOW_ID)

GENRE (**GENRE_ID**, GENRE_TYPE, GENRE_DESCRIPTION, GENRE_SETTING, ARTIST_ID)

STUDIO (**STUDIO_ID**, STUDIO_LOCATION, STUDIO_NAME, STUDIO_CONTACT, STUDIO_STARTDATE, PRODUCER_ID, LICENSE_ID)

LICENSE (**LICENSE_ID**, LICENSE_NAME, LICENSE_VALIDITY, LICENSE_STARTDATE, LICENSOR_NAME)

BROADCAST (**BROADCAST_ID**, BROADCAST_COMPANY, BROADCAST_VALIDITY, BROADCAST_IPR, BROADCAST_PARTNER, STUDIO_ID)
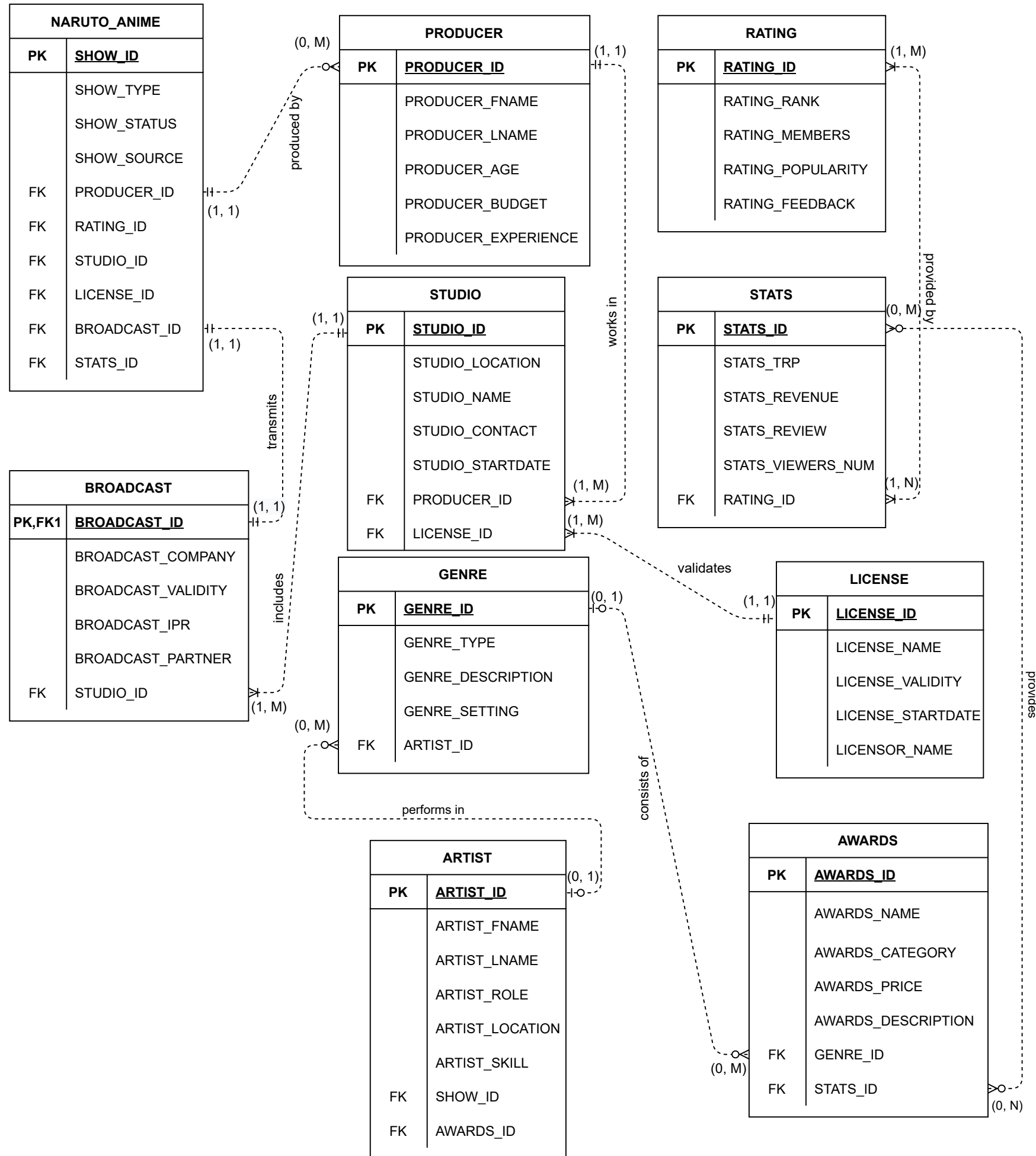
STATS (**STATS_ID**, STATS_TRP, STATS_REVENUE, STATS_REVIEW, STATS_VIEWERS_NUM, RATING_ID)

