



Welcome to Intro to Programming!



Professor Panos: Here is a pokedex! It will come in handy on your long journey!

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Pokéapi - The Pokémon RESTful API

Finally; all the Pokémon data you'll ever need, in one place,
and easily accessible through a modern RESTful API.

Over **43,576,100** API calls received!

[Try it now!](#)

`http://pokeapi.co/api/v1/`

`pokemon/1/`

submit

Need a hint? try [pokemon/1/](#) or [type/3/](#) or [ability/4/](#)

Resource for Bulbasaur

```
{
  "abilities": [
    {
      "name": "chlorophyll",
      "resource_uri": "/api/v1/ability/34/"
    },
    {
      "name": "overgrow",
      "resource_uri": "/api/v1/ability/65/"
    }
  ],
  "attack": 49,
```



You obtained the data!



Types

pokemon_types	
pokemon_id INT(11)	
type_id INT(11)	
slot INT(11)	
types_name_id INT(11)	
Indexes	

types_name	
id INT(11)	
type_name TEXT	
generation_id INT(11)	
damage_class_id INT(11)	
Indexes	

Pokemon_has_pokemon_types	
Pokemon_id INT(11)	
pokemon_types_pokemon_id INT(11)	
Indexes	

Pokemon

Pokemon	
id INT(11)	
Name TEXT	
species_id INT(11)	
height INT(11)	
weight INT(11)	
base_experience INT(11)	
order INT(11)	
is_default INT(11)	
pokemon_species_id INT(11)	
Indexes	

pokemon_species	
id INT(11)	
species_name TEXT	
generation_id INT(11)	
evolves_from_species_id INT(11)	
evolution_chain_id INT(11)	
color_id INT(11)	
shape_id INT(11)	
habitat_id INT(11)	
gender_rate INT(11)	
capture_rate INT(11)	
base_happiness INT(11)	
is_baby INT(11)	
hatch_counter INT(11)	
has_gender_differences INT(11)	
growth_rate_id INT(11)	
forms_switchable INT(11)	
order INT(11)	
conquest_order TEXT	
Indexes	

Moves

moves	
id INT(11)	
moves_name TEXT	
generation_id INT(11)	
type_id INT(11)	
power INT(11)	
pp INT(11)	
accuracy INT(11)	
priority INT(11)	
target_id INT(11)	
damage_class_id INT(11)	
effect_id INT(11)	
effect_chance TEXT	
contest_type_id INT(11)	
contest_effect_id INT(11)	
super_contest_effect_id INT(11)	
Indexes	

moves_has_Pokemon	
moves_id INT(11)	
Pokemon_id INT(11)	
Indexes	

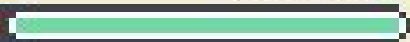
Habitats

pokemon_habitats	
id INT(11)	
habitat_name TEXT	
Pokemon_id INT(11)	
Indexes	

QUESTION

Lu 02

HP



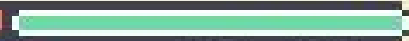
List the number of pokemon
within each type in descending
order.

SELECT
FROM

QUERY

Lu 01

HP



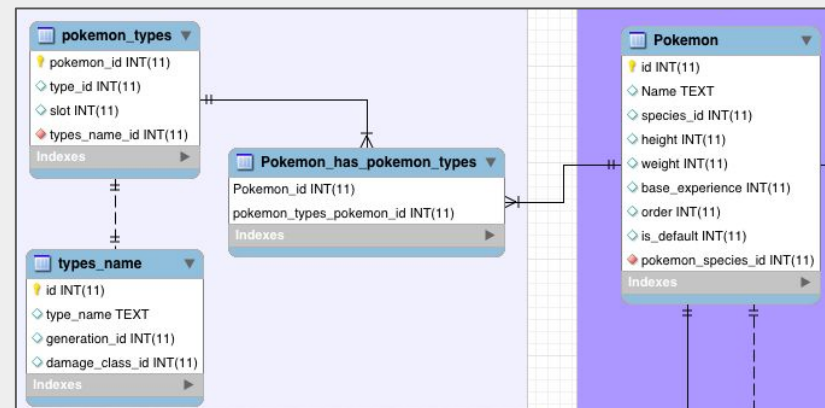
00/00

EXP



A wild question appeared! What will query do?

```
SELECT TN.type_name,  
       COUNT(TN.type_name) AS num_of_this_type  
FROM types_name TN  
      INNER JOIN pokemon_types PT ON PT.type_id = TN.id  
      INNER JOIN Pokemon P ON P.id = PT.pokemon_id  
GROUP BY TN.type_name  
ORDER BY COUNT(TN.type_name) DESC;
```







