
--INNER JOIN

```
SELECT
    id_a, fruit_a,
    id_b, fruit_b
FROM basket_a
INNER JOIN basket_b
    ON fruit_a = fruit_b
```

```
SELECT
    c.customer_id,
    first_name, last_name,
    amount, payment_date
FROM customer c
INNER JOIN payment p
    ON p.customer_id = c.customer_id
ORDER BY payment_date;
```

--JOIN with USING

```
SELECT customer_id,
    first_name, last_name,
    amount, payment_date
FROM customer
INNER JOIN payment USING(customer_id)
ORDER BY payment_date;
```

--JOIN with Classical Way

```
SELECT c.customer_id,
    first_name, last_name,
    amount, payment_date
FROM customer c, payment p
WHERE p.customer_id = c.customer_id
ORDER BY payment_date;
```

--LEFT JOIN

```
SELECT
    a.film_id, a.title, b.inventory_id
FROM film a
LEFT JOIN inventory b ON b.film_id = a.film_id
ORDER BY title;
```

```
SELECT
    a.film_id, a.title, b.inventory_id
FROM film a
LEFT JOIN inventory b USING (film_id)
ORDER BY title;
```

```
SELECT
    e.first_name, e.last_name,
    d.first_name child_first_name,
    d.last_name child_last_name
FROM employees e
LEFT JOIN dependents d
    ON d.employee_id = e.employee_id
```

--RIGHT JOIN

```
SELECT
    m.movie_id, mr.movie_id,
    review, title
FROM movies m
RIGHT JOIN movie_reviews mr
    ON mr.movie_id = m.movie_id;
```

```
SELECT
    id_a, fruit_a,
    id_b, fruit_b
FROM basket_a
RIGHT JOIN basket_b
    ON fruit_a = fruit_b;
```

--FULL OUTER JOIN

```
SELECT
    m.movie_id, mr.movie_id,
    review, title
FROM movies m
FULL OUTER JOIN movie_reviews mr
    ON mr.movie_id = m.movie_id;
```

```
SELECT
    id_a, fruit_a,
    id_b, fruit_b
FROM basket_a
FULL JOIN basket_b
    ON fruit_a = fruit_b;
```

--SELF JOIN

```
SELECT
    m.first_name || ' ' || m.last_name manager,
    e.first_name || ' ' || e.last_name employee
FROM employees e
INNER JOIN employees m
    ON e.manager_id = m.employee_id
ORDER BY manager
```

```
SELECT
    f1.title, f2.title, f1.length
FROM film f1
INNER JOIN film f2
    ON f1.film_id <> f2.film_id
    AND f1.length = f2.length
```

--CROSS JOIN

```
SELECT brand, color
FROM cars
CROSS JOIN colors;
```

```
SELECT brand, color
FROM cars
INNER JOIN colors ON true;
```

```
SELECT brand, color
FROM cars, colors;
```

--NATURAL JOIN

```
SELECT
    e.first_name || ' ' || e.last_name employee,
    d.department_name
FROM employees e
NATURAL JOIN departments d;
```

```
SELECT
    e.first_name || ' ' || e.last_name employee,
    d.department_name
FROM employees e
INNER JOIN departments d USING(department_id);
```

--NON EQUAL JOIN

```
SELECT
    first_name, last_name, salary,
    min_salary, max_salary, job_title
FROM employees e, jobs j
WHERE e.salary BETWEEN j.min_salary AND j.max_salary;
```

--EXERCISE ANSWERS

--INNER JOIN

--Exercise-1

```
SELECT first_name, last_name, d.department_name
FROM employees e, departments d
WHERE e.department_id = d.department_id;
```

```
SELECT first_name, last_name, d.department_name
FROM employees e INNER JOIN departments d
ON e.department_id = d.department_id;
```

--Exercise-2

```
SELECT
    c.first_name as customer_first_name,
    c.last_name as customer_last_name,
    p.amount,
    s.first_name as staff_first_name,
    s.last_name as staff_last_name
FROM customer c
INNER JOIN payment p
    ON p.customer_id = c.customer_id
INNER JOIN staff s
    ON p.staff_id = s.staff_id
WHERE c.customer_id = 341
```

```
SELECT
    c.first_name as customer_first_name,
    c.last_name as customer_last_name,
    p.amount,
    s.first_name as staff_first_name,
    s.last_name as staff_last_name
FROM customer c, payment p, staff s
WHERE p.customer_id = c.customer_id
    and p.staff_id = s.staff_id
    and c.customer_id = 341;
```

--SELF JOIN

```
select
  c1.first_name as c1_first_name,
  c1.last_name  as c1_last_name,
  c2.first_name as c2_first_name,
  c2.last_name  as c2_last_name,
  ct.city
from
  customer c1, customer c2,
  address a1, address a2,
  city ct
where c1.customer_id <> c2.customer_id
      and c1.address_id = a1.address_id
      and c2.address_id = a2.address_id
      and a1.address_id <> a2.address_id
      and a1.city_id = a2.city_id
      and a1.city_id = ct.city_id
```

--CROSS JOIN

```
SELECT c1.brand, c2.type_name, c3.color
FROM cars c1, car_types c2, colors c3
ORDER BY 1,2,3
```

```
SELECT c1.brand, c2.type_name, c3.color
FROM cars c1
CROSS JOIN car_types c2
CROSS JOIN colors c3
ORDER BY 1,2,3
```