AWARDS (**AWARDS_ID**, AWARDS_NAME, AWARDS_CATEGORY, AWARDS_PRICE, AWARDS_DESCRIPTION, GENRE_ID, STATS_ID)
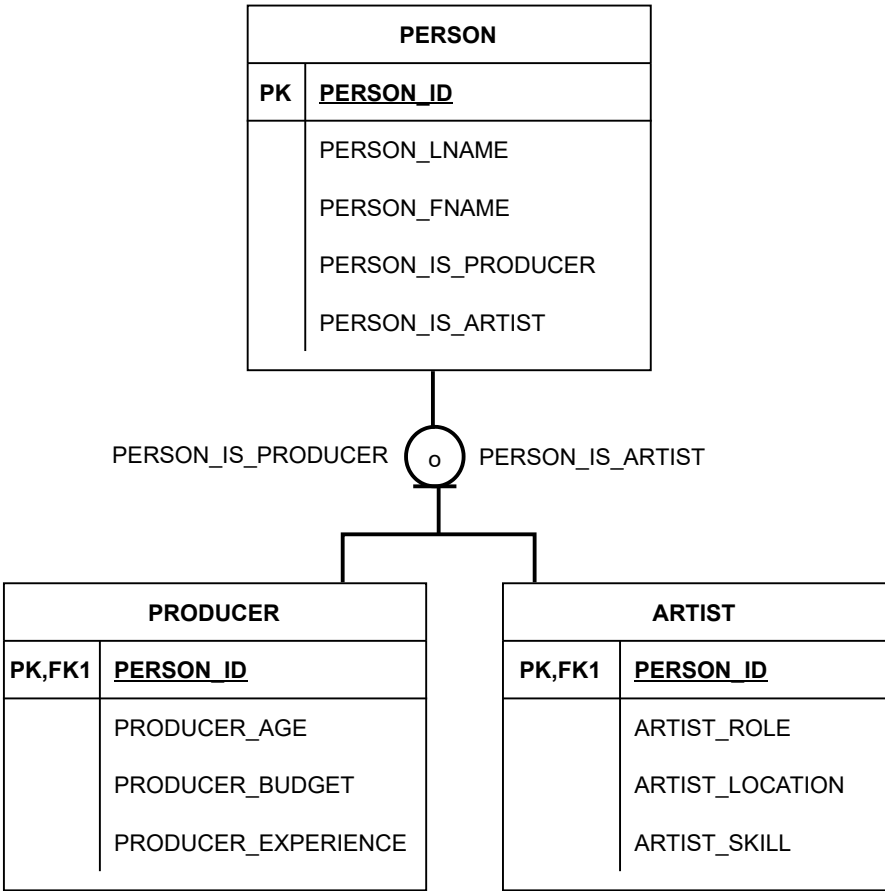
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ERD Diagram

NARUTO_ANIME

PK	SHOW_ID
	SHOW_TYPE
	SHOW_STATUS
	SHOW_SOURCE
FK	PRODUCER_ID
FK	RATING_ID
FK	STUDIO_ID
FK	LICENSE_ID
FK	BROADCAST_ID
FK	STATS_ID

