University of British Columbiambia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: __4___

Date: April 3, 2024

Group Number: Group 3

Name	Student Number	CS Alias (Userid)	Preferred Email Address
Nicholas Zhang	53521472	k2n2p	nicholaszhang0817@gmail.com
Erik Lin	13855572	c7d7n	erik.s.lin.2011@gmail.com
Jay Park	96589361	e4m4p	jayp@student.ubc.ca

By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your email address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia.

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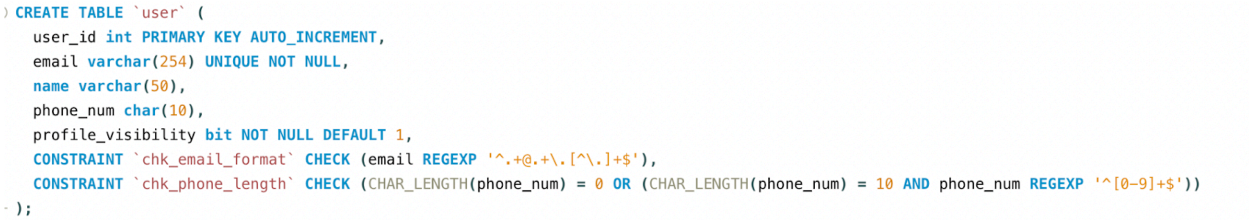
Project Summary:

Pokéswap is a database designed to streamline the trading experience for Pokémon card fans. We aim to create a database to assist users with a comprehensive tool to manage and view their card collections, create trade offers, and comment on other collectors' posts in a seamless manner. Users can easily upload and sort through their personal Pokémon card collections, as well as view other's collections. The database is designed to model several aspects of the card trading domain, including users, cards of a user, and details of a specific card, including collector number, pokémon number, type, and other specifications of the card. We have managed to get user creation and deletion working, along with editing personal user details. You are also able to rate other users and sort by every user's rating. There is also a feature of searching pokemon cards by specific filters, as well as view the contents of an associated trade. We plan to add all the features that are missing later down on the road, but the current version has a sufficient baseline to build upon.

Changes Made to the Schema:

Pokéswap's schema largely remained the same but underwent a few changes:

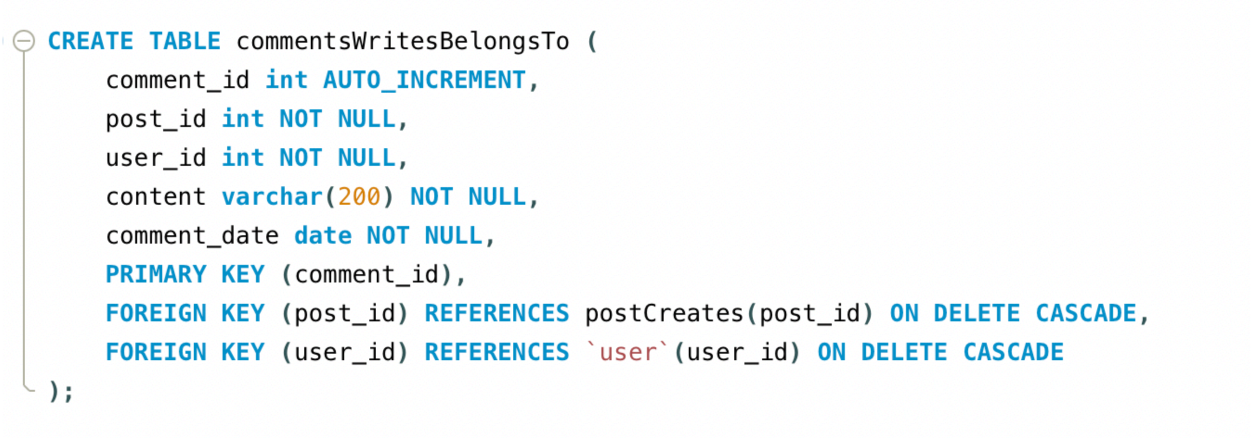
- Addition of 'auto_increment' to multiple primary keys to automatically update primary keys upon insertion of new tuples.
    - Affected tables were:
        - user
        - ratingsRates
        - postCreates
        - commentsWritesBelongsTo
        - cardOwnsDescribedAs
        - tradeOfferTradesWith
- Checks were added with regex to the table create statements to ensure the proper formatting of and validity of user inputs.
    - At the start of the assignment we had not learned checks yet, so when we were taught in class they were added.



```
CREATE TABLE `user` (
  user_id int PRIMARY KEY AUTO_INCREMENT,
  email varchar(254) UNIQUE NOT NULL,
  name varchar(50),
  phone_num char(10),
  profile_visibility bit NOT NULL DEFAULT 1,
  CONSTRAINT `chk_email_format` CHECK (email REGEXP '^.+@.+\.[^\.]+$'),
  CONSTRAINT `chk_phone_length` CHECK (CHAR_LENGTH(phone_num) = 0 OR (CHAR_LENGTH(phone_num) = 10 AND phone_num REGEXP '^[0-9]+$'))
);
```

An emails must follow the format of (name)@(domain).(com/ca etc.)
All phone numbers in a phone number must be exactly 10 numbers long.

- Primary key for the commentsWritesBelongsTo table was changed to only contain *comment_id,* (before it was a compound primary key with *comment_id* and *post_id* but was changed to allow for an auto incrementing primary key.



```sql
CREATE TABLE commentsWritesBelongsTo (
    comment_id int AUTO_INCREMENT,
    post_id int NOT NULL,
    user_id int NOT NULL,
    content varchar(200) NOT NULL,
    comment_date date NOT NULL,
    PRIMARY KEY (comment_id),
    FOREIGN KEY (post_id) REFERENCES postCreates(post_id) ON DELETE CASCADE,
    FOREIGN KEY (user_id) REFERENCES `user`(user_id) ON DELETE CASCADE
);
```

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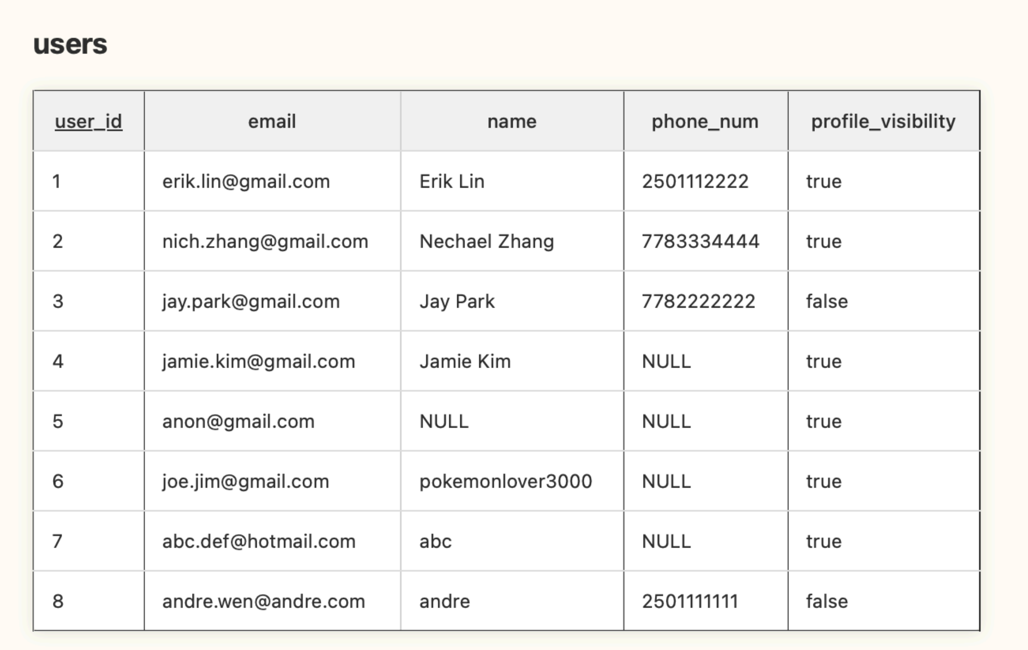
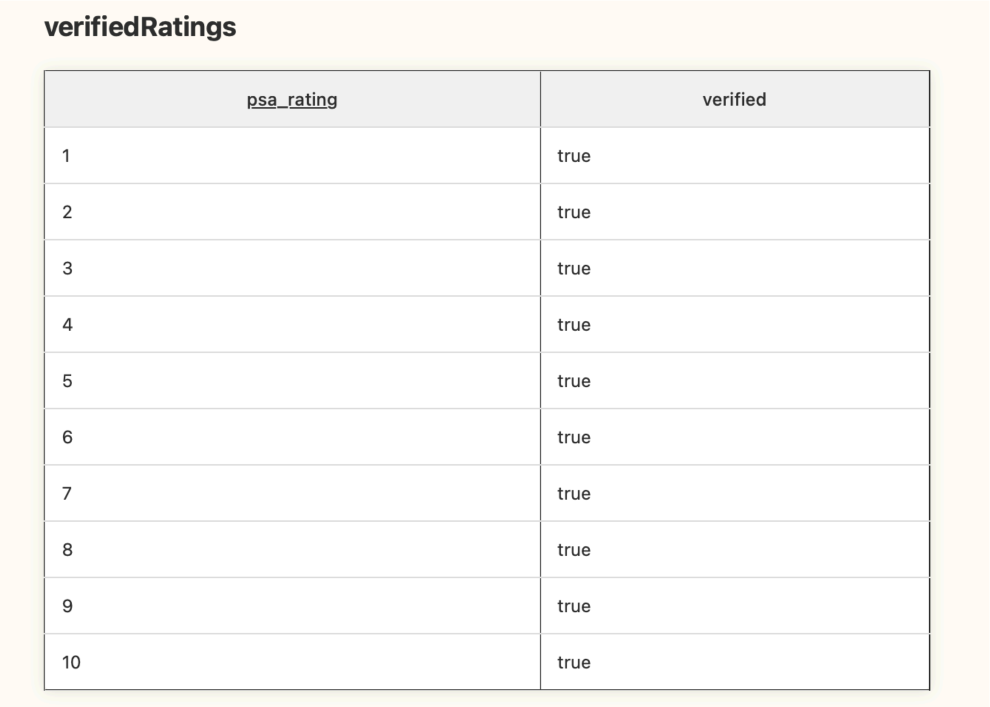
Copy of Schema and Tables after Running the SQL Script:



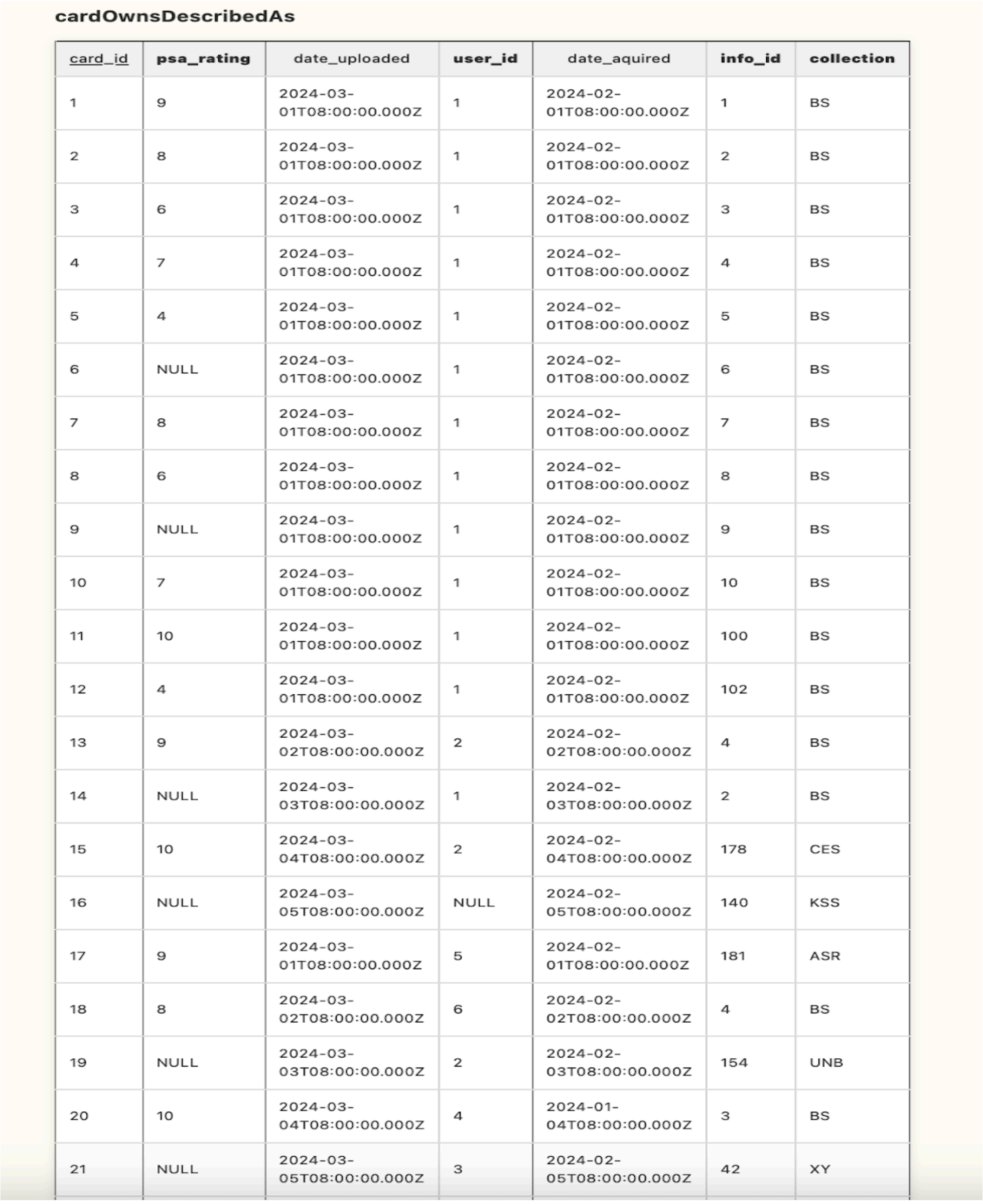
users

user_id	email	name	phone_num	profile_visibility
1	erik.lin@gmail.com	Erik Lin	2501112222	true
2	nich.zhang@gmail.com	Nechael Zhang	7783334444	true
3	jay.park@gmail.com	Jay Park	7782222222	false
4	jamie.kim@gmail.com	Jamie Kim	NULL	true
5	anon@gmail.com	NULL	NULL	true
6	joe.jim@gmail.com	pokemonlover3000	NULL	true
7	abc.def@hotmail.com	abc	NULL	true
8	andre.wen@andre.com	andre	2501111111	false



verifiedRatings

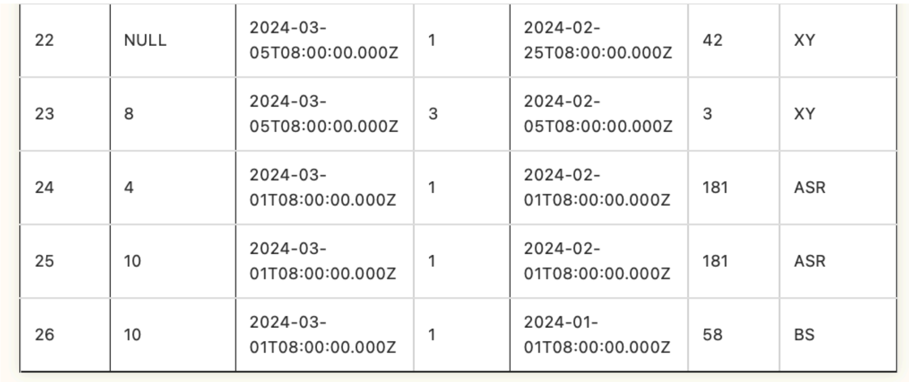
psa_rating	verified
1	true
2	true
3	true
4	true
5	true
6	true
7	true
8	true
9	true
10	true



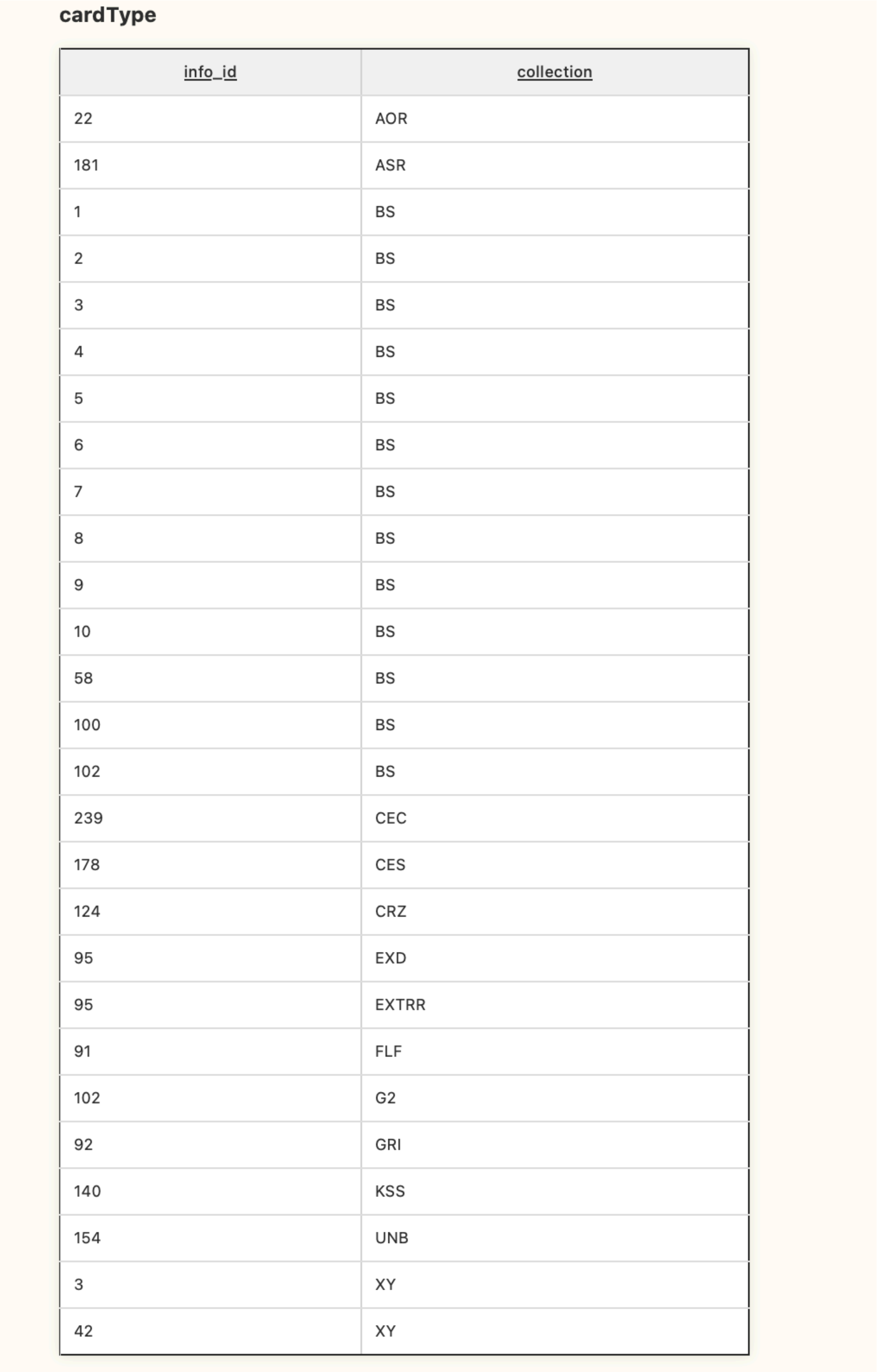
cardOwnsDescribedAs

card_id	psa_rating	date_uploaded	user_id	date_aquired	info_id	collection
1	9	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	1	BS
2	8	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	2	BS
3	6	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	3	BS
4	7	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	4	BS
5	4	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	5	BS
6	NULL	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	6	BS
7	8	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	7	BS
8	6	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	8	BS
9	NULL	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	9	BS
10	7	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	10	BS
11	10	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	100	BS
12	4	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	102	BS
13	9	2024-03-02T08:00:00.000Z	2	2024-02-02T08:00:00.000Z	4	BS
14	NULL	2024-03-03T08:00:00.000Z	1	2024-02-03T08:00:00.000Z	2	BS
15	10	2024-03-04T08:00:00.000Z	2	2024-02-04T08:00:00.000Z	178	CES
16	NULL	2024-03-05T08:00:00.000Z	NULL	2024-02-05T08:00:00.000Z	140	KSS
17	9	2024-03-01T08:00:00.000Z	5	2024-02-01T08:00:00.000Z	181	ASR
18	8	2024-03-02T08:00:00.000Z	6	2024-02-02T08:00:00.000Z	4	BS
19	NULL	2024-03-03T08:00:00.000Z	2	2024-02-03T08:00:00.000Z	154	UNB
20	10	2024-03-04T08:00:00.000Z	4	2024-01-04T08:00:00.000Z	3	BS
21	NULL	2024-03-05T08:00:00.000Z	3	2024-02-05T08:00:00.000Z	42	XY

(cardOwnsDescribedAs continued)

