Filter a SQL query

Scenario

In this scenario, you need to get specific information about employees, their machines, and the departments they're in. Your team needs this data to perform various tasks, such as running updates, posting a privacy notice in certain departments, and sending an alert to an employee with an issue on a machine.

You are responsible for finding the required information by querying a database. You'll add filters to your queries to locate the information more quickly.

Task 1. List all organization machines.

1.1. Query to retrieve only the `device_id` and `operating_system` columns from the `machines` table.

Query:

SELECT device_id, operating_system
FROM machines;

```
MariaDB [organization]> clear
MariaDB [organization]> SELECT device_id, operating_system
    -> FROM machines;
+--------------+------------------+
| device_id    | operating_system |
+--------------+------------------+
| a184b775c707 | OS 1             |
| a192b174c940 | OS 2             |
| a305b818c708 | OS 3             |
| a317b635c465 | OS 1             |
| a320b137c219 | OS 2             |
| a398b471c573 | OS 3             |
| a667b270c984 | OS 1             |
| a821b452c176 | OS 2             |
| a998b568c863 | OS 3             |
| b157c491d493 | OS 2             |
| b239c825d303 | OS 1             |
| b264c773d977 | OS 2             |
| b265c937d713 | OS 2             |
| b433c245d868 | OS 1             |
| b551c837d758 | OS 3             |
| b566c710d544 | OS 1             |
| b806c503d354 | OS 2             |
```

Task 2. Retrieve a list of the machines with OS 2

2.1. Query to select all the records from the `machines` table with a value of `'OS 2'` in the `operating_system` column.

Query:

SELECT device_id, operating_system
FROM machines
WHERE operating_system = 'OS 2';

```
MariaDB [organization]>
MariaDB [organization]> SELECT device_id, operating_system
    -> FROM machines
    -> WHERE operating_system = 'OS 2';
+--------------+------------------+
| device_id    | operating_system |
+--------------+------------------+
| a192b174c940 | OS 2             |
| a320b137c219 | OS 2             |
| a821b452c176 | OS 2             |
| b157c491d493 | OS 2             |
| b264c773d977 | OS 2             |
| b265c937d713 | OS 2             |
| b806c503d354 | OS 2             |
| b979c871d361 | OS 2             |
| c150d982e144 | OS 2             |
| c406d877e950 | OS 2             |
| c547d140e477 | OS 2             |
| c568d742e974 | OS 2             |
| c597d792e215 | OS 2             |
| c986d200e170 | OS 2             |
| d168e758f876 | OS 2             |
| d336e475f676 | OS 2             |
| d647e310f618 | OS 2             |
| d693e351f221 | OS 2             |
| e113f288g203 | OS 2             |
| e218f877g788 | OS 2             |
| e395f616g566 | OS 2             |
| f229g533h679 | OS 2             |
| f370g535h632 | OS 2             |
| f934g229h883 | OS 2             |
```

Task 3. List employees in specific departments

3.1. Query to filter the rows returned from `department` column in the `employees` table to include only employees from the `'Finance'` department.
Query:

```
SELECT *
FROM employees
WHERE department = 'Finance';
```

```
MariaDB [organization]>
MariaDB [organization]> SELECT *
    -> FROM employees
    -> WHERE department = 'Finance';
+-------------+-------------+-----------+------------+-------------+
| employee_id | device_id   | username  | department | office      |
+-------------+-------------+-----------+------------+-------------+
|        1003 | d394e816f943 | sgilmore  | Finance    | South-153   |
|        1007 | h174i497j413 | wjaffrey  | Finance    | North-406   |
|        1008 | i858j583k571 | abernard  | Finance    | South-170   |
|        1010 | k2421212m542 | jlansky   | Finance    | South-109   |
|        1015 | p611q262r945 | jsoto     | Finance    | North-271   |
|        1017 | r550s824t230 | jclark    | Finance    | North-188   |
|        1018 | s310t540u653 | abellmas  | Finance    | North-403   |
|        1022 | w237x430y567 | arusso    | Finance    | West-465    |
|        1029 | d336e475f676 | ivelasco  | Finance    | East-156    |
|        1044 | s429t157u159 | tbarnes   | Finance    | West-415    |
|        1045 | t567u844v434 | pwashing  | Finance    | East-115    |
|        1046 | u429v921w138 | daquino   | Finance    | West-280    |
|        1047 | v109w587x644 | cward     | Finance    | West-373    |
|        1048 | w167x592y375 | tmitchel  | Finance    | South-288   |
|        1049 | NULL         | jreckley  | Finance    | Central-295 |
|        1050 | y132z930a114 | csimmons  | Finance    | North-468   |
|        1062 | k3671639m697 | redwards  | Finance    | North-180   |
|        1069 | NULL         | jpark     | Finance    | East-110    |
|        1076 | v347z204a710 | fgarcia   | Finance    | Central-270 |
```