PRODUCER

PK	PRODUCER_ID
	PRODUCER_FNAME
	PRODUCER_LNAME
	PRODUCER_AGE
	PRODUCER_BUDGET
	PRODUCER_EXPERIENCE

RATING

PK	RATING_ID
	RATING_RANK
	RATING_MEMBERS
	RATING_POPULARITY
	RATING_FEEDBACK

STUDIO

PK	STUDIO_ID
	STUDIO_LOCATION
	STUDIO_NAME
	STUDIO_CONTACT
	STUDIO_STARTDATE
FK	PRODUCER_ID
FK	LICENSE_ID

STATS

PK	STATS_ID
	STATS_TRP
	STATS_REVENUE
	STATS_REVIEW
	STATS_VIEWERS_NUM
FK	RATING_ID

BROADCAST

PK,FK1	BROADCAST_ID
	BROADCAST_COMPANY
	BROADCAST_VALIDITY
	BROADCAST_IPR
	BROADCAST_PARTNER
FK	STUDIO_ID

GENRE

PK	GENRE_ID
	GENRE_TYPE
	GENRE_DESCRIPTION
	GENRE_SETTING
FK	ARTIST_ID

LICENSE

PK	LICENSE_ID
	LICENSE_NAME
	LICENSE_VALIDITY
	LICENSE_STARTDATE
	LICENSOR_NAME

ARTIST

PK	ARTIST_ID
	ARTIST_FNAME
	ARTIST_LNAME
	ARTIST_ROLE
	ARTIST_LOCATION
	ARTIST_SKILL
FK	SHOW_ID
FK	AWARDS_ID

AWARDS

PK	AWARDS_ID
	AWARDS_NAME
	AWARDS_CATEGORY
	AWARDS_PRICE
	AWARDS_DESCRIPTION
FK	GENRE_ID
FK	STATS_ID

Relationship labels: produced by, works in, provided by, transmits, validates, includes, consists of, performs in, provides

Cardinalities: (0, M), (1, 1), (1, M), (0, 1), (1, N), (0, M), (0, N)

Supertype/Subtype Diagram

PERSON	
PK	**PERSON_ID**
	PERSON_LNAME
	PERSON_FNAME
	PERSON_IS_PRODUCER
	PERSON_IS_ARTIST

PERSON_IS_PRODUCER   o   PERSON_IS_ARTIST

PRODUCER	
PK,FK1	**PERSON_ID**
	PRODUCER_AGE
	PRODUCER_BUDGET
	PRODUCER_EXPERIENCE

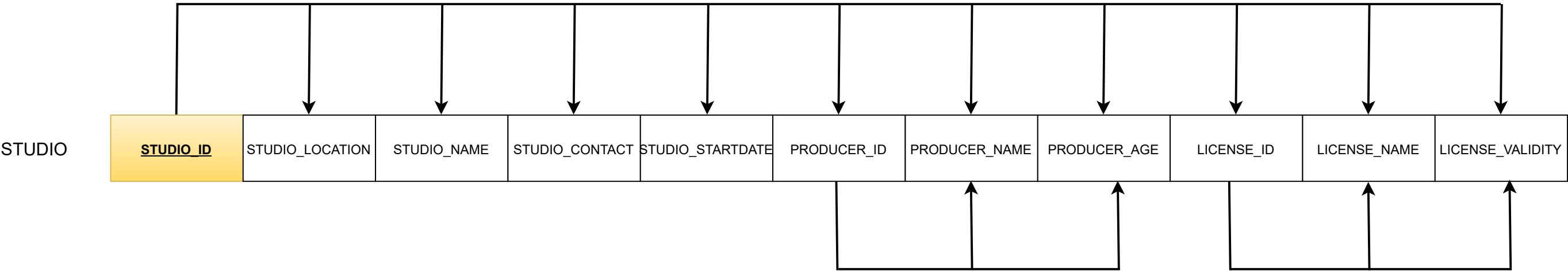| ARTIST	
PK,FK1	**PERSON_ID**
	ARTIST_ROLE
	ARTIST_LOCATION
	ARTIST_SKILL

Normalization

First Normal Form

Relational Schema

STUDIO (**STUDIO_ID**, STUDIO_LOCATION, STUDIO_NAME, STUDIO_CONTACT, STUDIO_STARTDATE, PRODUCER_ID, PRODUCER_NAME, PRODUCER_AGE,

LICENSE_ID, LICENSE_NAME, LICENSE_VALIDITY)

