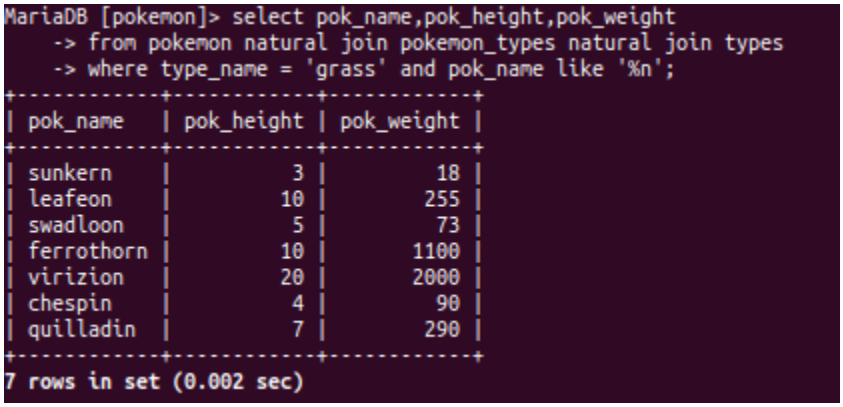
Reinhart Wisely Lim

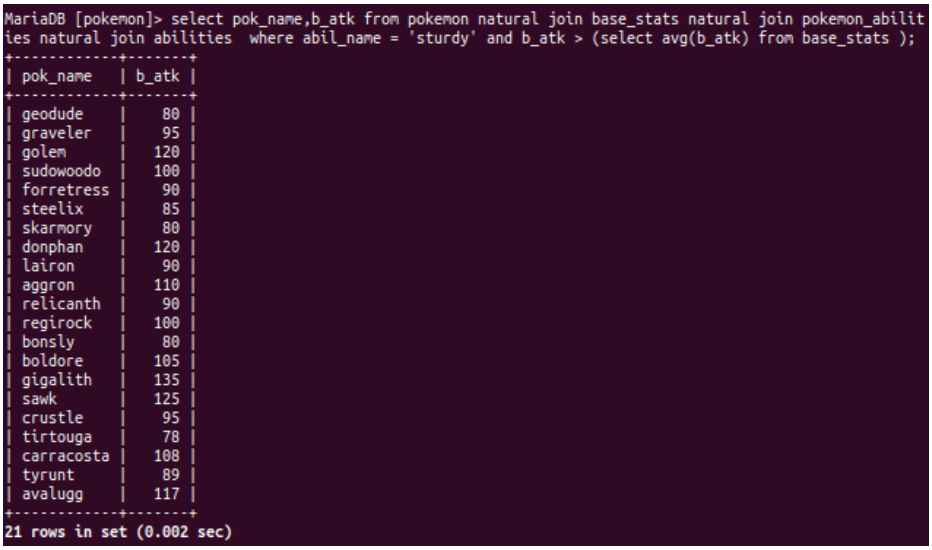
1. Buatlah sebuah query untuk menampilkan nama, tinggi, dan berat dari pokemon dengan tipe grass dan nama yang diakhiri huruf n.

Query	SELECT pok_name, pok_height, pok_weight FROM pokemon NATURAL JOIN pokemon_types NATURAL JOIN types WHERE type_name = 'grass' AND pok_name LIKE '%n';
SS	

```
MariaDB [pokemon]> select pok_name,pok_height,pok_weight
    -> from pokemon natural join pokemon_types natural join types
    -> where type_name = 'grass' and pok_name like '%n';
+------------+------------+------------+
| pok_name   | pok_height | pok_weight |
+------------+------------+------------+
| sunkern    |          3 |         18 |
| leafeon    |         10 |        255 |
| swadloon   |          5 |         73 |
| ferrothorn |         10 |       1100 |
| virizion   |         20 |       2000 |
| chespin    |          4 |         90 |
| quilladin  |          7 |        290 |
+------------+------------+------------+
7 rows in set (0.002 sec)
```

2. Buatlah sebuah query untuk menampilkan nama pokemon beserta kekuatan menyerangnya (b_atk) untuk pokemon yang memiliki kekuatan menyerang lebih besar dari rata-rata kekuatan menyerang pokemon lainnya serta memiliki ability ‘sturdy’!

