# Day 08. Join

## ▼ 실습 데이터

### ▼ 실습 1

| number | name | type |
|--------|------|------|
| 10 | caterpie | bug |
| 25 | pikachu | electric |
| 26 | raichu | electric |
| 133 | eevee | normal |
| 152 | chikoirita | grass |

| number | height | weight | attack | defense | speed |
|--------|--------|--------|--------|---------|-------|
| 10 | 0.3 | 2.9 | 30 | 35 | 45 |
| 25 | 0.4 | 6 | 55 | 40 | 90 |
| 125 | 1.1 | 30 | 83 | 57 | 105 |
| 133 | 0.3 | 6.5 | 55 | 50 | 55 |
| 137 | 0.8 | 36.5 | 60 | 70 | 40 |
| 152 | 0.9 | 6.4 | 49 | 65 | 45 |
| 153 | 1.2 | 15.8 | 62 | 80 | 60 |
| 172 | 0.3 | 2 | 40 | 15 | 60 |
| 470 | 1 | 25.5 | 110 | 130 | 95 |

▼ Query

```
DROP DATABASE IF EXISTS pokemon;
CREATE DATABASE pokemon;
USE pokemon;
CREATE TABLE mypokemon (
        number  INT,
        name VARCHAR(20),
        type VARCHAR(10)
);
INSERT INTO mypokemon (number, name, type)
VALUES (10, 'caterpie', 'bug'),
        (25, 'pikachu', 'electric'),
        (26, 'raichu', 'electric'),
        (133, 'eevee', 'normal'),
        (152, 'chikoirita', 'grass');
CREATE TABLE ability (
        number INT,
```

```
        height FLOAT,
        weight FLOAT,
        attack INT,
        defense INT,
        speed int
);
INSERT INTO ability (number, height, weight, attack,
VALUES (10, 0.3, 2.9, 30, 35, 45),
       (25, 0.4, 6, 55, 40, 90),
       (125, 1.1, 30, 83, 57, 105),
       (133, 0.3, 6.5, 55, 50, 55),
       (137, 0.8, 36.5, 60, 70, 40),
       (152, 0.9, 6.4, 49, 65, 45),
       (153, 1.2, 15.8, 62, 80, 60),
       (172, 0.3, 2, 40, 15, 60),
       (470, 1, 25.5, 110, 130, 95);
```

## ▼ 실습 2

### ▼ Query

```
DROP DATABASE IF EXISTS pokemon;
CREATE DATABASE pokemon;
USE pokemon;
CREATE TABLE mypokemon (
        number  INT,
        name VARCHAR(20),
        type VARCHAR(10)
);
INSERT INTO mypokemon (number, name, type)
VALUES (10, 'caterpie', 'bug'),
       (25, 'pikachu', 'electric'),
       (26, 'raichu', 'electric'),
       (133, 'eevee', 'normal'),
       (152, 'chikoirita', 'grass');
CREATE TABLE ability (
        number INT,
        height FLOAT,
        weight FLOAT,
```

```
        attack INT,
        defense INT,
        speed int
);
INSERT INTO ability (number, height, weight, attack, (
VALUES (10, 0.3, 2.9, 30, 35, 45),
        (25, 0.4, 6, 55, 40, 90),
        (26, 0.8, 30, 90, 55, 110),
        (133, 0.3, 6.5, 55, 50, 55),
        (137, 0.8, 36.5, 60, 70, 40),
        (152, 0.9, 6.4, 49, 65, 45),
        (153, 1.2, 15.8, 62, 80, 60),
        (172, 0.3, 2, 40, 15, 60),
        (470, 1, 25.5, 110, 130, 95);
```

# ▼ [실습1]

▼ Mission 01

```
/*
MISSION (1)
포켓몬 테이블과 능력치 테이블을 합쳐서 포켓몬 이름, 공격력, 방어력을
이 때, 포켓몬 테이블에 있는 모든 포켓몬의 데이터를 가져와 주세요.
만약, 포켓몬의 능력치 데이터를 구할 수 없다면, NULL을 가져와도 좋습
*/
select name, attack, defense
from pokemon.mypokemon
left join pokemon.ability
on pokemon.mypokemon.number = pokemon.ability.number;
```

| name | attack | defense |
| --- | --- | --- |
| caterpie | 30 | 35 |
| pikachu | 55 | 40 |
| raichu | NULL | NULL |
| eevee | 55 | 50 |
| chikoirita | 49 | 65 |