type_name	num_of_this_type
water	124
normal	99
flying	98
grass	94
psychic	86
bug	71
fire	63
ground	63
poison	61

rock	57
fighting	51
electric	50
dark	48
steel	47
dragon	46
ghost	45
fairy	38
ice	38

QUESTION Lv 04

QUESTION Lv 04



Which types of moves are most useful in pokemon contests?

SELECT
FROM

QUERY Lv 04


HP

00/00

QUERY Lv 04

HP

00/00



QUERY Lv 04


HP

00/00

QUERY Lv 04
 EXP 00/00

QUERY Lv 04
 EXP 00/00

A wild question appeared! What will query do?



```
CREATE VIEW contest_moves AS
  SELECT M.type_id, TN.type_name, M.moves_name, M.contest_type_id,
         M.contest_effect_id
  FROM moves M
       INNER JOIN types_name TN ON TN.id = M.type_id
 WHERE contest_effect_id >= 30
 ORDER BY contest_effect_id DESC;
```

```
SELECT type_name, COUNT(type_id) AS num_moves_per_type, contest_type_id,
       contest_effect_id
FROM contest_moves
GROUP BY type_name, contest_type_id, contest_effect_id
ORDER BY COUNT(type_id) DESC;
```

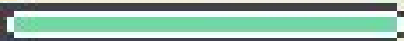


type_name	num_moves_per_type	contest_type_id	contest_effectiveness_id
poison	5	4	33
normal	3	3	32
normal	2	4	33
normal	2	2	32
bug	2	2	32
fighting	2	5	31
normal	2	1	30
ice	1	2	33
psychic	1	4	33
normal	1	4	33

QUESTION

Lu 03

HP



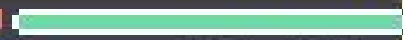
What moves can grass-type
pokemon have?

SELECT
FROM

QUERY

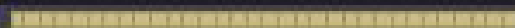
Lu 02

HP



00/00

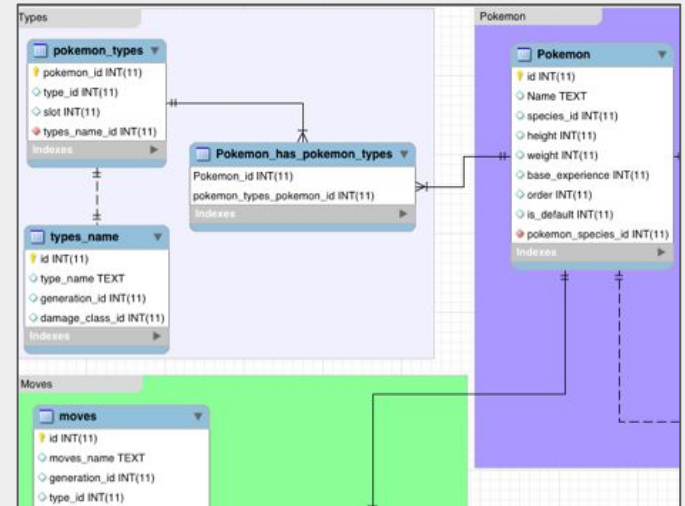
EXP



A wild question appeared! What will query do?

```
SELECT TN.type_name, TN.id
FROM types_name TN
WHERE TN.type_name = 'grass';
```

```
SELECT M.moves_name, M.type_id
FROM pokemon_types T INNER JOIN
      moves M ON T.type_id = M.type_id INNER JOIN
      Pokemon P ON P.id = T.pokemon_id
WHERE M.type_id = 12
GROUP BY moves_name;
```





type_name	id
grass	12



moves_name	type_id
absorb	12
aromatherapy	12
bullet-seed	12
cotton-guard	12
cotton-spore	12
energy-ball	12
forests-curse	12
frenzy-plant	12
giga-drain	12

sleep-powder	12
solar-beam	12
spiky-shield	12
spore	12
stun-spore	12
synthesis	12
vine-whip	12
wood-hammer	12
worry-seed	12

QUESTION

Lu 05

HP

Which type of pokemon has the
highest average power of moves?