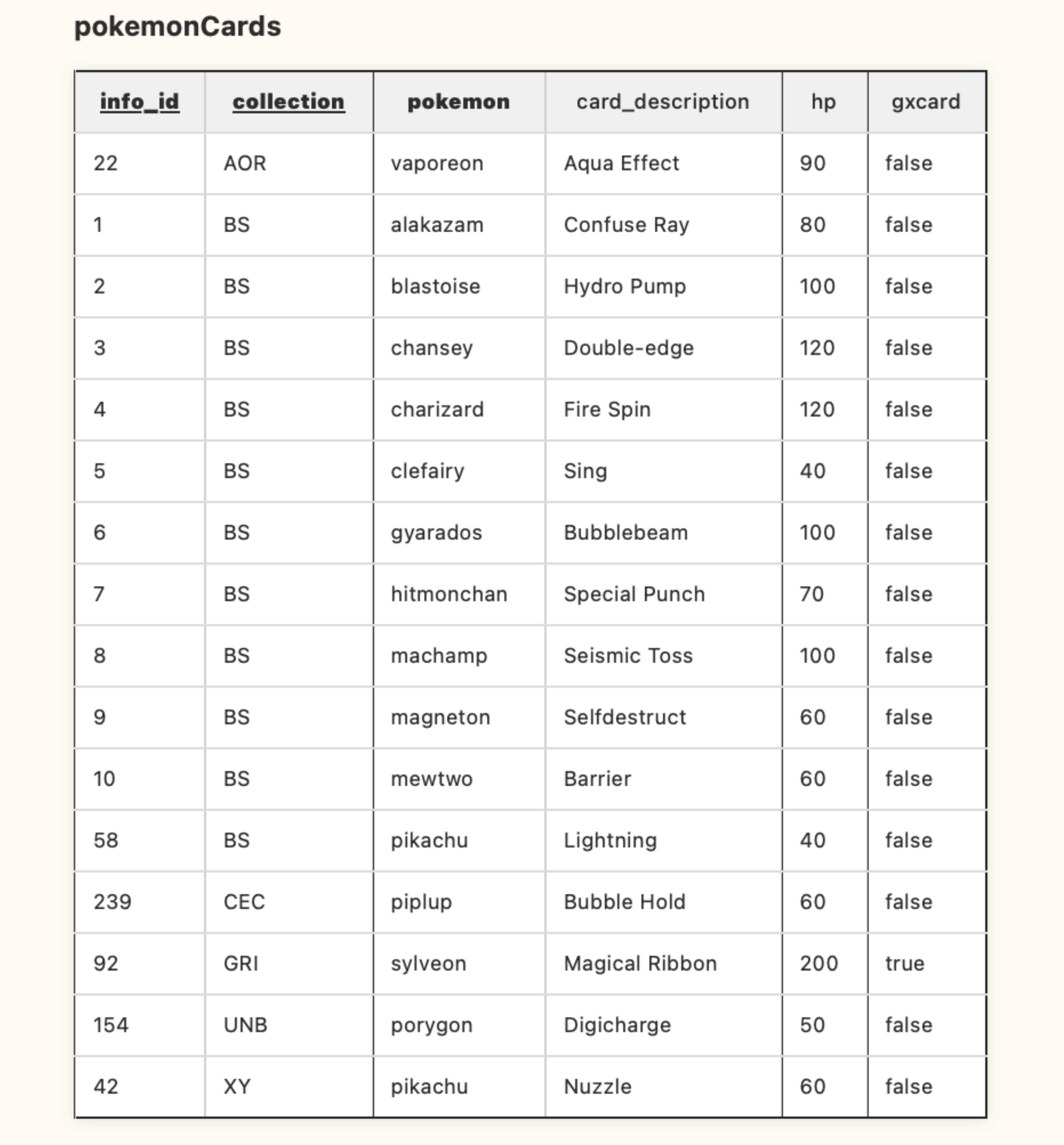


22	NULL	2024-03-05T08:00:00.000Z	1	2024-02-25T08:00:00.000Z	42	XY
23	8	2024-03-05T08:00:00.000Z	3	2024-02-05T08:00:00.000Z	3	XY
24	4	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	181	ASR
25	10	2024-03-01T08:00:00.000Z	1	2024-02-01T08:00:00.000Z	181	ASR
26	10	2024-03-01T08:00:00.000Z	1	2024-01-01T08:00:00.000Z	58	BS



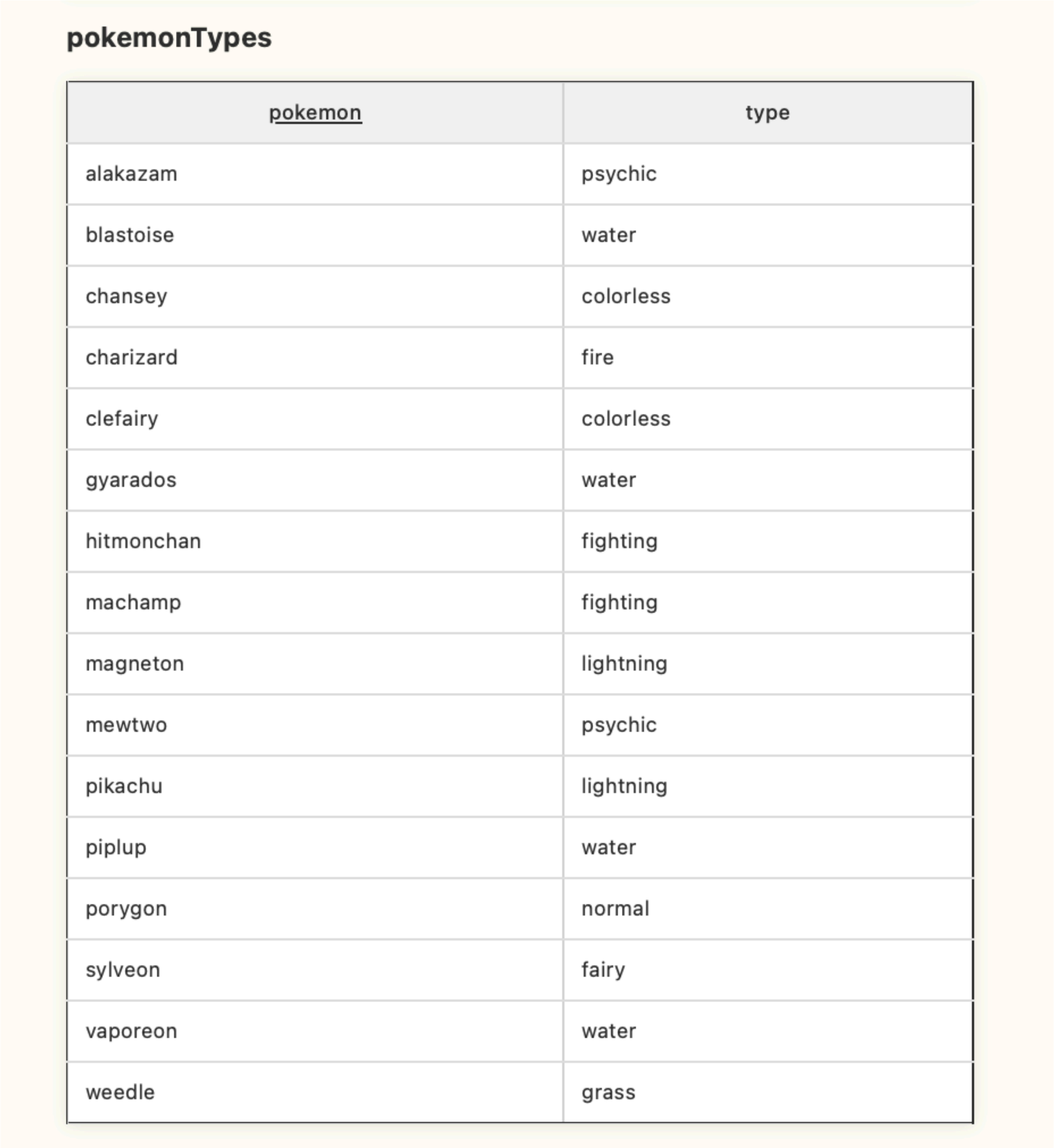
cardType

info_id	collection
22	AOR
181	ASR
1	BS
2	BS
3	BS
4	BS
5	BS
6	BS
7	BS
8	BS
9	BS
10	BS
58	BS
100	BS
102	BS
239	CEC
178	CES
124	CRZ
95	EXD
95	EXTRR
91	FLF
102	G2
92	GRI
140	KSS
154	UNB
3	XY
42	XY



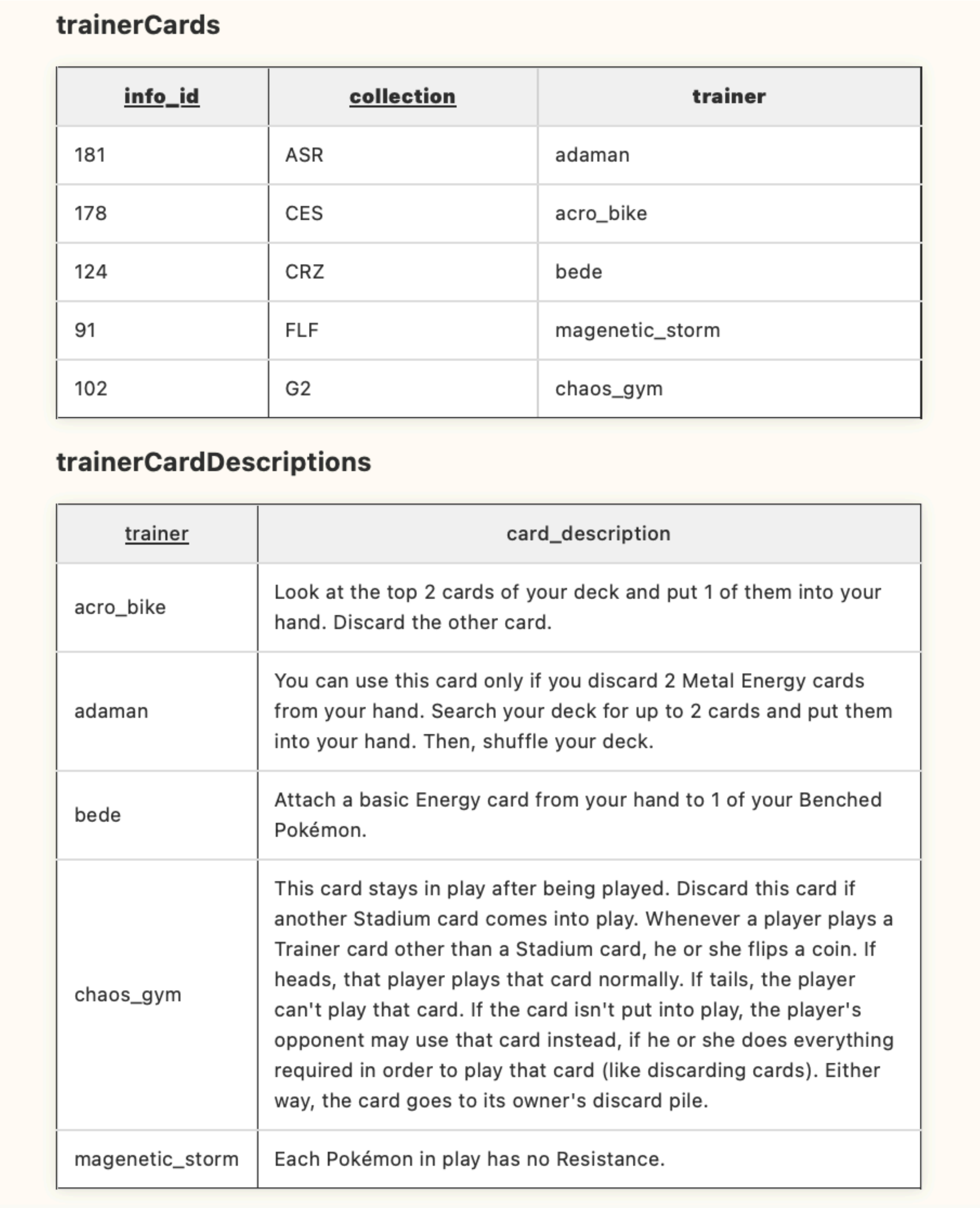
pokemonCards

info_id	collection	pokemon	card_description	hp	gxcard
22	AOR	vaporeon	Aqua Effect	90	false
1	BS	alakazam	Confuse Ray	80	false
2	BS	blastoise	Hydro Pump	100	false
3	BS	chansey	Double-edge	120	false
4	BS	charizard	Fire Spin	120	false
5	BS	clefairy	Sing	40	false
6	BS	gyarados	Bubblebeam	100	false
7	BS	hitmonchan	Special Punch	70	false
8	BS	machamp	Seismic Toss	100	false
9	BS	magneton	Selfdestruct	60	false
10	BS	mewtwo	Barrier	60	false
58	BS	pikachu	Lightning	40	false
239	CEC	piplup	Bubble Hold	60	false
92	GRI	sylveon	Magical Ribbon	200	true
154	UNB	porygon	Digicharge	50	false
42	XY	pikachu	Nuzzle	60	false



pokemonTypes

pokemon	type
alakazam	psychic
blastoise	water
chansey	colorless
charizard	fire
clefairy	colorless
gyarados	water
hitmonchan	fighting
machamp	fighting
magneton	lightning
mewtwo	psychic
pikachu	lightning
piplup	water
porygon	normal
sylveon	fairy
vaporeon	water
weedle	grass