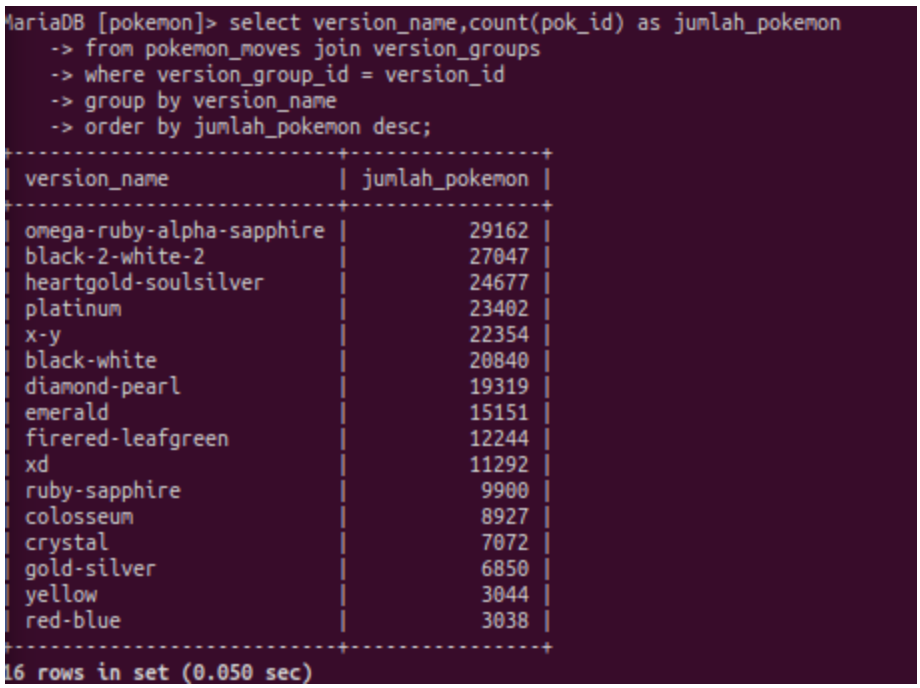
Query	SELECT pok_name,b_atk FROM pokemon NATURAL JOIN base_stats NATURAL JOIN pokemon_abilities NATURAL JOIN abilities WHERE abil_name = 'sturdy' AND b_atk > (SELECT AVG(b_atk) FROM base_stats);

SS	

```
MariaDB [pokemon]> select pok_name,b_atk from pokemon natural join base_stats natural join pokemon_abilit
ies natural join abilities  where abil_name = 'sturdy' and b_atk > (select avg(b_atk) from base_stats );
+------------+-------+
| pok_name   | b_atk |
+------------+-------+
| geodude    |    80 |
| graveler   |    95 |
| golem      |   120 |
| sudowoodo  |   100 |
| forretress |    90 |
| steelix    |    85 |
| skarmory   |    80 |
| donphan    |   120 |
| lairon     |    90 |
| aggron     |   110 |
| relicanth  |    90 |
| regirock   |   100 |
| bonsly     |    80 |
| boldore    |   105 |
| gigalith   |   135 |
| sawk       |   125 |
| crustle    |    95 |
| tirtouga   |    78 |
| carracosta |   108 |
| tyrunt     |    89 |
| avalugg    |   117 |
+------------+-------+
21 rows in set (0.002 sec)
```

3. Buatlah sebuah query untuk menampilkan nama version group beserta jumlah pokemon dari SELURUH version group pada tabel version_groups. Pastikan hasil query terurut dari jumlah pokemon terbanyak!

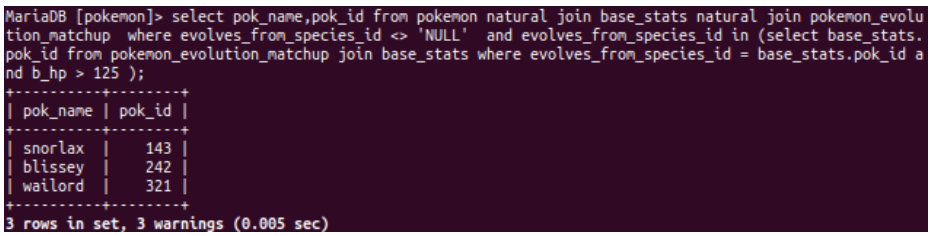
Query	SELECT version_name, COUNT(pok_id) AS jumlah_pokemon FROM pokemon_moves JOIN version_groups WHERE version_group_id = version_id GROUP BY version_name ORDER BY jumlah_pokemon DESC;