SELECT
FROM

QUERY

Lu 04

HP

00/00

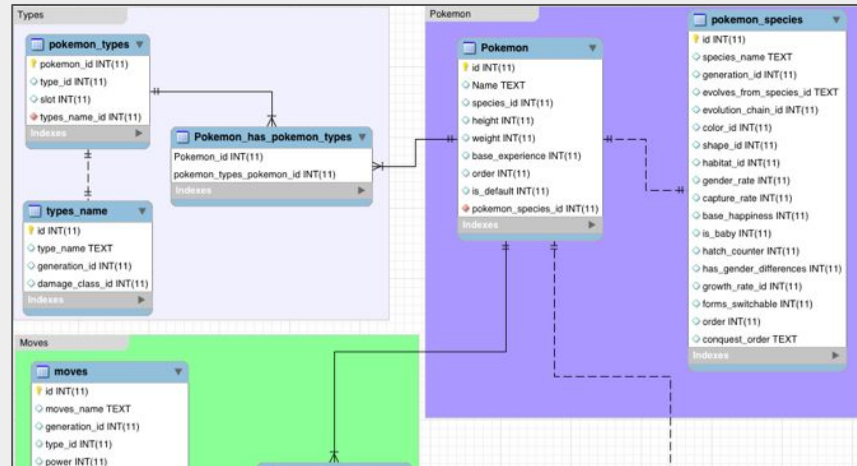
EXP

A wild question appeared! What will query do?

```

SELECT TN.type_name, AVG(M.power) as average_power
FROM types_name TN
      INNER JOIN pokemon_species PS on TN.generation_id =
PS.generation_id
      INNER JOIN moves M on M.type_id = TN.id
GROUP BY TN.type_name
ORDER BY average_power DESC;

```





type_name	average_power	ground	47.381
fire	83.3333	shadow	45
dragon	74.2308	steel	43.4211
water	62.3214	poison	42.6087
flying	59.7826	bug	36.8
fighting	58.5714	ghost	35.8333
rock	58.125	fairy	31.4706
ice	57.8571	dark	30.3226
electric	51.4815	normal	28.7267
grass	49.4595	psychic	25.8333



QUESTION Lv 01

HIP

QUESTION Lv 01

QUESTION Lv 01

HIP

most?

QUERY Lv 00

EXP

00/00

QUERY Lv 00

EXP

00/00

QUERY Lv 00

EXP

00/00

QUERY Lv 00

EXP

00/00

EXP 00/00

A wild question appeared! What will query do?



```
SELECT PS.generation_id, AVG(P.weight) AS avg_weight
FROM Pokemon P
      INNER JOIN pokemon_species PS ON P.id = PS.id
GROUP BY generation_id
ORDER BY avg_weight DESC;
```

```
SELECT PS.species_name, MAX(P.weight)
FROM Pokemon P
      INNER JOIN pokemon_species PS ON P.id = PS.id
WHERE generation_id = 4
GROUP BY species_name
ORDER BY MAX(P.weight) DESC
LIMIT 1;
```



generation_id	avg_weight
4	768.8505
3	670.7778
5	524.0256
6	514.0139
2	491.05
1	459.5166

species_name	weight
giratina	7500



SELECT
FROM

QUERY

Lu 05



00/00

EXP A horizontal bar representing experience points (EXP). It is divided into two segments: a green segment on the left and a red segment on the right. The green segment is significantly longer than the red segment, indicating that the character has a high amount of experience remaining.

Questions were defeated! Query grew to Lv. 5! A small red heart icon, likely representing a life or a reward.



Good luck on your way to becoming a pokémon trainer!