3.2. Modify the previous query so that it returns employees who are in the 'Sales' department.

Query:

```
SELECT *
FROM employees
WHERE department = 'Sales';
```

```
MariaDB [organization]> SELECT *
    -> FROM employees
    -> WHERE department = 'Sales';
+-------------+-------------+----------+------------+-------------+
| employee_id | device_id   | username | department | office      |
+-------------+-------------+----------+------------+-------------+
|        1009 | NULL        | lrodriqu | Sales      | South-134   |
|        1011 | l748m120n401| drosas   | Sales      | South-292   |
|        1024 | y976z753a267| iuduike  | Sales      | South-215   |
|        1025 | z381a365b233| jhill    | Sales      | North-115   |
|        1035 | j236k3031245| bisles   | Sales      | South-171   |
|        1039 | n253o917p623| cjackson | Sales      | East-378    |
|        1041 | p929q222r778| cgriffin | Sales      | North-208   |
|        1057 | f370g535h632| mscott   | Sales      | South-270   |
|        1063 | l686m140n569| lpope    | Sales      | East-226    |
|        1066 | o678p794q957| ttyrell  | Sales      | Central-444 |
|        1071 | t244u829v723| zdutchma | Sales      | West-348    |
|        1072 | u905v920w694| esmith   | Sales      | East-421    |
|        1078 | a667b270c984| sharley  | Sales      | North-418   |
|        1085 | h339i498j269| cperez   | Sales      | East-325    |
|        1086 | i281j129k749| lmajumda | Sales      | West-499    |
|        1089 | l358m929n154| jpark2   | Sales      | West-251    |
|        1091 | n378o313p469| rtran    | Sales      | Central-230 |
|        1092 | o391p779q935| lpark    | Sales      | West-227    |
|        1098 | u671v146w618| tarchamb | Sales      | North-423   |
|        1107 | d168e758f876| akajwara | Sales      | North-471   |
|        1109 | f229g533h679| nlocklea | Sales      | East-196    |
|        1110 | g567h376i314| pchaudhu | Sales      | Central-428 |
|        1111 | h835i179j862| jlee     | Sales      | West-309    |
|        1116 | m272n572o874| nzhao    | Sales      | South-100   |
|        1117 | n683o758p820| dahmad   | Sales      | West-405    |
|        1118 | o305p208q337| jpark3   | Sales      | South-329   |
|        1119 | p164q780r999| omubarak | Sales      | West-409    |
|        1121 | r628s557t397| mrojas   | Sales      | East-288    |
|        1130 | a317b635c465| tsnow    | Sales      | Central-451 |
|        1169 | NULL        | mmitchel | Sales      | Central-250 |
|        1176 | u849v569w521| nliu     | Sales      | West-220    |
|        1185 | d790e839f461| revens   | Sales      | North-330   |
|        1186 | e281f433g404| sacosta  | Sales      | North-460   |
+-------------+-------------+----------+------------+-------------+
33 rows in set (0.001 sec)
```

Task 4. Identify employee machines

4.1. Query to identify which employee uses the office in `South-109`. (The data must be returned from the `office` column in the `employees` table.)

Query:

SELECT *
FROM employees
WHERE office = 'South-109';

```
MariaDB [organization]>
MariaDB [organization]> SELECT *
    -> FROM employees
    -> WHERE office = 'South-109';
+-------------+--------------+----------+------------+-----------+
| employee_id | device_id    | username | department | office    |
+-------------+--------------+----------+------------+-----------+
|        1010 | k2421212m542 | jlansky  | Finance    | South-109 |
+-------------+--------------+----------+------------+-----------+
1 row in set (0.001 sec)
```

4.2. Modify the query you used in the previous step so that it returns information on all the employees in the 'South' building. Use the LIKE operator with % in this query.

Query:

SELECT *
FROM employees
WHERE office LIKE 'South%';

```
MariaDB [organization]>
MariaDB [organization]> SELECT *
    -> FROM employees
    -> WHERE office LIKE 'South%';
+-------------+--------------+----------+------------------------+-----------+
| employee_id | device_id    | username | department             | office    |
+-------------+--------------+----------+------------------------+-----------+
|        1003 | d394e816f943 | sgilmore | Finance                | South-153 |
|        1004 | e218f877g788 | eraab    | Human Resources        | South-127 |
|        1005 | f551g340h864 | gesparza | Human Resources        | South-366 |
|        1008 | i858j583k571 | abernard | Finance                | South-170 |
|        1009 | NULL         | lrodriqu | Sales                  | South-134 |
|        1010 | k2421212m542 | jlansky  | Finance                | South-109 |
|        1011 | l748m120n401 | drosas   | Sales                  | South-292 |
|        1013 | n205o559p243 | zbernal  | Information Technology  | South-229 |
|        1020 | u899v381w363 | arutley  | Marketing              | South-351 |
|        1021 | v200w121x977 | smartell | Information Technology  | South-138 |
|        1024 | y976z753a267 | iuduike  | Sales                  | South-215 |
|        1035 | j236k303l245 | bisles   | Sales                  | South-171 |
|        1048 | w167x592y375 | tmitchel | Finance                | South-288 |
|        1057 | f370g535h632 | mscott   | Sales                  | South-270 |
|        1058 | g264h852i697 | madebowa | Marketing              | South-119 |
|        1059 | h832i322j795 | jnguyen  | Marketing              | South-255 |
|        1064 | NULL         | ejones   | Marketing              | South-477 |
|        1081 | d647e310f618 | qcorbit  | Finance                | South-290 |
|        1084 | g950h972i991 | nhuynh   | Human Resources        | South-155 |
|        1090 | m891n748o375 | cpatel   | Information Technology  | South-351 |
|        1097 | t363u179v368 | jlee     | Human Resources        | South-254 |
|        1102 | y943z930a241 | kselassi | Marketing              | South-378 |
|        1106 | c597d792e215 | jcohen   | Marketing              | South-395 |
```