SS	

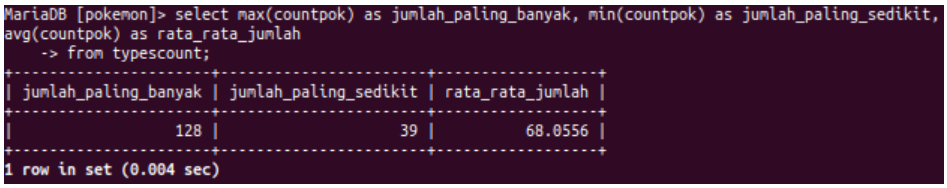
```
MariaDB [pokemon]> select version_name,count(pok_id) as jumlah_pokemon
    -> from pokemon_moves join version_groups
    -> where version_group_id = version_id
    -> group by version_name
    -> order by jumlah_pokemon desc;
+--------------------------+----------------+
| version_name             | jumlah_pokemon |
+--------------------------+----------------+
| omega-ruby-alpha-sapphire |          29162 |
| black-2-white-2          |          27047 |
| heartgold-soulsilver     |          24677 |
| platinum                 |          23402 |
| x-y                      |          22354 |
| black-white              |          20840 |
| diamond-pearl            |          19319 |
| emerald                  |          15151 |
| firered-leafgreen        |          12244 |
| xd                       |          11292 |
| ruby-sapphire            |           9900 |
| colosseum                |           8927 |
| crystal                  |           7072 |
| gold-silver              |           6850 |
| yellow                   |           3044 |
| red-blue                 |           3038 |
+--------------------------+----------------+
16 rows in set (0.050 sec)
```

4. Buatlah sebuah query untuk menampilkan daftar nama pokemon beserta id-nya untuk pokemon yang telah berevolusi dari pokemon yang sebelumnya memiliki HP di atas 125!

Query	SELECT pok_name, pok_id FROM pokemon NATURAL JOIN base_stats NATURAL JOIN pokemon_evolution_matchup WHERE evolves_from_species_id <> 'NULL' AND evolves_from_species_id IN (SELECT base_stats.pok_id FROM pokemon_evolution_matchup JOIN base_stats WHERE evolves_from_species_id = base_stats.pok_id AND b_hp > 125);

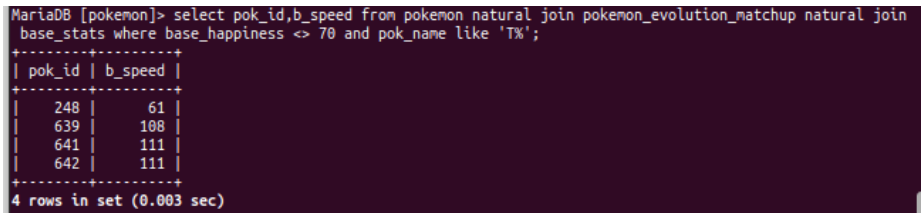
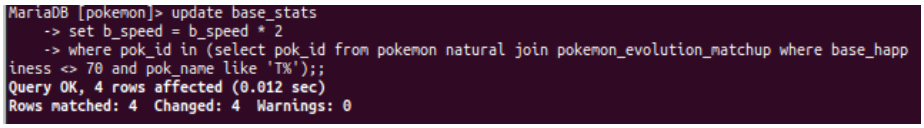
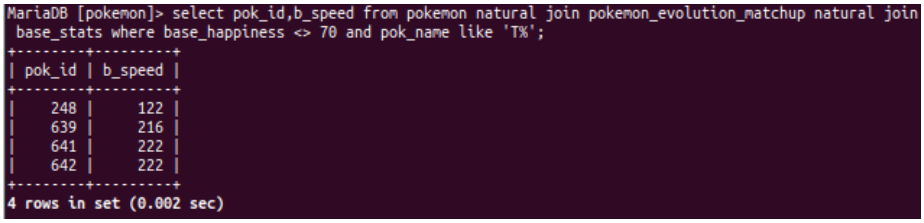
SS	

5. Tampilkan jumlah pokemon dengan tipe paling banyak, jumlah pokemon dengan tipe paling sedikit, dan rata-rata jumlah pokemon yang dimiliki setiap tipe.

