Day 07. 규칙 만들기

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▼ [실습 데이터]

	number	name	type	attack	defense
▶	10	caterpie	bug	30	35
	25	pikachu	electric	55	40
	26	raichu	electric	90	55
	125	electabuzz	electric	83	57
	133	eevee	normal	55	50
	137	porygon	normal	60	70
	152	chikoirita	grass	49	65
	153	bayleef	grass	62	80
	172	pichu	electric	40	15
	470	leafeon	grass	110	130

▼ Query

```
DROP DATABASE IF EXISTS pokemon;
CREATE DATABASE pokemon;
USE pokemon;
CREATE TABLE mypokemon (
    number  int,
       name varchar(20),
       type varchar(10),
       attack int,
       defense int
);
INSERT INTO mypokemon (number, name, type, attack, defer
VALUES (10, 'caterpie', 'bug', 30, 35),
       (25, 'pikachu', 'electric', 55, 40),
       (26, 'raichu', 'electric', 90, 55),
          (125, 'electabuzz', 'electric', 83, 57),
       (133, 'eevee', 'normal', 55, 50),
         (137, 'porygon', 'normal', 60, 70),
```

```
        (152, 'chikoirita', 'grass', 49, 65),
          (153, 'bayleef', 'grass', 62, 80),
          (172, 'pichu', 'electric', 40, 15),
          (470, 'leafeon', 'grass', 110, 130);
```

▼ [실습 1]

```
/*
MISSION
공격력과 방어력의 합이 120보다 크면 ‘very strong’, 90보다 크면 ‘str
모두 해당 되지 않으면 ‘not strong’를 반환하는 함수 ‘isStrong’을 만들
조건1: attack과 defense를 입력값으로 사용하세요.
조건2: 결과값 데이터 타입은 VARCHAR(20)로 해주세요.
*/
set global log_bin_trust_function_creators = 1;

drop function isStrong;
delimiter //
    create function isStrong (att int, def int)
        returns varchar(20)
    begin
        declare attVar int;
        declare defVar int;
        declare isStrongVar varchar(20);

        set attVar = att;
        set defVar = def;

        select
        case
            when 120 < attVar+defVar then 'very strong'
            when 90 < attVar+defVar then 'strong'
            else 'not strong'
        end into isStrongVar;

        RETURN isStrongVar;
    end
```

```
//
delimiter ;

select name, isStrong(attack, defense) as 'isStrong'
from pokemon.mypokemon;
```

name	isStrong
caterpie	not strong
pikachu	strong
raichu	very strong
electabuzz	very strong
eevee	strong
porygon	very strong
chikoirita	strong
bayleef	very strong
pichu	not strong
leafeon	very strong

▼ [실습 2]

▼ Mission 01

```
/*
MISSION (1)
포켓몬의 번호가 150보다 작으면 값을 ‘old’로 반환하고,
번호가 150보다 크거나 같으면 값을 ‘new’로
반환해서 ‘age’라는 별명으로 가져와 주세요.
*/
select name, number,
case
    when number < 150 then 'old'
    when 150 <= number then 'new'
end as 'age'
from pokemon.mypokemon;
```

	name	number	age
▶	caterpie	10	old
	pikachu	25	old
	raichu	26	old
	electabuzz	125	old
	eevee	133	old
	porygon	137	old
	chikoirita	152	new
	bayleef	153	new
	pichu	172	new
	leafeon	470	new

▼ Mission 02

```
/*
MISSION (2)
포켓몬의 공격력과 방어력의 합이 100보다 작으면 값을 ‘weak’로 반환하
값을 ‘strong’로 반환해서 ‘ability’라는 별명으로 가져와 주세요.
*/
select name, attack + defense,
case
    when attack + defense < 100 then 'weak'
    when 100 <= attack + defense then 'strong'
end as 'ability'
from pokemon.mypokemon;
```

	name	attack + defense	ability
▶	caterpie	65	weak
	pikachu	95	weak
	raichu	145	strong
	electabuzz	140	strong
	eevee	105	strong
	porygon	130	strong
	chikoirita	114	strong
	bayleef	142	strong
	pichu	55	weak
	leafeon	240	strong