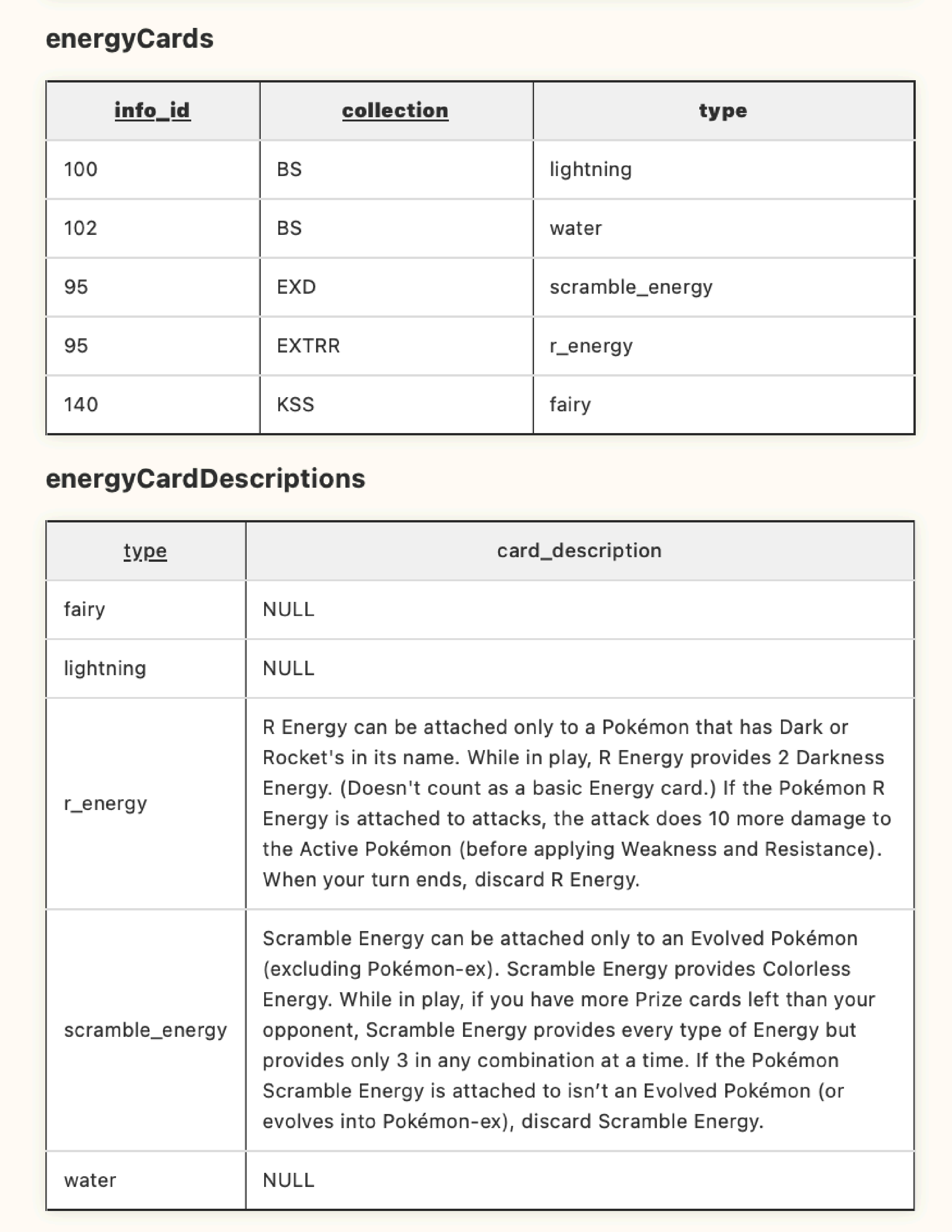


trainerCards

info_id	collection	trainer
181	ASR	adaman
178	CES	acro_bike
124	CRZ	bede
91	FLF	magenetic_storm
102	G2	chaos_gym

trainerCardDescriptions

trainer	card_description
acro_bike	Look at the top 2 cards of your deck and put 1 of them into your hand. Discard the other card.
adaman	You can use this card only if you discard 2 Metal Energy cards from your hand. Search your deck for up to 2 cards and put them into your hand. Then, shuffle your deck.
bede	Attach a basic Energy card from your hand to 1 of your Benched Pokémon.
chaos_gym	This card stays in play after being played. Discard this card if another Stadium card comes into play. Whenever a player plays a Trainer card other than a Stadium card, he or she flips a coin. If heads, that player plays that card normally. If tails, the player can't play that card. If the card isn't put into play, the player's opponent may use that card instead, if he or she does everything required in order to play that card (like discarding cards). Either way, the card goes to its owner's discard pile.
magenetic_storm	Each Pokémon in play has no Resistance.

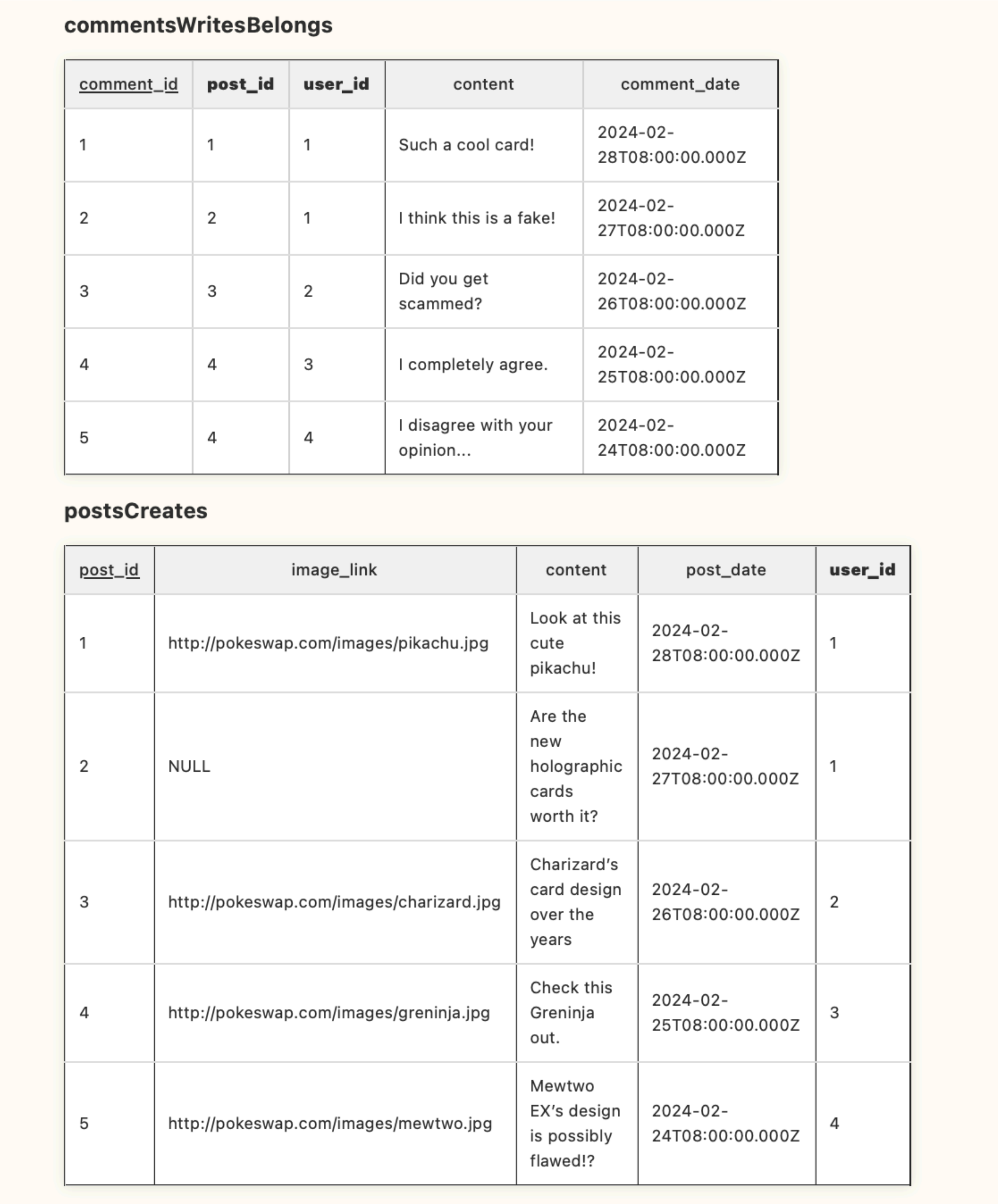


energyCards

info_id	collection	type
100	BS	lightning
102	BS	water
95	EXD	scramble_energy
95	EXTRR	r_energy
140	KSS	fairy

energyCardDescriptions

type	card_description
fairy	NULL
lightning	NULL
r_energy	R Energy can be attached only to a Pokémon that has Dark or Rocket's in its name. While in play, R Energy provides 2 Darkness Energy. (Doesn't count as a basic Energy card.) If the Pokémon R Energy is attached to attacks, the attack does 10 more damage to the Active Pokémon (before applying Weakness and Resistance). When your turn ends, discard R Energy.
scramble_energy	Scramble Energy can be attached only to an Evolved Pokémon (excluding Pokémon-ex). Scramble Energy provides Colorless Energy. While in play, if you have more Prize cards left than your opponent, Scramble Energy provides every type of Energy but provides only 3 in any combination at a time. If the Pokémon Scramble Energy is attached to isn't an Evolved Pokémon (or evolves into Pokémon-ex), discard Scramble Energy.
water	NULL



commentsWritesBelongs

comment_id	**post_id**	**user_id**	content	comment_date
1	1	1	Such a cool card!	2024-02-28T08:00:00.000Z
2	2	1	I think this is a fake!	2024-02-27T08:00:00.000Z
3	3	2	Did you get scammed?	2024-02-26T08:00:00.000Z
4	4	3	I completely agree.	2024-02-25T08:00:00.000Z
5	4	4	I disagree with your opinion...	2024-02-24T08:00:00.000Z

postsCreates

post_id	image_link	content	post_date	**user_id**
1	http://pokeswap.com/images/pikachu.jpg	Look at this cute pikachu!	2024-02-28T08:00:00.000Z	1
2	NULL	Are the new holographic cards worth it?	2024-02-27T08:00:00.000Z	1
3	http://pokeswap.com/images/charizard.jpg	Charizard's card design over the years	2024-02-26T08:00:00.000Z	2
4	http://pokeswap.com/images/greninja.jpg	Check this Greninja out.	2024-02-25T08:00:00.000Z	3
5	http://pokeswap.com/images/mewtwo.jpg	Mewtwo EX's design is possibly flawed!?	2024-02-24T08:00:00.000Z	4

