

Exercise 1: SQL Fundamentals

1. SELECT * FROM employees

Expected Output

id	first name	last name	department	salary	hire date	city
1	John	Doe	IT	55000	2018-06-15	New York
2	Jane	Smith	HR	48000	2019-07-20	Chicago
3	Mike	Johnson	Finance	6000	2017-01-30	Los Angeles
4	Sarah	Brown	IT	53000	2021-03-25	New York
5	David	White	Marketing	52000	2016-04-10	San Fran
6	Emily	Davis	IT	62000	2015-02-14	Chicago
7	Robert	Wilson	Finance	59000	2019-10-01	Houston
8	Jessica	Moore	HR	51000	2018-05-22	Los Angeles
9	Daniel	Clark	Marketing	53000	2022-06-01	Chicago
10	Laura	Hall	IT	50000	2020-08-10	San Fran

2. SELECT

SELECT DISTINCT department
FROM employees;

Expected Output

department

IT

HR

Finance

Marketing

3. SELECT first name,
last name,
salary
FROM employees
ORDER BY salary DESC;

first_name	last_name	salary
Emily	Davis	62000
Mike	Johnson	60000
Robert	Wilson	59000

4. Limit statement

SELECT first name
last name
salary
FROM employees
ORDER BY salary DESC
LIMIT 5;

first_name	last_name	salary
Emily	Davis	62000
Mike	Johnson	60000
Robert	Wilson	59000
John	Doe	55000
Sarah	Brown	53000

5. WHERE clause

```
SELECT last_name
       first_name
       department
FROM employees
WHERE department = 'IT'
```

last_name	first_name	department
Deo	Eric	IT
Smith	James	IT

6. AND clause

```
SELECT last_name
       first_name
       department
       salary
FROM employees
WHERE department = 'Finance'
AND salary > 5000
```

last_name	first_name	department	salary
Deo	James	Finance	60000

7. OR STATEMENT

```
SELECT    first_name  
          last_name  
          department  
FROM      employees  
WHERE     department = 'HR' OR department = 'Marketing';
```

first_name	last_name	department
Jane	Smith	HR
Jessica	McCre	HR
David	White	Marketing

8. NOT Statement

```
SELECT    first_name, last_name, department  
FROM      employees  
WHERE     NOT department = 'IT';
```

first_name	last_name	department
Jane	Smith	HR
Mike	Johsen	Finance

9 IN statement

```
SELECT      first_name
            last_name
            department
FROM        employees
WHERE       department IN ('HR', 'IT', 'Finance');
```

first_name	last_name	department
John	Doe	IT
Jane	Smith	HR
Robert	Wilson	Finance
Mike	Johson	Finance

10. Combining Conditions

```
SELECT      first_name, last_name, department, salary, city
FROM        employees
WHERE       department = 'IT'
AND         salary > 50000
AND         city = 'New York';
```

first_name	last_name	department	salary	city
John	Doe	IT	55000	New York

11. COMBINING WHERE, AND, and ORDER BY

```
SELECT      first_name  
            last_name  
            department  
            salary  
FROM        employees  
WHERE       (department = 'Finance' OR department = 'Marketing')  
AND         salary > 92000  
ORDER BY   salary DESC;
```

```
12. SELECT DISTINCT city  
FROM      employees  
WHERE     department NOT IN (IT, HR);
```

```
13. SELECT      first_name, last_name, department  
                salary, hire_date,  
FROM            employees  
WHERE           department = 'Finance'  
AND             salary > 50000  
ORDER BY       hire_date ASC
```

```
14. SELECT      first_name, last_name, department,  
                salary, city  
FROM            employees  
WHERE           (department = IT OR department = 'Finance')  
AND             city = 'San Francisco'  
AND             salary > 55000  
ORDER BY       salary DESC  
LIMIT 5;
```


14 SELECT first_name, last_name, department, city

FROM employees

WHERE city IN ('Chicago', 'Los Angeles')

AND department IN ('IT', 'Marketing')

LIMIT 3;