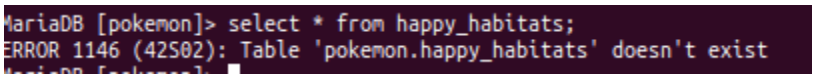
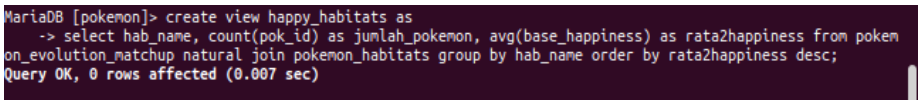
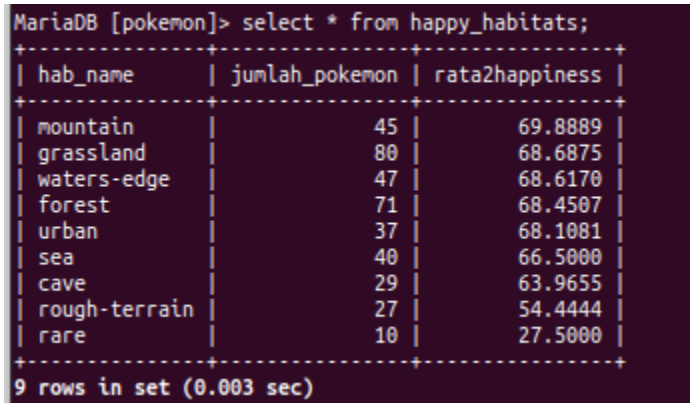
Query	CREATE VIEW typescount AS SELECT COUNT(pok_id) AS countpok, type_name FROM pokemon_types NATURAL JOIN types GROUP BY type_name; SELECT MAX(countpok) AS jumlah_paling_banyak, MIN(countpok) AS jumlah_paling_sedikit, AVG(countpok) AS rata_rata_jumlah FROM typescount;
SS	

6. Buatlah sebuah query untuk mengubah nilai base speed (b_speed) pada tabel base_stats menjadi setengahnya, pada pokemon yang namanya diawali dengan huruf T dan memiliki base_happiness yang tidak sama dengan 70.

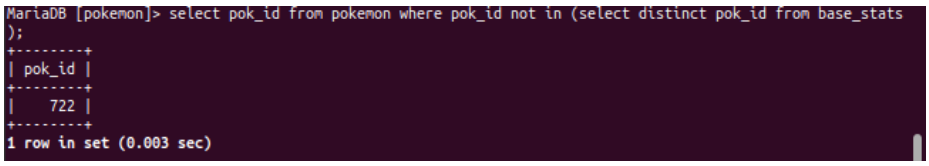
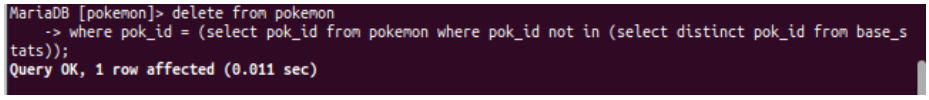
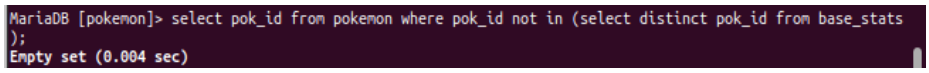
Query	UPDATE base_stats SET b_speed = b_speed * 2

	WHERE pok_id IN (SELECT pok_id FROM pokemon NATURAL JOIN pokemon_evolution_matchup WHERE base_happiness <> 70 AND pok_name like 'T%');
SS Sebelum	
SS Saat	
SS Sesudah	

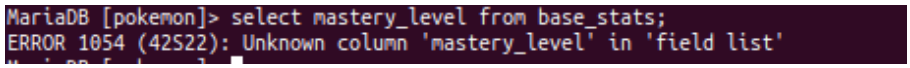
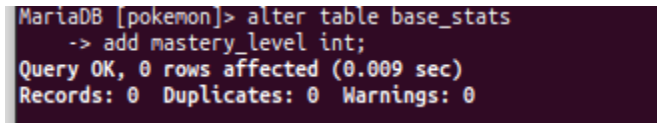
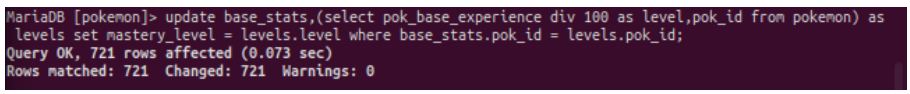
7. Nona Nike adalah seorang trainer pokemon yang sedang menjelajah untuk mengumpulkan pokemon. Ia sedang mempertimbangkan untuk menjelajah ke habitat mana untuk mencari pokemon. Nona Nike sedang merasa sedih, jadi ia ingin mencari pokemon dengan tingkat happiness yang tinggi (di atas 65 poin). Bantulah nona Nike untuk menentukan habitat mana yang akan ia jelajahi dengan membuat sebuah view yang berisikan hab_name, jumlah pokemon yang berada pada habitat tersebut, beserta rata-rata base_happiness dari masing-masing pokemon dalam habitat. Namakan view tersebut dengan nama happy_habitats dan pastikan isi dari view terurut dari habitat dengan rata-rata tingkat happiness tertinggi!