▼ Mission 02

```
/*
MISSION (2)
포켓몬 테이블과 능력치 테이블을 합쳐서 포켓몬 번호와 이름을 한번에 가
이 때, 능력치 테이블에 있는 모든 포켓몬의 데이터를 가져와 주세요.
만약, 포켓몬의 이름 데이터를 구할 수 없다면, NULL을 가져와도 좋습니
*/
select pokemon.ability.number, name
from pokemon.mypokemon
right join pokemon.ability
on pokemon.mypokemon.number = pokemon.ability.number;
```

| number | name |
|--------|------|
| 10 | caterpie |
| 25 | pikachu |
| 125 | NULL |
| 133 | eevee |
| 137 | NULL |
| 152 | chikoirita |
| 153 | NULL |
| 172 | NULL |
| 470 | NULL |

## ▼ [실습2]

### ▼ Mission 01

```
/*
MISSION (1)
내 포켓몬의 타입 별 키의 평균을 가져와 주세요.
*/
select type, avg(height) as avg_height
from pokemon.mypokemon as t1
left join pokemon.ability as t2
on t1.number = t2.number
group by type;
```

| type | avg_height |
|------|-----------|
| bug | 0.30000001192092896 |
| electric | 0.4000000059604645 |
| normal | 0.30000001192092896 |
| grass | 0.8999999761581421 |

▼ Mission 02

```
/*
MISSION (2)
내 포켓몬의 타입 별 몸무게의 평균을 가져와 주세요.
*/
select type, avg(weight) as avg_weight
from pokemon.mypokemon as t1
left join pokemon.ability as t2
on t1.number = t2.number
group by type;
```

| type | avg_weight |
|------|-----------|
| ▶ bug | 2.9000000953674316 |
| electric | 18 |
| normal | 6.5 |
| grass | 6.400000095367432 |

▼ Mission 03

```
/*
MISSION (3)
내 포켓몬의 타입 별 키의 평균과 몸무게의 평균을 함께 가져와 주세요
*/
select type, avg(height) as avg_height, avg(weight) as a
from pokemon.mypokemon as t1
left join pokemon.ability as t2
on t1.number = t2.number
group by type;
```

| type | avg_height | avg_weight |
|------|-----------|-----------|
| ▶ bug | 0.30000001192092896 | 2.9000000953674316 |
| electric | 0.6000000089406967 | 18 |
| normal | 0.30000001192092896 | 6.5 |
| grass | 0.8999999761581421 | 6.400000095367432 |

▼ Mission 04

```
/*
MISSION (4)
번호가 100 이상인 내 포켓몬들의 번호, 이름, 공격력, 방어력을 가져와
*/
select t1.number, name, attack, defense
from pokemon.mypokemon as t1
left join pokemon.ability as t2
on t1.number = t2.number
where 100 <= t1.number;
```

| | number | name | attack | defense |
|---|---|---|---|---|
| ▶ | 133 | eevee | 55 | 50 |
| | 152 | chikoirita | 49 | 65 |

▼ Mission 05

```
/*
MISSION (5)
공격력과 방어력의 합이 큰 순서대로 내 포켓몬들의 이름을 나열해 주세요
*/
select t1.number, name, attack + defense as ability
from pokemon.mypokemon as t1
left join pokemon.ability as t2
on t1.number = t2.number
order by attack + defense desc;
```

| | number | name | attack | defense | ability |
|---|---|---|---|---|---|
| ▶ | 26 | raichu | 90 | 55 | 145 |
| | 152 | chikoirita | 49 | 65 | 114 |
| | 133 | eevee | 55 | 50 | 105 |
| | 25 | pikachu | 55 | 40 | 95 |
| | 10 | caterpie | 30 | 35 | 65 |

▼ Mission 06

```
/*
MISSION (6)
속도가 가장 빠른 내 포켓몬의 이름을 가져와 주세요
*/
```

```
select t1.number, name, speed
from pokemon.mypokemon as t1
left join pokemon.ability as t2
on t1.number = t2.number
order by speed desc
limit 1;
```

| | number | name | speed |
|---|---|---|---|
| ▶ | 26 | raichu | 110 |