Q1: Create a SQL statement to list all managers and their titles.

```
SELECT dm.emp_no, e.first_name, e.last_name, t.title
FROM dept_manager AS dm
LEFT JOIN employees AS e ON e.emp_no = dm.emp_no
LEFT JOIN titles AS t on t.emp_no = e.emp_no
ORDER BY e.emp_no;
```

emp_no	first_name	last_name	title
10001	Georgi	Facello	Senior Engineer
10002	Bezalel	Simmel	Staff
10003	Parto	Bamford	Senior Engineer
10008	Saniya	Kalloufi	Assistant Engineer
10011	Mary	Sluis	NULL
10012	Patricio	Bridgland	NULL
10013	Eberhardt	Terkki	NULL
10014	Berni	Genin	NULL

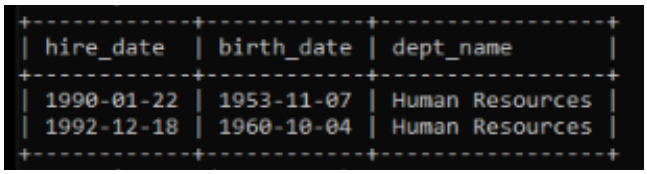
Q2: Create a SQL statement to show the salary of all employees and their department name.

```
SELECT DISTINCT e.emp_no, e.first_name, e.last_name, s.salary, d.dept_name
FROM employees AS e
LEFT JOIN salaries AS s ON s.emp_no = e.emp_no
LEFT JOIN dept_emp AS de ON de.emp_no = e.emp_no
LEFT JOIN departments AS d ON d.dept_no = de.dept_no
ORDER BY salary desc;
```

emp_no	first_name	last_name	salary	dept_name
10008	Saniya	Kalloufi	75994	NULL
10007	Tzvetan	Zielinski	75286	NULL
10006	Anneke	Preusig	74333	Development
10005	Kyoichi	Maliniak	71046	Human Resources
10004	Chirstian	Koblick	66961	Production
10003	Parto	Bamford	66596	Production
10002	Bezalel	Simmel	66074	Sales
10001	Georgi	Facello	62102	Development
10001	Georgi	Facello	60117	Development
10013	Eberhardt	Terkki	NULL	NULL
10014	Berni	Genin	NULL	Development
10009	Sumant	Peac	NULL	NULL
10010	Duangkaew	Piveteau	NULL	NULL
10011	Mary	Sluis	NULL	NULL
10012	Patricio	Bridgland	NULL	NULL

Q3: Create a SQL statement to show the hire date and birthdate who belongs to the HR department.

```
SELECT e.hire_date, e.birth_date, d.dept_name
FROM employees AS e
INNER JOIN dept_manager AS dm ON dm.emp_no = e.emp_no
INNER JOIN departments AS d ON d.dept_no = dm.dept_no
WHERE d.dept_name = 'Human Resources';
```



hire_date	birth_date	dept_name
1990-01-22	1953-11-07	Human Resources
1992-12-18	1960-10-04	Human Resources

Q4: Create a SQL statement to show all departments and their department's managers.

```
SELECT d.dept_name, e.first_name, e.last_name
FROM departments AS d
LEFT JOIN dept_manager AS dm
ON d.dept_no = dm.dept_no
LEFT JOIN employees AS e
ON e.emp_no = dm.emp_no;
```

dept_name	first_name	last_name
Customer Service	NULL	NULL
Development	NULL	NULL
Finance	Bezalel	Simmel
Finance	Saniya	Kalloufi
Human Resources	Mary	Sluis
Human Resources	Patricio	Bridgland
Marketing	Georgi	Facello
Marketing	Eberhardt	Terkki
Production	Parto	Bamford
Production	Berni	Genin
Quality Management	NULL	NULL
Research	NULL	NULL
Sales	NULL	NULL

Q5: Create a SQL statement to show a list of HR's employees who were hired after 1986.

```
SELECT e.first_name, e.last_name, e.hire_date, d.dept_name
FROM employees AS e
INNER JOIN dept_manager AS dm ON dm.emp_no = e.emp_no
INNER JOIN departments AS d ON d.dept_no = dm.dept_no
WHERE d.dept_name = 'Human Resources' ANDe.hire_date > '1986-01-01';
```

first_name	last_name	hire_date	dept_name
Mary	Sluis	1990-01-22	Human Resources
Patricio	Bridgland	1992-12-18	Human Resources