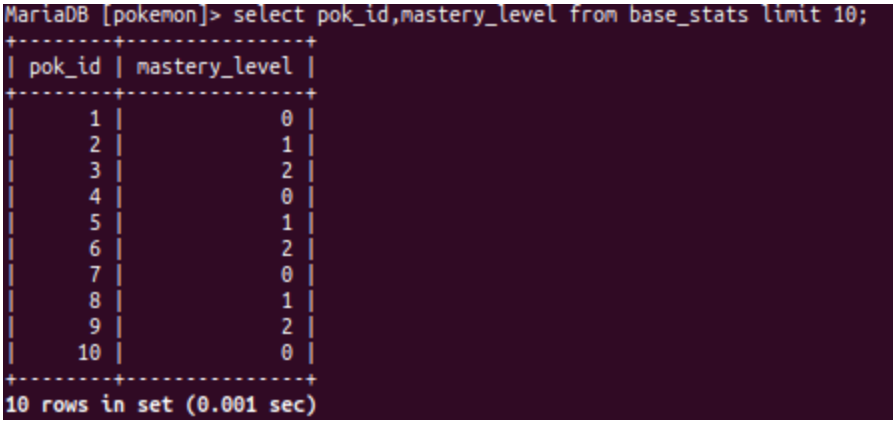
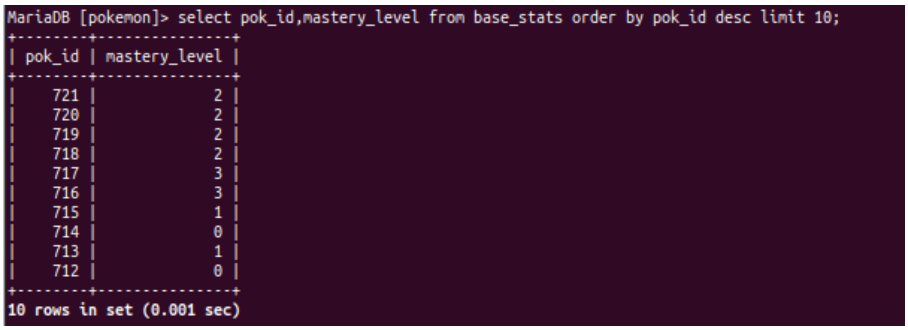
Query	CREATE VIEW happy_habitats AS SELECT hab_name, COUNT(pok_id) AS jumlah_pokemon, AVG(base_happiness) AS rata2happiness FROM pokemon_evolution_matchup NATURAL JOIN pokemon_habitats GROUP BY hab_name ORDER BY rata2happiness DESC;
SS Sebelum	
SS Saat	
SS Sesudah	

8. Buatlah sebuah query untuk menghapus pokemon yang tidak memiliki base_stats!

Query	DELETE FROM pokemon WHERE pok_id = (SELECT pok_id FROM pokemon WHERE pok_id NOT IN (SELECT DISTINCT pok_id FROM base_stats));
SS sebelum	
SS saat	
SS sesudah	

9. Buatlah sebuah query untuk menambahkan atribut **mastery_level** pada tabel base_stats yang bertipe integer. Nilai dari mastery_level adalah hasil pembagian dari pok_base_experience dengan 100 yang dibulatkan ke bawah.
Contoh: pokemon dengan pok_base_experience 123 memiliki mastery_level 1.