Partial Dependencies
 Zero

Transitive dependencies
(**PRODUCER_ID**-> PRODUCER_NAME, PRODUCER_AGE)

(**LICENSE_ID**-> LICENSE_NAME, LICENSE_VALIDITY)

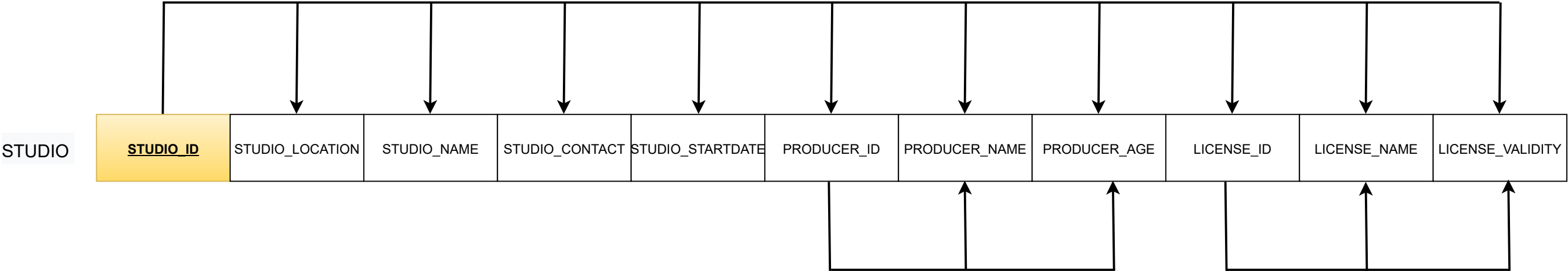| STUDIO | STUDIO_ID | STUDIO_LOCATION | STUDIO_NAME | STUDIO_CONTACT | STUDIO_STARTDATE | PRODUCER_ID | PRODUCER_NAME | PRODUCER_AGE | LICENSE_ID | LICENSE_NAME | LICENSE_VALIDITY |

<u>Second Normal Form</u>

Relational Schema

Since no composite key attributes are present there are 0 partial dependencies and 2NF is same as 1NF

STUDIO (**STUDIO_ID**, STUDIO_LOCATION, STUDIO_NAME, STUDIO_CONTACT, STUDIO_STARTDATE, PRODUCER_ID, PRODUCER_NAME, PRODUCER_AGE,

LICENSE_ID, LICENSE_NAME, LICENSE_VALIDITY)

Partial Dependencies
 Zero

Transitive dependencies
(**PRODUCER_ID**-> PRODUCER_NAME, PRODUCER_AGE)

(**LICENSE_ID**-> LICENSE_NAME, LICENSE_VALIDITY)

| STUDIO | **STUDIO_ID** | STUDIO_LOCATION | STUDIO_NAME | STUDIO_CONTACT | STUDIO_STARTDATE | PRODUCER_ID | PRODUCER_NAME | PRODUCER_AGE | LICENSE_ID | LICENSE_NAME | LICENSE_VALIDITY |

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Third Normal Form

Relational Schema

STUDIO (**STUDIO_ID**, STUDIO_LOCATION, STUDIO_NAME, STUDIO_CONTACT, STUDIO_STARTDATE, PRODUCER_ID,

LICENSE_ID)

PRODUCER (**PRODUCER_ID,** PRODUCER_NAME, PRODUCER_AGE)

LICENSE (**LICENSE_ID,** LICENSE_NAME, LICENSE_VALIDITY)

Find the status of the show with TV as source?

SELECT SHOW_TYPE, SHOW_STATUS FROM NARUTO_ANIME WHERE SHOW_SOURCE='TV';

Find the rating feedback with anime details of the show id 01?

SELECT RATING.RATING_FEEDBACK, NARUTO_ANIME.* FROM RATING INNER JOIN NARUTO_ANIME ON

RATING.RATING_ID=NARUTO_ANIME.RATING_ID WHERE NARUTO_ANIME.SHOW_ID='01';

Find the show details whose license id is valid?

SELECT * FROM NARUTO_ANIME WHERE LICENSE_ID IN (SELECT LICENSE_ID FROM LICENSE

WHERE LICENSE_VALIDITY='VALID');