Q6: Create a SQL statement to increase any employee's salary up to 2%. Assume the employee has just phoned in with his/her last name.

```
CREATE TEMPORARY TABLE subset_data AS
SELECT e.emp_no, e.first_name, e.last_name, s.salary
FROM employees AS e
LEFT JOIN salaries AS s
ON e.emp_no = s.emp_no;

CREATE PROCEDURE select_employee(last_name_in nvarchar(16))
UPDATE subset_data
SET salary = ((salary/100) *2 + salary)
WHERE last_name = last_name_in;

CALL select_employee('Bamford');

SELECT *
FROM subset_data;
```

emp_no	first_name	last_name	salary
10001	Georgi	Facello	60117
10001	Georgi	Facello	62102
10002	Bezalel	Simmel	66074
10003	Parto	Bamford	67928
10004	Chirstian	Koblick	66961
10005	Kyoichi	Maliniak	71046
10006	Anneke	Preusig	74333
10007	Tzvetan	Zielinski	75286
10008	Saniya	Kalloufi	75994
10009	Sumant	Peac	NULL
10010	Duangkaew	Piveteau	NULL
10011	Mary	Sluis	NULL
10012	Patricio	Bridgland	NULL
10013	Eberhardt	Terkki	NULL
10014	Berni	Genin	NULL

Q7: Create a SQL statement to delete employee's record who belongs to marketing department and name start with A.

```
CREATE TEMPORARY TABLE employee_dept_com AS
WITH cte AS
(SELECT de.emp_no, d.dept_name
FROM dept_emp AS de
LEFT JOIN departments AS d
ON de.dept_no = d.dept_no
UNION
SELECT dm.emp_no, d.dept_name
FROM dept_manager AS dm
LEFT JOIN departments AS d
ON dm.dept_no = d.dept_no)
SELECT e.*, cte.dept_name
FROM employees AS e
LEFT JOIN cte
ON e.emp_no = cte.emp_no
WHERE cte.dept_name IS NOT NULL;

SELECT *
FROM employee_dept_com;

DELETE FROM employee_dept_com
WHERE dept_name = 'Marketing' AND (first_name LIKE 'A%' OR first_name LIKE 'a%');

SELECT *
FROM employee_dept_com;
```

BEFORE:

emp_no	birth_date	first_name	last_name	gender	hire_date	dept_name
10001	1953-09-02	Georgi	Facello	M	1986-06-26	Development
10002	1964-06-02	Bezalel	Simmel	F	1985-11-21	Sales
10003	1959-12-03	Parto	Bamford	M	1986-08-28	Production
10004	1954-05-01	Chirstian	Koblick	M	1986-12-01	Production
10005	1955-01-21	Kyoichi	Maliniak	M	1989-09-12	Human Resources
10006	1953-04-20	Anneke	Preusig	F	1989-06-02	Development
10014	1956-02-12	Berni	Genin	M	1987-03-11	Development
10001	1953-09-02	Georgi	Facello	M	1986-06-26	Marketing
10002	1964-06-02	Bezalel	Simmel	F	1985-11-21	Finance
10008	1958-02-19	Saniya	Kalloufi	M	1994-09-15	Finance
10011	1953-11-07	Mary	Sluis	F	1990-01-22	Human Resources
10012	1960-10-04	Patricio	Bridgland	M	1992-12-18	Human Resources
10013	1963-06-07	Eberhardt	Terkki	M	1985-10-20	Marketing
10014	1956-02-12	Berni	Genin	M	1987-03-11	Production