Query	ALTER TABLE base_stats ADD mastery_level INT; UPDATE base_stats, (SELECT pok_base_experience DIV 100 AS level, pok_id FROM pokemon) AS levels SET mastery_level = levels.level WHERE base_stats.pok_id = levels.pok_id;
SS sebelum	
SS saat	 

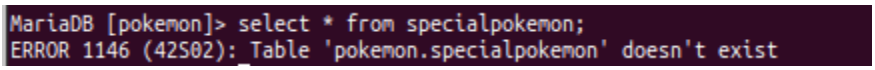
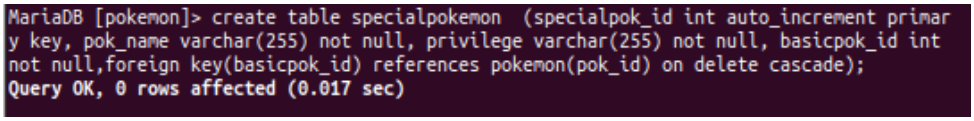
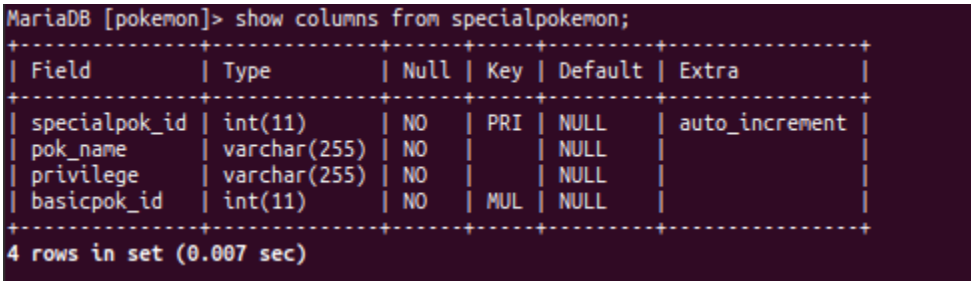
SS sesudah	 ***Pok_id 1-10(awal)*** ***...***  ***Pok_id 712-721(akhir)***

```
MariaDB [pokemon]> select pok_id,mastery_level from base_stats limit 10;
+--------+---------------+
| pok_id | mastery_level |
+--------+---------------+
|      1 |             0 |
|      2 |             1 |
|      3 |             2 |
|      4 |             0 |
|      5 |             1 |
|      6 |             2 |
|      7 |             0 |
|      8 |             1 |
|      9 |             2 |
|     10 |             0 |
+--------+---------------+
10 rows in set (0.001 sec)
```