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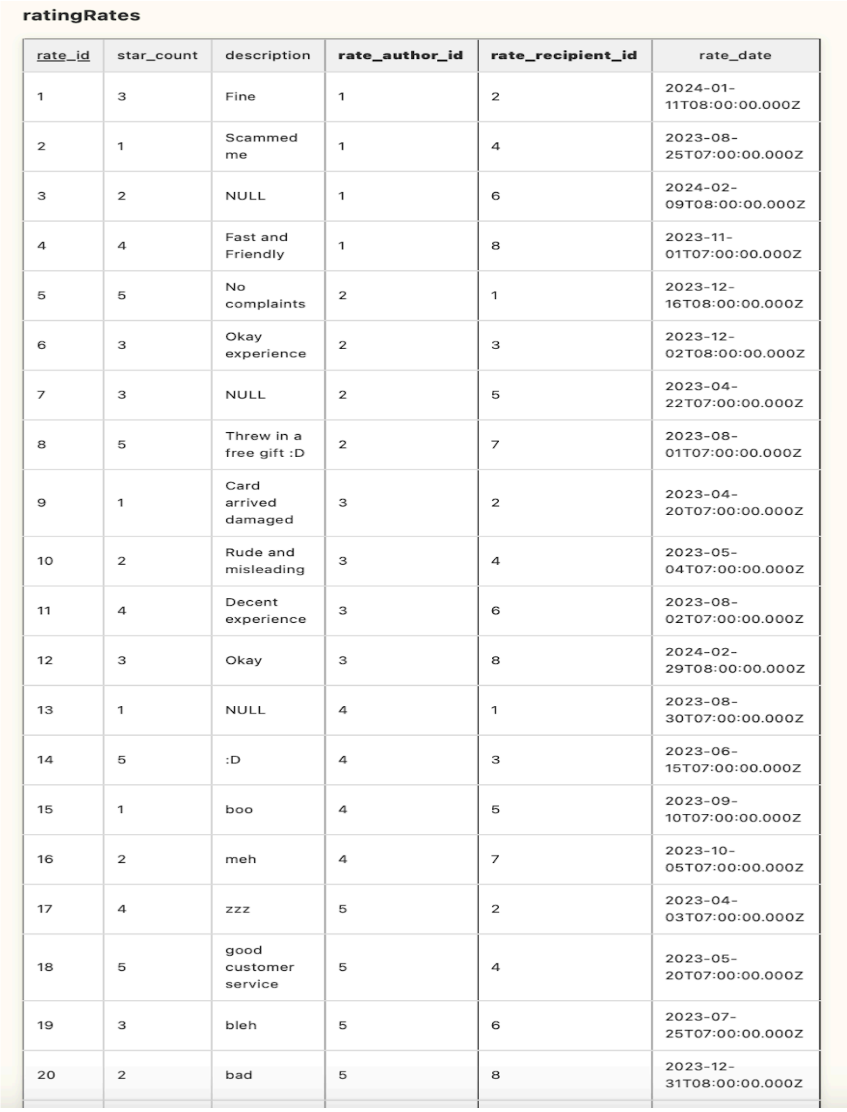
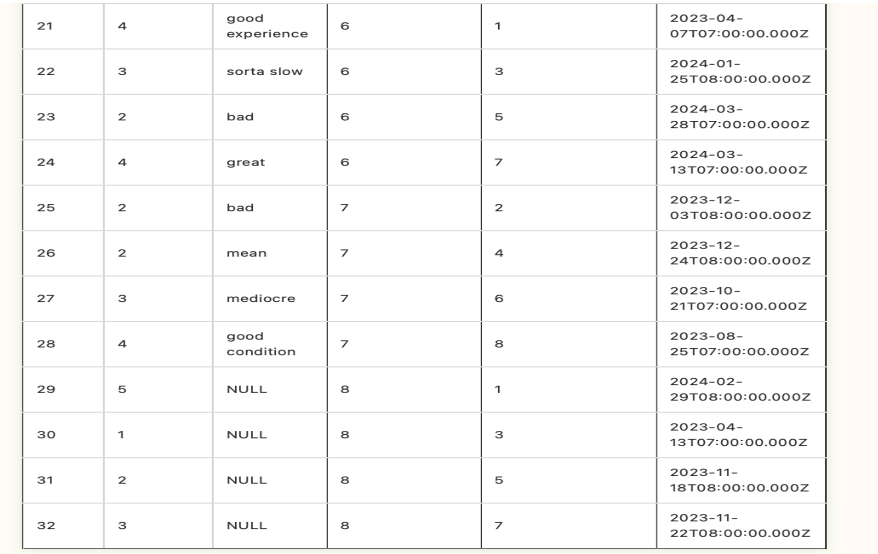
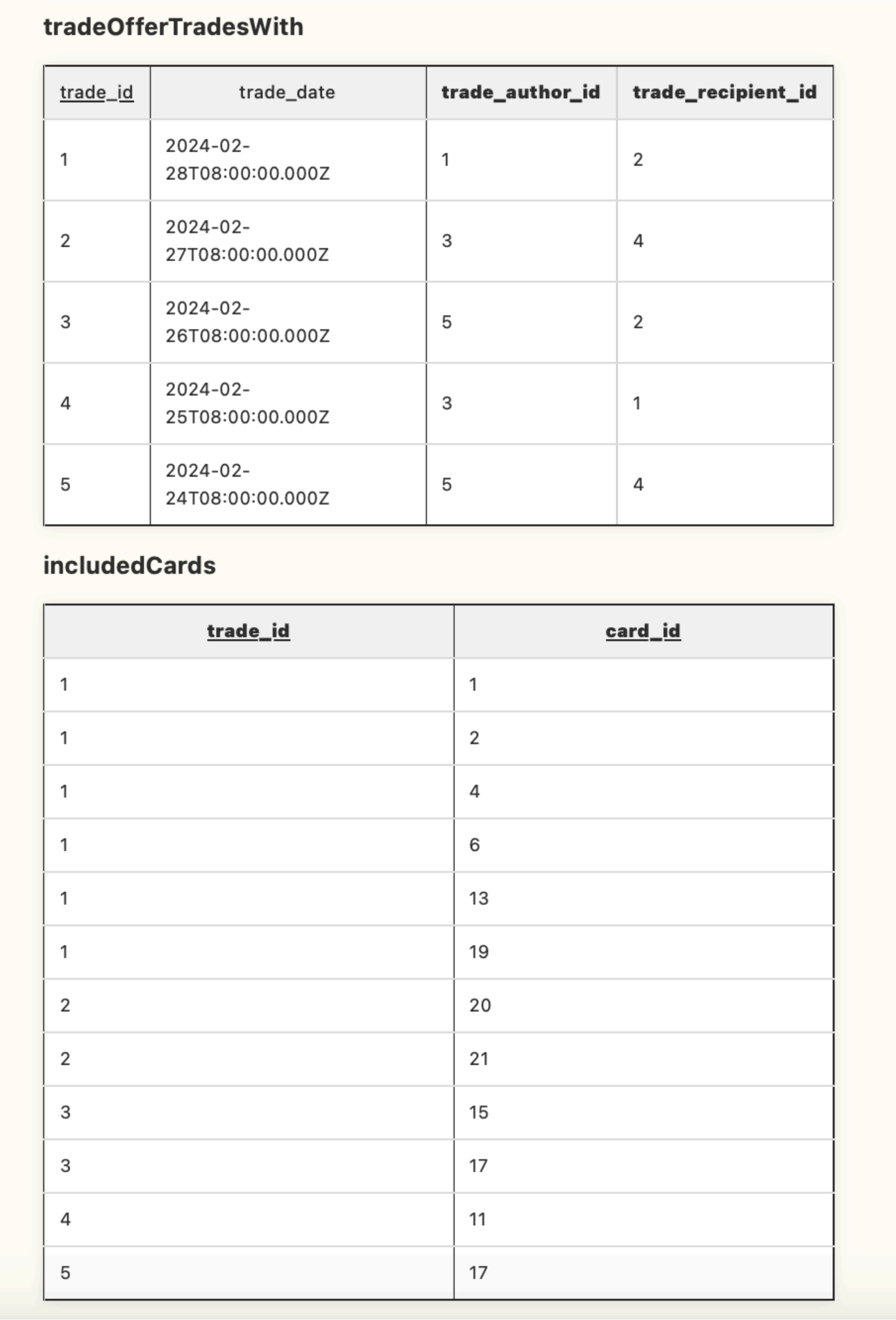


(ratingsRates continued)



ratingRates

rate_id	star_count	description	rate_author_id	rate_recipient_id	rate_date
1	3	Fine	1	2	2024-01-11T08:00:00.000Z
2	1	Scammed me	1	4	2023-08-25T07:00:00.000Z
3	2	NULL	1	6	2024-02-09T08:00:00.000Z
4	4	Fast and Friendly	1	8	2023-11-01T07:00:00.000Z
5	5	No complaints	2	1	2023-12-16T08:00:00.000Z
6	3	Okay experience	2	3	2023-12-02T08:00:00.000Z
7	3	NULL	2	5	2023-04-22T07:00:00.000Z
8	5	Threw in a free gift :D	2	7	2023-08-01T07:00:00.000Z
9	1	Card arrived damaged	3	2	2023-04-20T07:00:00.000Z
10	2	Rude and misleading	3	4	2023-05-04T07:00:00.000Z
11	4	Decent experience	3	6	2023-08-02T07:00:00.000Z
12	3	Okay	3	8	2024-02-29T08:00:00.000Z
13	1	NULL	4	1	2023-08-30T07:00:00.000Z
14	5	:D	4	3	2023-06-15T07:00:00.000Z
15	1	boo	4	5	2023-09-10T07:00:00.000Z
16	2	meh	4	7	2023-10-05T07:00:00.000Z
17	4	zzz	5	2	2023-04-03T07:00:00.000Z
18	5	good customer service	5	4	2023-05-20T07:00:00.000Z
19	3	bleh	5	6	2023-07-25T07:00:00.000Z
20	2	bad	5	8	2023-12-31T08:00:00.000Z
21	4	good experience	6	1	2023-04-07T07:00:00.000Z
22	3	sorta slow	6	3	2024-01-25T08:00:00.000Z
23	2	bad	6	5	2024-03-28T07:00:00.000Z
24	4	great	6	7	2024-03-13T07:00:00.000Z
25	2	bad	7	2	2023-12-03T08:00:00.000Z
26	2	mean	7	4	2023-12-24T08:00:00.000Z
27	3	mediocre	7	6	2023-10-21T07:00:00.000Z
28	4	good condition	7	8	2023-08-25T07:00:00.000Z
29	5	NULL	8	1	2024-02-29T08:00:00.000Z
30	1	NULL	8	3	2023-04-13T07:00:00.000Z
31	2	NULL	8	5	2023-11-18T08:00:00.000Z
32	3	NULL	8	7	2023-11-22T08:00:00.000Z



tradeOfferTradesWith

trade_id	trade_date	trade_author_id	trade_recipient_id
1	2024-02-28T08:00:00.000Z	1	2
2	2024-02-27T08:00:00.000Z	3	4
3	2024-02-26T08:00:00.000Z	5	2
4	2024-02-25T08:00:00.000Z	3	1
5	2024-02-24T08:00:00.000Z	5	4