AFTER;

emp_no	birth_date	first_name	last_name	gender	hire_date	dept_name
10001	1953-09-02	Georgi	Facello	M	1986-06-26	Development
10002	1964-06-02	Bezalel	Simmel	F	1985-11-21	Sales
10003	1959-12-03	Parto	Bamford	M	1986-08-28	Production
10004	1954-05-01	Chirstian	Koblick	M	1986-12-01	Production
10005	1955-01-21	Kyoichi	Maliniak	M	1989-09-12	Human Resources
10006	1953-04-20	Anneke	Preusig	F	1989-06-02	Development
10014	1956-02-12	Berni	Genin	M	1987-03-11	Development
10001	1953-09-02	Georgi	Facello	M	1986-06-26	Marketing
10002	1964-06-02	Bezalel	Simmel	F	1985-11-21	Finance
10008	1958-02-19	Saniya	Kalloufi	M	1994-09-15	Finance
10011	1953-11-07	Mary	Sluis	F	1990-01-22	Human Resources
10012	1960-10-04	Patricio	Bridgland	M	1992-12-18	Human Resources
10013	1963-06-07	Eberhardt	Terkki	M	1985-10-20	Marketing
10014	1956-02-12	Berni	Genin	M	1987-03-11	Production

Q8: Create a database view to list the full names of all departments' managers, and their salaries.

```
CREATE VIEW manager_and_salary AS
SELECT DISTINCT e.first_name, e.last_name, s.salary
FROM employees AS e
JOIN dept_manager AS dm ON dm.emp_no = e.emp_no
LEFT JOIN salaries AS s ON s.emp_no = e.emp_no;
```

```
SELECT * FROM manager_and_salary;
```

first_name	last_name	salary
Georgi	Facello	60117
Georgi	Facello	62102
Bezalel	Simmel	66074
Parto	Bamford	66596
Saniya	Kalloufi	75994
Mary	Sluis	NULL
Patricio	Bridgland	NULL
Eberhardt	Terkki	NULL
Berni	Genin	NULL

Q9: Create a database view to list all departments and their department's managers, who were hired between 1980 and 1990.

```
CREATE VIEW hired_date_managers AS
SELECT e.first_name, e.last_name, e.hire_date, d.dept_name
FROM dept_manager AS dm
INNER JOIN employees AS e ON e.emp_no = dm.emp_no
INNER JOIN departments d ON d.dept_no = dm.dept_no
WHERE e.hire_date BETWEEN '1980-01-01' AND '1990-12-31'
ORDER BY e.hire_date;

SELECT * FROM hired_date_managers;
```

first_name	last_name	hire_date	dept_name
Eberhardt	Terkki	1985-10-20	Marketing
Bezalel	Simmel	1985-11-21	Finance
Georgi	Facello	1986-06-26	Marketing
Parto	Bamford	1986-08-28	Production
Berni	Genin	1987-03-11	Production
Mary	Sluis	1990-01-22	Human Resources

Q10

```
CREATE TEMPORARY TABLE salary_increase (
SELECT e.first_name, e.last_name, e.hire_date, s.salary
FROM dept_manager AS dm
LEFT JOIN employees AS e on e.emp_no = dm.emp_no
LEFT JOIN salaries AS s on s.emp_no = e.emp_no
WHERE e.hire_date >= '1990-01-01'
ORDER BY s.salary DESC);

UPDATE salary_increase
SET salary = salary * 1.1;
```

```
MariaDB [employees]> select * from salary_increase;
+------------+-----------+------------+--------+
| first_name | last_name | hire_date  | salary |
+------------+-----------+------------+--------+
| Saniya     | Kalloufi  | 1994-09-15 |  75994 |
| Patricio   | Bridgland | 1992-12-18 |   NULL |
| Mary       | Sluis     | 1990-01-22 |   NULL |
+------------+-----------+------------+--------+
3 rows in set (0.000 sec)

MariaDB [employees]> update salary_increase
    -> set salary = salary * 1.1;
Query OK, 1 row affected (0.052 sec)
Rows matched: 3  Changed: 1  Warnings: 0

MariaDB [employees]> select * from salary_increase;
+------------+-----------+------------+--------+
| first_name | last_name | hire_date  | salary |
+------------+-----------+------------+--------+
| Saniya     | Kalloufi  | 1994-09-15 |  83593 |
| Patricio   | Bridgland | 1992-12-18 |   NULL |
| Mary       | Sluis     | 1990-01-22 |   NULL |
+------------+-----------+------------+--------+
```