

1.

```
CREATE TABLE titles (  
id INT UNSIGNED AUTO_INCREMENT,  
name VARCHAR(32),  
PRIMARY KEY(id)  
);
```

```
INSERT INTO titles (name) VALUES ('Manager'), ('Executive'), ('Assisant Manager'), ('Team  
Lead'), ('Coder'), ('Agent');
```

2.

```
CREATE TABLE workers (  
id INT UNSIGNED AUTO_INCREMENT,  
firstname VARCHAR(32),  
lastname VARCHAR(32),  
salary INT UNSIGNED,  
department VARCHAR(32),  
title_id INT UNSIGNED,  
join_date DATE,  
CONSTRAINT PRIMARY KEY(id),  
CONSTRAINT FOREIGN KEY(title_id) REFERENCES titles(id)  
);
```

```
INSERT INTO workers(firstname, lastname, salary, department, title_id, join_date) VALUES  
(('Hanna', 'Chapman', 1000, 'HR', 1, '2019-01-01'),  
(('Izabel', 'Tang', 950, 'HR', 3, '2019-01-05'),  
(('Erica', 'Porter', 1200, 'Accounts', 2, '2019-01-01'),  
(('Shelbie', 'Noble', 1500, 'IT', 5, '2019-02-01'),  
(('Scarletta', 'Correa', 2000, 'Marketing', 6, '2019-02-05'),  
(('Juan', 'Barron', 800, 'R&D', 2, '2019-03-01'),  
(('Joy', 'Castro', 500, 'Production', 6, '2019-03-12'),  
(('Izabel', 'Tang', 1400, 'R&D', 2, '2019-03-18'),  
(('Anika', 'Rabi', 2110, 'Marketing', 6, '2019-03-28'),  
(('Kristof', 'White', 1850, 'HR', 6, '2019-04-04'),  
(('Tom', 'Scott', 1000, 'Production', 6, '2019-05-05'),  
(('Mick', 'Daley', 1450, 'Production', 6, '2019-05-10'),  
(('Elis', 'Smith', 980, 'IT', 5, '2019-06-01'),  
(('Tonya', 'Wright', 700, 'Marketing', 6, '2019-06-06'),  
(('Pukki', 'Chase', 2000, 'Marketing', 4, '2019-06-06');
```

3. SELECT firstname AS name FROM workers;
4. SELECT UPPER(firstname) AS name FROM workers;  
SELECT UCASE(firstname) AS name FROM workers;
5. SELECT DISTINCT(department) FROM workers;

6. SELECT SUBSTR(firstname, 1, 3) AS first\_three\_letters FROM workers;
7. SELECT DISTINCT(LENGTH(department)) FROM workers;
8. SELECT REPLACE(firstname, 'a', 'A') as firstname FROM workers;
9. SELECT CONCAT(firstname, ' ', lastname) as full\_name FROM workers;
10. SELECT \* FROM workers WHERE 1 ORDER BY firstname ASC;
11. SELECT \* FROM workers WHERE 1 ORDER BY department ASC, lastname DESC;
12. SELECT \* FROM workers WHERE firstname = 'Joy' OR firstname = 'Tom';
13. SELECT DISTINCT(department) FROM workers WHERE department LIKE 'A%';
14. SELECT DISTINCT(department) FROM workers WHERE department LIKE '%a%' OR department LIKE '%A%';  
SELECT DISTINCT(department) FROM workers WHERE LCASE(department) LIKE '%a%';
15. SELECT DISTINCT(department) FROM workers WHERE department LIKE '%g';
16. SELECT \* FROM workers WHERE firstname LIKE '\_\_\_\_a';  
SELECT \* FROM workers WHERE LENGTH(firstname) = 5 AND firstname LIKE '%a';
17. SELECT \* FROM workers WHERE salary BETWEEN 1000 AND 1500;
18. SELECT \* FROM workers WHERE YEAR(join\_date) = 2019 AND MONTH(join\_date) = 2;
19. SELECT COUNT(\*) AS total\_workers FROM workers WHERE department = 'HR';
20. SELECT department, COUNT(\*) as total\_workers  
FROM workers  
GROUP BY department  
ORDER BY total\_workers DESC;
21. SELECT CONCAT(firstname, ' ', lastname) as fullname  
FROM workers  
WHERE title\_id IN (  
SELECT id  
FROM titles  
WHERE LCASE(name) LIKE '%manager%'  
);
22. SELECT \*  
FROM workers  
GROUP BY firstname, lastname  
HAVING COUNT(\*) > 1;
23. SELECT \*  
FROM workers  
WHERE MOD(id, 2)/2 <> 0;
24. SELECT \*  
FROM workers  
WHERE MOD(id, 2)/2 = 0;
25. CREATE TABLE interns (  
id INT UNSIGNED AUTO\_INCREMENT,  
firstname VARCHAR(32),  
lastname VARCHAR(32),  
department VARCHAR(32),  
PRIMARY KEY (id)

```

);
INSERT INTO interns (firstname, lastname, department) VALUES
('Monika', 'Arora', 'HR'), ('Vivek', 'Bhati', 'Accounts'),
('Juan', 'Carter', 'IT'), ('Marley', 'Carter', 'IT'),
('Andrea', 'Smith', 'Accounts'), ('John', 'Light', 'IT');
26.
SELECT firstname, lastname, 'worker' as type
FROM workers
UNION
SELECT firstname, lastname, 'intern' as type
FROM interns;
27.
SELECT DISTINCT firstname
FROM workers
WHERE firstname IN (SELECT DISTINCT firstname FROM interns);
28.
SELECT DISTINCT firstname
FROM workers
WHERE firstname NOT IN (SELECT DISTINCT firstname FROM interns);
29.
SELECT *
FROM workers
ORDER BY salary DESC
LIMIT 4,1;
30.
SELECT * FROM workers
WHERE salary = (SELECT salary FROM workers WHERE 1 ORDER BY salary DESC LIMIT 1
OFFSET 1);
31.
SELECT GROUP_CONCAT(id)
FROM workers
WHERE 1
GROUP BY salary
HAVING COUNT(*) > 1;
32.
SELECT department
FROM workers
WHERE 1
GROUP BY department
HAVING COUNT(*) < 3;
33.
SELECT department, MAX(salary) AS biggest_salary
FROM workers
GROUP BY department;

```

34.

```
CREATE TABLE departments (  
id INT UNSIGNED AUTO_INCREMENT,  
name VARCHAR(32),  
PRIMARY KEY(id)  
);
```

```
INSERT INTO departments (name) SELECT DISTINCT department FROM workers;  
ALTER TABLE workers ADD COLUMN department_id INT UNSIGNED AFTER title_id;  
UPDATE workers SET department_id = (SELECT id FROM departments WHERE  
departments.name = workers.department);  
ALTER TABLE workers ADD CONSTRAINT FOREIGN  
KEY(department_id) REFERENCES departments(id);
```