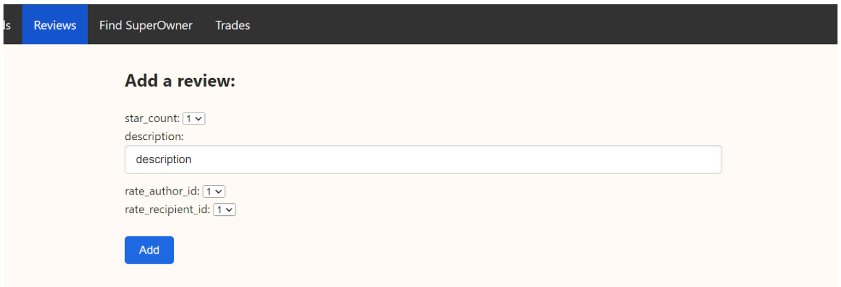
includedCards

trade_id	card_id
1	1
1	2
1	4
1	6
1	13
1	19
2	20
2	21
3	15
3	17
4	11
5	17

List of All SQL Queries Used:

Insert: Insertion into ratingsRates table.
found in line 31 of ./app/service/ratesService.js
To run the query:

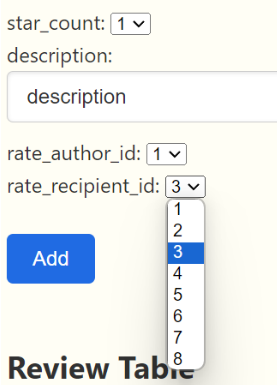
- Go to the review page, as shown below:



Add a review:

star_count: 1
description:
description
rate_author_id: 1
rate_recipient_id: 1

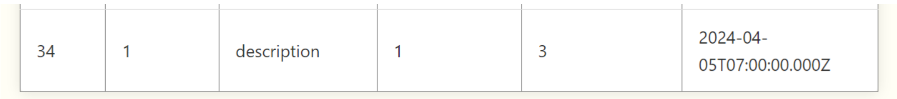
- Select valid author and recipient, and click add:



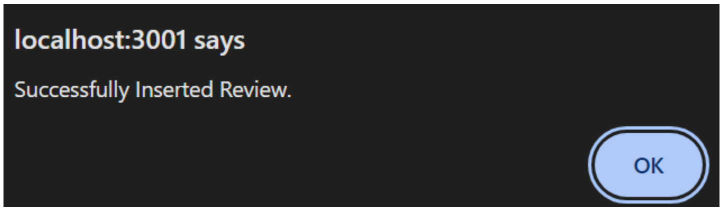
star_count: 1
description:
description
rate_author_id: 1
rate_recipient_id: 3

Review Table

- The tuple should show up in the table below, along with a success message:



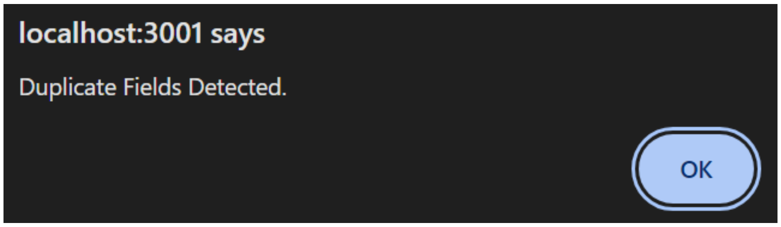
34	1	description	1	3	2024-04-05T07:00:00.000Z



localhost:3001 says

Successfully Inserted Review.

- If there is already an associated entry with that author and recipient pair, or the author and recipient have the same id, an alert will pop up, indicating duplicate fields detected:

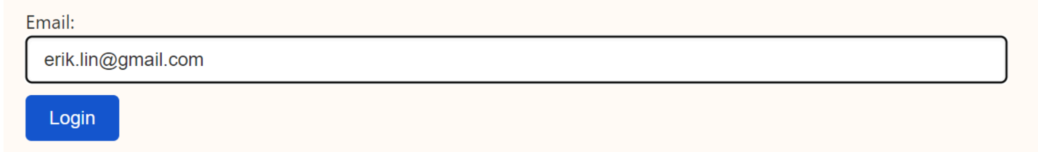


localhost:3001 says

Duplicate Fields Detected.

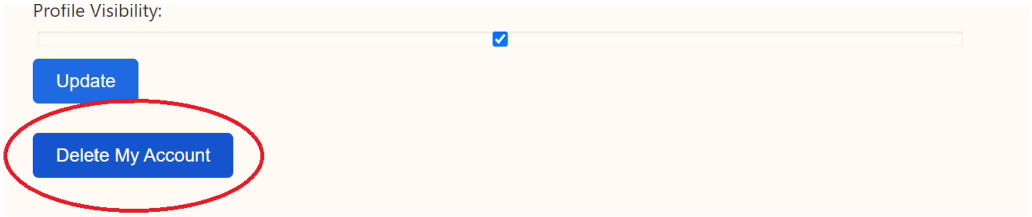
Delete: Deletion from user table.
found in line 109 of ./app/service/userService.js
To run the query:

- Go to the user page, and login with an user email that exists.



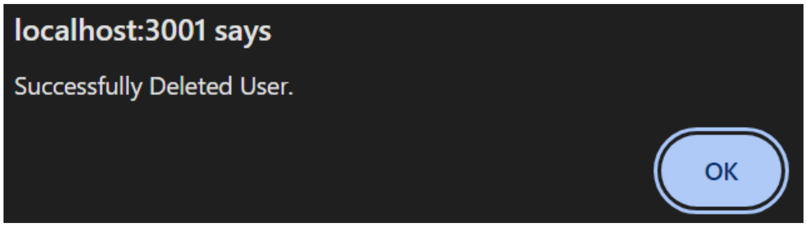
Email: erik.lin@gmail.com

- Scroll down to the bottom, and click the button that says Delete My Account:



Profile Visibility: ☑

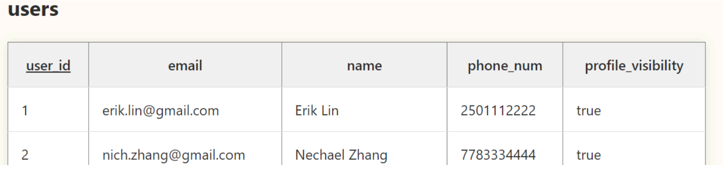
- A success message should pop up, and the tuple will have been deleted. All the associated reviews of that user will also be deleted:



localhost:3001 says

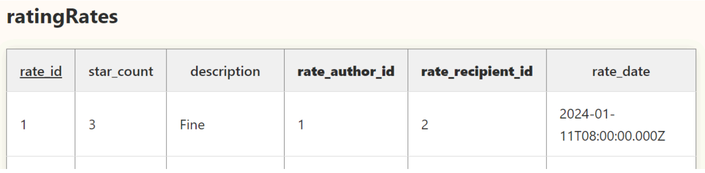
Successfully Deleted User.

- Before and after of the tables:
  - Before:



users

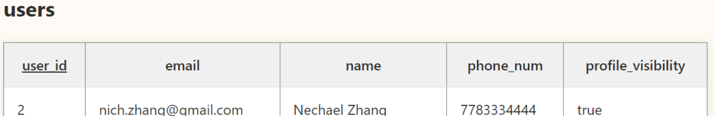
user_id	email	name	phone_num	profile_visibility
1	erik.lin@gmail.com	Erik Lin	2501112222	true
2	nich.zhang@gmail.com	Nechael Zhang	7783334444	true



ratingRates

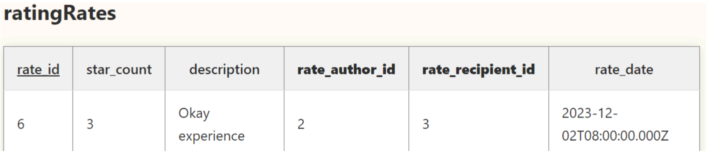
rate_id	star_count	description	rate_author_id	rate_recipient_id	rate_date
1	3	Fine	1	2	2024-01-11T08:00:00.000Z

  - After:



users

user_id	email	name	phone_num	profile_visibility
2	nich.zhang@gmail.com	Nechael Zhang	7783334444	true

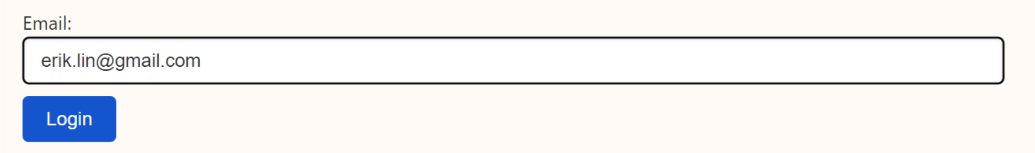


ratingRates

rate_id	star_count	description	rate_author_id	rate_recipient_id	rate_date
6	3	Okay experience	2	3	2023-12-02T08:00:00.000Z

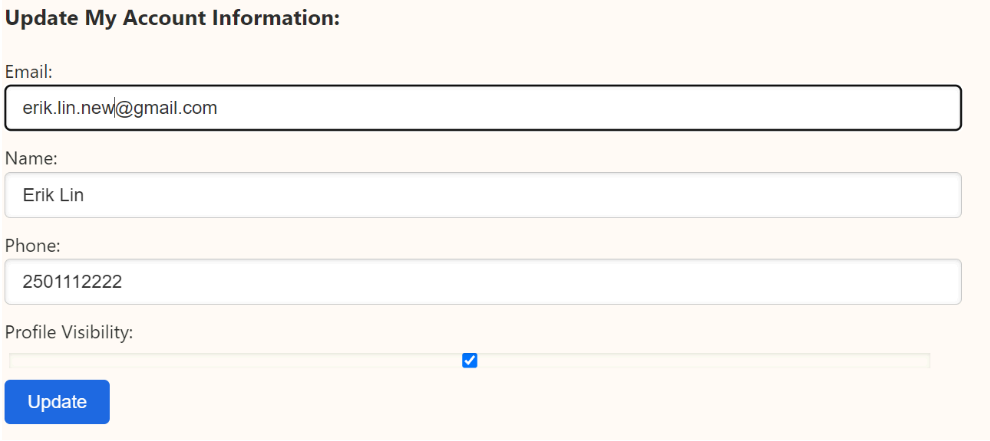
Update: Update of user table.
found in line 86 of ./app/service/userService.js
To run the query:

- Go to the user page, and login with an user email that exists.