▼ Mission 03

```
/*
MISSION (3)
포켓몬의 타입 별 공격력의 평균이 60 이상이면 값을 True(1)로 반환하
60보다 작으면 False(0)를 반환해
```

```
‘is_strong_type’이라는 별명으로 가져와 주세요.
*/
select type, avg(attack), if(60 <= avg(attack), true, fa
/*
case
    when 60 <= avg(attack) then true
    else false
end as 'is_strong_type'
*/
from pokemon.mypokemon
group by type;
```

type	avg(attack)	is_strong_type
bug	30.0000	0
electric	67.0000	1
normal	57.5000	0
grass	73.6667	1

▼ Mission 04

```
/*
MISSION (4)
포켓몬의 공격력이 100보다 크고,
방어력도 100보다 크면 값을 True(1)로 반환하고,
둘 중 하나라도 100보다 작으면 False(0)를 반환해
‘ace’라는 별명으로 가져와 주세요.
*/
select name, attack, if(100 < attack, true, false), defe
case
    when if(100 < attack, true, false) and if(100 <= def
    else false
end as 'ace'
from pokemon.mypokemon;
```

	name	attack	if(100 < attack, true, false)	defense	if(100 <= defense, true, false)	ace
▶	caterpie	30	0	35	0	0
	pikachu	55	0	40	0	0
	raichu	90	0	55	0	0
	electabuzz	83	0	57	0	0
	eevee	55	0	50	0	0
	porygon	60	0	70	0	0
	chikoirita	49	0	65	0	0
	bayleef	62	0	80	0	0
	pichu	40	0	15	0	0
	leafeon	110	1	130	1	1

▼ Mission 05

```
/*
MISSION (5)
포켓몬의 번호가 100보다 작으면 값을 '<100'을 반환하고, 200보다 작
500보다 작으면 값을 '<500'을 반환하는 규칙을 만들고, 각 포켓몬 별
별명으로 가져와 주세요.
*/
select name, number,
case
    when number < 100 then '<100'
    when number < 200 then '<200'
    when number < 500 then '<500'
end as 'nubmer_bin'
from pokemon.mypokemon;
```

	name	number	nubmer_bin
▶	caterpie	10	<100
	pikachu	25	<100
	raichu	26	<100
	electabuzz	125	<200
	eevee	133	<200
	porygon	137	<200
	chikoirita	152	<200
	bayleef	153	<200
	pichu	172	<200
	leafeon	470	<500

▼ Mission 06

	number>=150	number<150
attack>=50	new_strong	old_strong
attack<50	new_weak	old_weak

```
/*
MISSION (6)
아래 표에 따른 값을 반환하는 규칙을 만들고,
각 포켓몬 별 규칙 적용 값을 'age_attack'이라는
별명으로 가져와 주세요.
*/
select name, number, 150 <= number, attack, 50 <= attack
case
    when 150 <= number and 50 <= attack then 'new_strong
    when 150 <= number and attack < 50 then 'new_week'
    when number < 150 and 50 <= attack then 'old_strong'
    else 'old_week'
end as 'age_attack'
from pokemon.mypokemon;
```

	name	number	150 <= number	attack	50 <= attack	age_attack
▶	caterpie	10	0	30	0	old_week
	pikachu	25	0	55	1	old_strong
	raichu	26	0	90	1	old_strong
	electabuzz	125	0	83	1	old_strong
	eevee	133	0	55	1	old_strong
	porygon	137	0	60	1	old_strong
	chikoirita	152	1	49	0	new_week
	bayleef	153	1	62	1	new_strong
	pichu	172	1	40	0	new_week
	leafeon	470	1	110	1	new_strong

▼ Mission 07

```
/*
MISSION (7)
타입 별 포켓몬 수가 1개면 'solo', 3개 미만이면 'minor', 3개 이상
'count_by_type'이라는 별명으로 가져와 주세요
*/
select type, count(*),
case
```

```
    when count(*) = 1 then 'solo'
    when count(*) < 3 then 'minor'
    when 3 <= count(*) then 'major'
end as 'count_by_type'
from pokemon.mypokemon
group by type;
```

type	count(*)	count_by_type
bug	1	solo
electric	4	major
normal	2	minor
grass	3	major