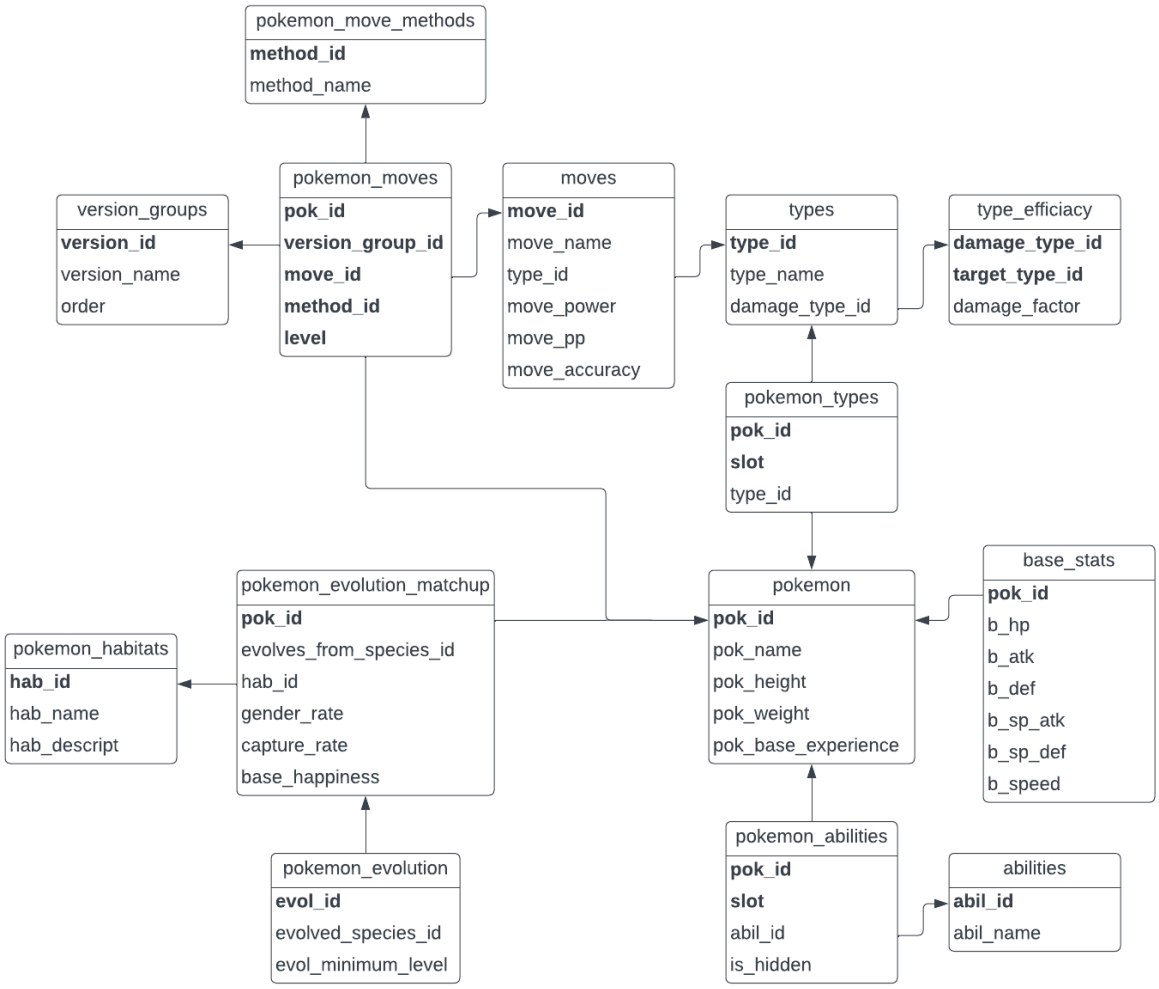
```
MariaDB [pokemon]> select pok_id,mastery_level from base_stats order by pok_id desc limit 10;
+--------+---------------+
| pok_id | mastery_level |
+--------+---------------+
|    721 |             2 |
|    720 |             2 |
|    719 |             2 |
|    718 |             2 |
|    717 |             3 |
|    716 |             3 |
|    715 |             1 |
|    714 |             0 |
|    713 |             1 |
|    712 |             0 |
+--------+---------------+
10 rows in set (0.001 sec)
```

10. Buatlah tabel baru dengan nama *specialpokemon* dengan sebuah *primary key* **specialpok_id** yang bersifat *auto increment*, **pok_name** dengan tipe data string yang bersifat not null, dan atribut **privilege** yang merupakan string dan bersifat not null. Selain itu, tabel juga memiliki atribut **basicpok_id** yang merupakan *foreign key* yang mengacu pada **pok_id** pada tabel pokemon. Untuk tipe data string, maksimal karakternya adalah 255. Saat sebuah record pada tabel pokemon dihapus maka record pada tabel *specialpokemon* yang terkait dengan data tersebut juga akan terhapus.

Query	CREATE TABLE specialpokemon (specialpok_id INT AUTO_INCREMENT PRIMARY KEY, pok_name VARCHAR(255) NOT NULL, privilege VARCHAR(255) NOT NULL,

	basicpok_id INT NOT NULL, FOREIGN KEY(basicpok_id) REFERENCES pokemon(pok_id) ON DELETE CASCADE);
SS sebelum	
SS saat	
SS sesudah	

II. Schema



abilities = (**abil_id**, abil_name)
base_stats = (**pok_id**, b_hp, b_atk, b_def, b_sp_atk, b_sp_def, b_speed)
moves = (**move_id**, move_name, type_id, move_power, move_pp, move_accuracy)
pokemon = (**pok_id**, pok_name, pok_height, pok_weight, pok_base_experience)
pokemon_abilities = (**pok_id, slot**, abil_id, is_hidden)
pokemon_evolution = (**evol_id**, evolved_species_id, evol_minimum_level)
pokemon_evolution_matchup = (**pok_id**, evolves_FROM_species_id, hab_id,
gender_rate, capture_rate, base_happiness)
pokemon_habitats = (**hab_id**, hab_name, hab_descript)
pokemon_move_methods = (**method_id**, method_name)
pokemon_moves = (**pok_id, version_group_id, move_id, method_id, level**)
pokemon_types = (**pok_id, slot**, type_id)
type_efficacy = (**damage_type_id, target_type_id,** damage_factor)
types = (**type_id**, type_name, damage_type_id)

version_groups = (**version_id**, version_name, order)