Email:
erik.lin@gmail.com

- Scroll down to the bottom, and change the fields that you wish to update:



Update My Account Information:

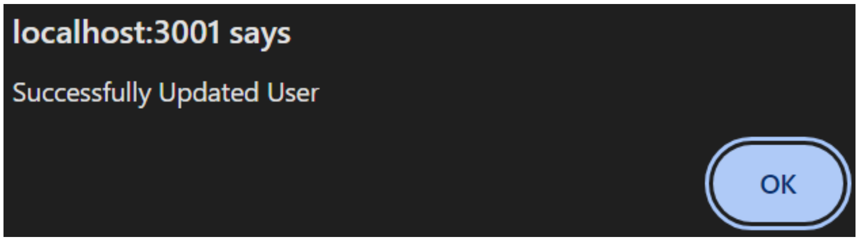
Email:
erik.lin.new@gmail.com

Name:
Erik Lin

Phone:
2501112222

Profile Visibility:
☑

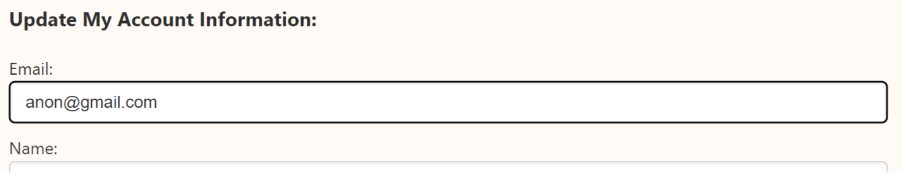
- Click the update button. If the update is successful, an alert will pop up indicating success:



localhost:3001 says

Successfully Updated User

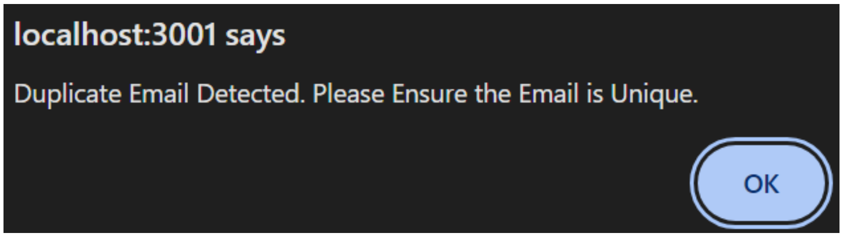
- If the email is not unique, an alert will pop up indicating failure of update:



Update My Account Information:

Email:
anon@gmail.com

Name:

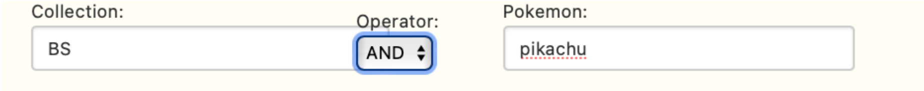


localhost:3001 says

Duplicate Email Detected. Please Ensure the Email is Unique.

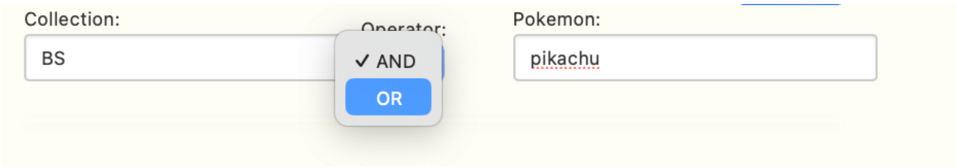
Selection: Selection from pokemonCard, pokemonTypes
found in line 153 of ./app/service/cardTypesService.js
To run the query:

- Go to the Cards page, and fill in the relevant fields you would like to select by:



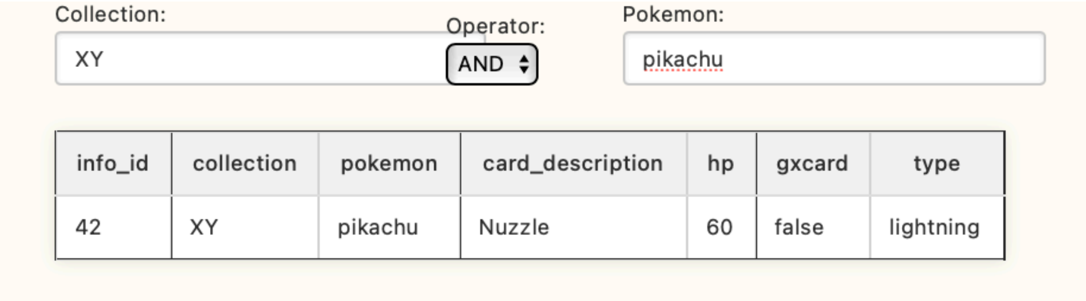
Collection: BS
Operator: AND
Pokemon: pikachu

The operator can be entered as either AND or OR



Collection: BS
Operator:
Pokemon: pikachu

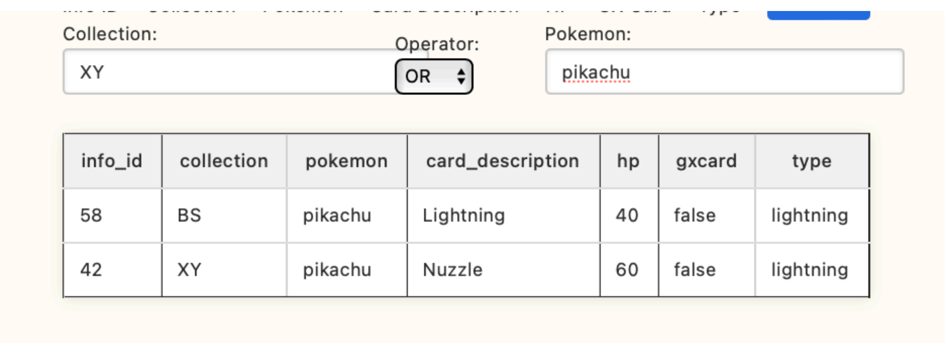
- Click the submit button located above the text boxes. If a card with the criteria exists, the table below will display the information:
  - AND



Collection: XY
Operator: AND
Pokemon: pikachu

info_id	collection	pokemon	card_description	hp	gxcard	type
42	XY	pikachu	Nuzzle	60	false	lightning

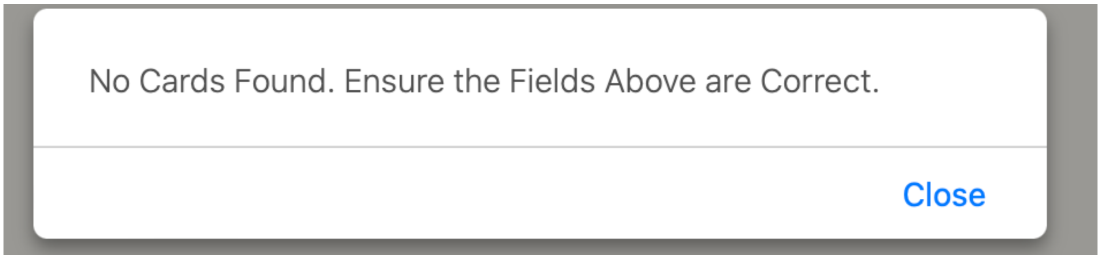
  - OR



Collection: XY
Operator: OR
Pokemon: pikachu

info_id	collection	pokemon	card_description	hp	gxcard	type
58	BS	pikachu	Lightning	40	false	lightning
42	XY	pikachu	Nuzzle	60	false	lightning

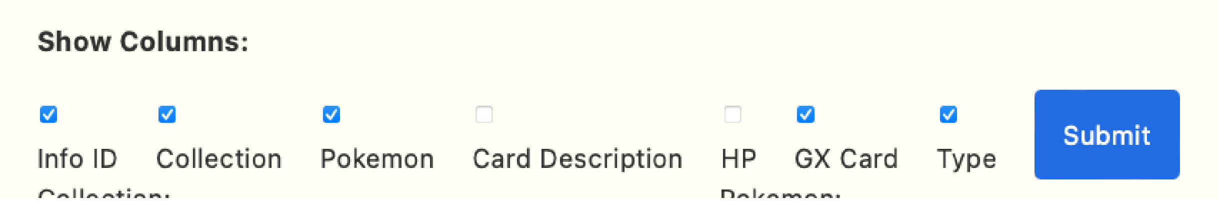
- If no tuples exist, an error will occur indicating no matching cards:



No Cards Found. Ensure the Fields Above are Correct.

Projection: Projection of pokemonCard, pokemonTypes
found in line 153 of ./app/service/cardTypesService.js
To run the query:

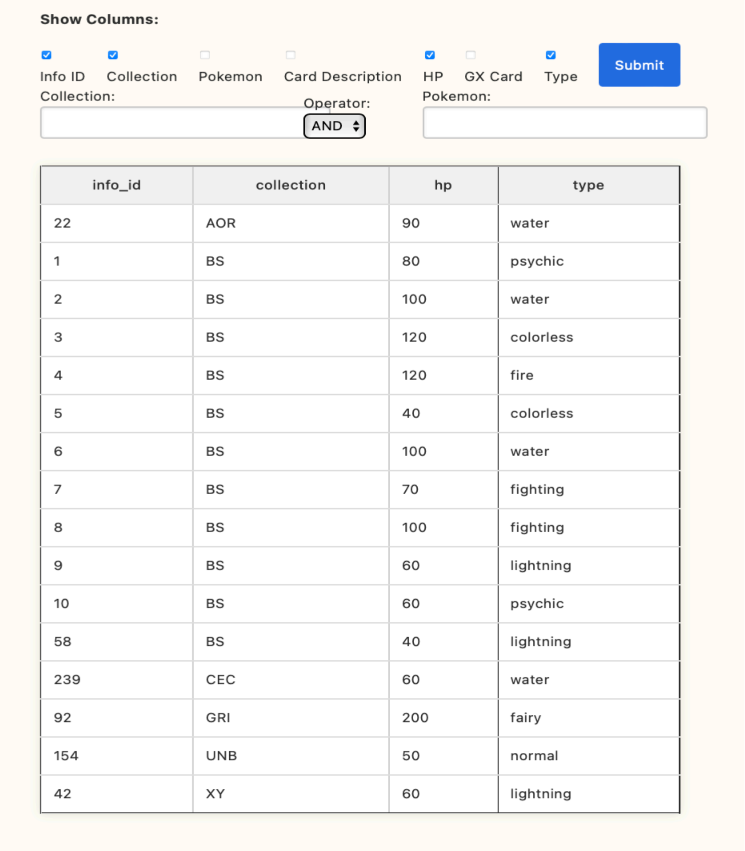
- Go to the Card, page and select all of the columns you wish to view:



Show Columns:

☑ Info ID ☑ Collection ☑ Pokemon □ Card Description □ HP ☑ GX Card ☑ Type

- Click the submit button. Upon success a table will be displayed only with the selected columns:

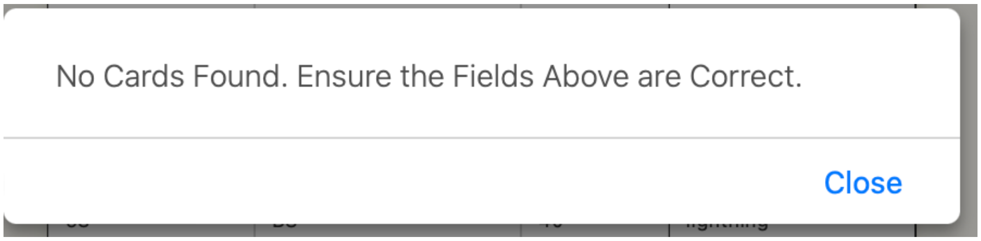


Show Columns:

☑ Info ID ☑ Collection □ Pokemon □ Card Description ☑ HP □ GX Card ☑ Type

info_id	collection	hp	type
22	AOR	90	water
1	BS	80	psychic
2	BS	100	water
3	BS	120	colorless
4	BS	120	fire
5	BS	40	colorless
6	BS	100	water
7	BS	70	fighting
8	BS	100	fighting
9	BS	60	lightning
10	BS	60	psychic
58	BS	40	lightning
239	CEC	60	water
92	GRI	200	fairy
154	UNB	50	normal
42	XY	60	lightning

- If no tuples are returned, an error will occur indicating no results were found:

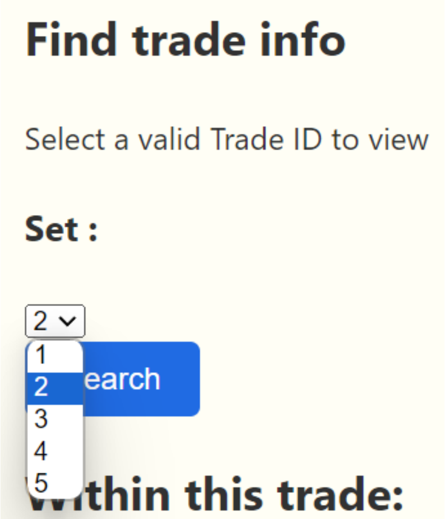


No Cards Found. Ensure the Fields Above are Correct.

Join: Joining of includedCards, tradeOfferTradesWith, cardOwnsDescribedAs tables found in line 187, 212 of ./app/service/tradeService.js

To run the query:

- Go to the trades page, and select a trade ID to view from the dropdown box

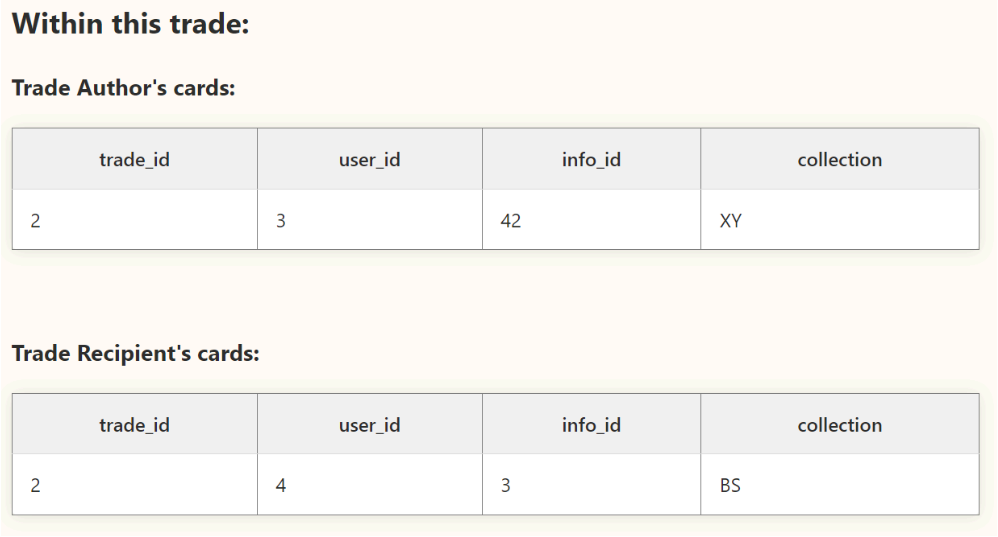


Find trade info

Select a valid Trade ID to view

Set :

- Click search, and all the cards included in the trade where trade_id = value will display:



Within this trade:

Trade Author's cards:

trade_id	user_id	info_id	collection
2	3	42	XY

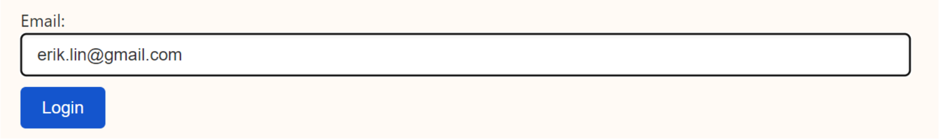
Trade Recipient's cards:

trade_id	user_id	info_id	collection
2	4	3	BS

Aggregation with Group By: group by collection of cardOwnsDescribedAs found in line 149 of ./app/service/userService.js

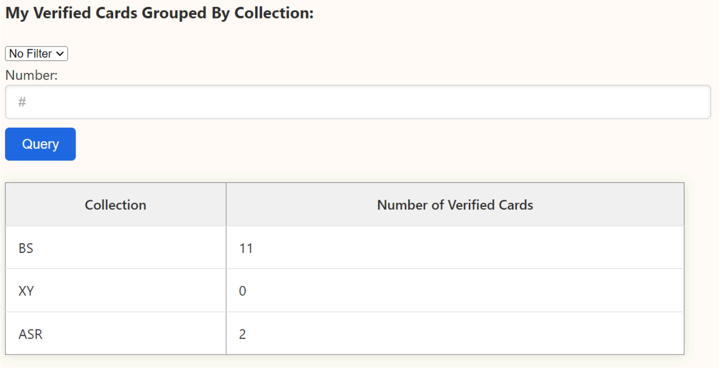
To run the query:

- Go to the user page, and login with an user email that exists.



Email: erik.lin@gmail.com

- Scroll down to the bottom, and do not change any of the fields for no having filter:



My Verified Cards Grouped By Collection:

No Filter

Number: #

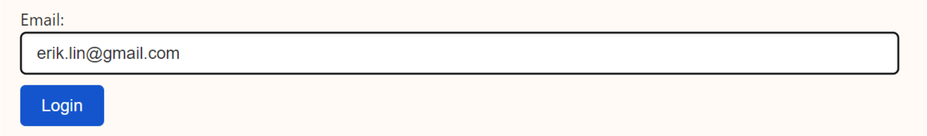
Collection	Number of Verified Cards
BS	11
XY	0
ASR	2

- The table will show you the number of Verified Cards you have per collection.

Aggregation with Having: group by collection of cardOwnsDescribedAs having a psa_rating found in line 168 of ./app/service/userService.js

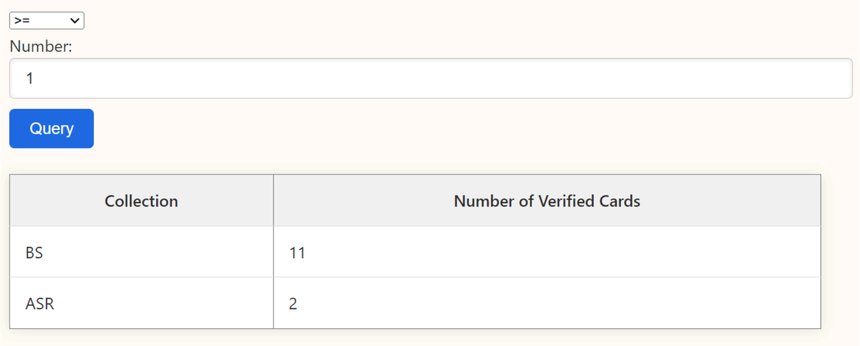
To run the query:

- Go to the user page, and login with an user email that exists.



Email: erik.lin@gmail.com

- Scroll down to the bottom, and type a number and select an inequality to only display the results if the count of cards meets the condition:



>=

Number: 1

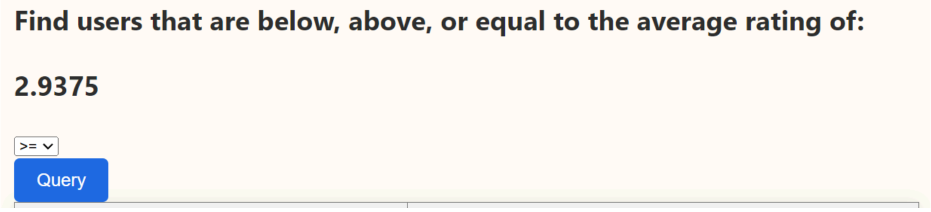
Collection	Number of Verified Cards
BS	11
ASR	2

- The table will show you the number of Verified Cards you have per collection, following the “HAVING” restriction.

Nested Aggregation with Group By: group by user rating who is higher than overall average found in line 68 of ./app/service/ratesService.js

To run the query:

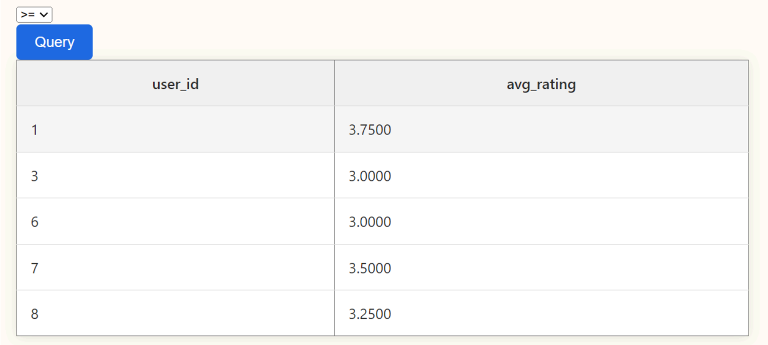
- Go to the reviews page, and scroll down to the bottom. The average of all star ratings will be displayed.



Find users that are below, above, or equal to the average rating of:

2.9375

- Select an inequality to only display the users if their average rating of cards meets the condition. Click the query button:



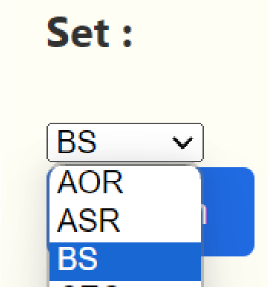
user_id	avg_rating
1	3.7500
3	3.0000
6	3.0000
7	3.5000
8	3.2500

- The table will show the users that have an average rating with the selected inequality.

Division: division of users / cardType to get users that own all cards of a collection found in line 184 of ./app/service/userService.js

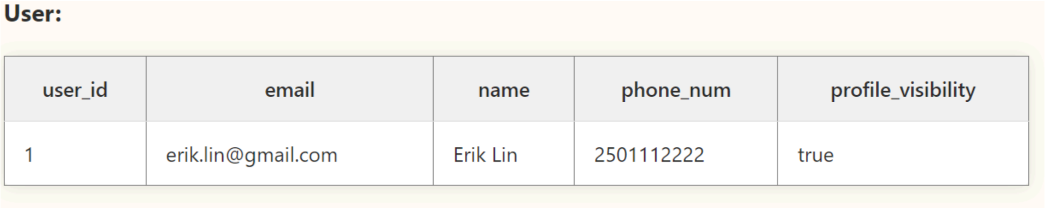
To run the query:

- Go to the Find SuperOwner page, and select a collection from the dropdown box.



Set :

- Click Search, and the table will display users that own all cards from that collection:



User:

user_id	email	name	phone_num	profile_visibility
1	erik.lin@gmail.com	Erik Lin	2501112222	true