Perform a SQL query

Scenario

In this scenario, you have to determine which employee devices must be updated. You also need to investigate user login activity to explore if any unusual activity has occurred.

Task 1. Retrieve employee device data.

1.1. Query to select all device information from the `machines` table

Query:

SELECT *

FROM machines;

1.2. Query to select only the `device_id` and `email_client` columns from the `machines` table.

Query:

SELECT device_id, email_client

FROM machines;

```
MariaDB [organization]>
MariaDB [organization]>
MariaDB [organization]> SELECT device_id, email_client
    -> FROM machines;
+--------------+----------------+
| device_id    | email_client   |
+--------------+----------------+
| a184b775c707 | Email Client 1 |
| a192b174c940 | Email Client 1 |
| a305b818c708 | Email Client 2 |
| a317b635c465 | Email Client 2 |
| a320b137c219 | Email Client 2 |
| a398b471c573 | Email Client 2 |
| a667b270c984 | Email Client 1 |
| a821b452c176 | Email Client 2 |
| a998b568c863 | Email Client 1 |
| b157c491d493 | Email Client 1 |
| b239c825d303 | Email Client 1 |
| b264c773d977 | Email Client 2 |
| b265c937d713 | Email Client 1 |
| b433c245d868 | Email Client 1 |
| b551c837d758 | Email Client 1 |
| b566c710d544 | Email Client 1 |
| b806c503d354 | Email Client 1 |
| b979c871d361 | Email Client 1 |
| c116d593e558 | Email Client 1 |
```

1.3. Query to return only the `device_id`, `operating_system`, and `OS_patch_date` columns from the `machines` table. Replace X, Y, and Z with the columns that you need to return:

Query:

SELECT device_id, operating_system, OS_patch_date

FROM machines;

```
MariaDB [organization]>
MariaDB [organization]>
MariaDB [organization]> SELECT device_id, operating_system, OS_patch_date
    -> FROM machines;
+---------------+------------------+----------------+
| device_id     | operating_system | OS_patch_date  |
+---------------+------------------+----------------+
| a184b775c707  | OS 1             | 2021-09-01     |
| a192b174c940  | OS 2             | 2021-06-01     |
| a305b818c708  | OS 3             | 2021-06-01     |
| a317b635c465  | OS 1             | 2021-03-01     |
| a320b137c219  | OS 2             | 2021-03-01     |
| a398b471c573  | OS 3             | 2021-12-01     |
| a667b270c984  | OS 1             | 2021-03-01     |
| a821b452c176  | OS 2             | 2021-12-01     |
| a998b568c863  | OS 3             | 2021-12-01     |
| b157c491d493  | OS 2             | 2021-03-01     |
| b239c825d303  | OS 1             | 2021-03-01     |
| b264c773d977  | OS 2             | 2021-03-01     |
| b265c937d713  | OS 2             | 2021-09-01     |
| b433c245d868  | OS 1             | 2021-06-01     |
| b551c837d758  | OS 3             | 2021-03-01     |
| b566c710d544  | OS 1             | 2021-06-01     |
| b806c503d354  | OS 2             | 2021-12-01     |
| b979c871d361  | OS 2             | 2021-03-01     |
| c116d593e558  | OS 3             | 2021-09-01     |
```

Task 2. Investigate login activity.

2.1.   Query   to   select   the `event_id` and `country` columns   from the `log_in_attempts` table.

Query:

<mark>SELECT event_id, country</mark>

<mark>FROM log_in_attempts;</mark>

```
MariaDB [organization]>
MariaDB [organization]> SELECT event_id, country
    -> FROM log_in_attempts;
+----------+---------+
| event_id | country |
+----------+---------+
|        1 | CAN     |
|        2 | CAN     |
|        3 | USA     |
|        4 | USA     |
|        5 | CANADA  |
|        6 | MEXICO  |
|        7 | CAN     |
|        8 | US      |
|        9 | MEX     |
|       10 | CANADA  |
|       11 | CANADA  |
|       12 | USA     |
|       13 | USA     |
```

2.2.   Query   that   selects   the username, login_date, and login_time columns from the log_in_attempts table.

Query:

SELECT username, login_date, login_time

FROM log_in_attempts;

```
MariaDB [organization]>
MariaDB [organization]> SELECT username, login_date, login_time
    -> FROM log_in_attempts;
+----------+------------+------------+
| username | login_date | login_time |
+----------+------------+------------+
| jrafael  | 2022-05-09 | 04:56:27   |
| apatel   | 2022-05-10 | 20:27:27   |
| dkot     | 2022-05-09 | 06:47:41   |
| dkot     | 2022-05-08 | 02:00:39   |
| jrafael  | 2022-05-11 | 03:05:59   |
| arutley  | 2022-05-12 | 17:00:59   |
| eraab    | 2022-05-11 | 01:45:14   |
| bisles   | 2022-05-08 | 01:30:17   |
| yappiah  | 2022-05-11 | 13:47:29   |
| jrafael  | 2022-05-12 | 09:33:19   |
| sgilmore | 2022-05-11 | 10:16:29   |
| dkot     | 2022-05-08 | 09:11:34   |
| mrah     | 2022-05-11 | 09:29:34   |
| sbaelish | 2022-05-10 | 10:20:18   |
| lyamamot | 2022-05-09 | 17:17:26   |
| mcouliba | 2022-05-11 | 06:44:22   |
| pwashing | 2022-05-11 | 02:33:02   |
| pwashing | 2022-05-11 | 19:28:50   |
| jhill    | 2022-05-12 | 13:09:04   |
| tshah    | 2022-05-12 | 18:56:36   |
| jnduike  | 2022-05-11 | 17:50:00   |
```

2.3. Query that selects all columns from the `log_in_attempts` table, using a single symbol after the SELECT keyword.

Query:

SELECT *

FROM log_in_attempts;

```
MariaDB [organization]>
MariaDB [organization]> SELECT *
    -> FROM log_in_attempts;
+----------+----------+------------+------------+----------+-----------------+---------+
| event_id | username | login_date | login_time | country  | ip_address      | success |
+----------+----------+------------+------------+----------+-----------------+---------+
|        1 | jrafael  | 2022-05-09 | 04:56:27   | CAN      | 192.168.243.140 |       1 |
|        2 | apatel   | 2022-05-10 | 20:27:27   | CAN      | 192.168.205.12  |       0 |
|        3 | dkot     | 2022-05-09 | 06:47:41   | USA      | 192.168.151.162 |       1 |
|        4 | dkot     | 2022-05-08 | 02:00:39   | USA      | 192.168.178.71  |       0 |
|        5 | jrafael  | 2022-05-11 | 03:05:59   | CANADA   | 192.168.86.232  |       0 |
|        6 | arutley  | 2022-05-12 | 17:00:59   | MEXICO   | 192.168.3.24    |       0 |
|        7 | eraab    | 2022-05-11 | 01:45:14   | CAN      | 192.168.170.243 |       1 |
|        8 | bisles   | 2022-05-08 | 01:30:17   | US       | 192.168.119.173 |       0 |
|        9 | yappiah  | 2022-05-11 | 13:47:29   | MEX      | 192.168.59.136  |       1 |
|       10 | jrafael  | 2022-05-12 | 09:33:19   | CANADA   | 192.168.228.221 |       0 |
|       11 | sgilmore | 2022-05-11 | 10:16:29   | CANADA   | 192.168.140.81  |       0 |
|       12 | dkot     | 2022-05-08 | 09:11:34   | USA      | 192.168.100.158 |       1 |
|       13 | mrah     | 2022-05-11 | 09:29:34   | USA      | 192.168.246.135 |       1 |
|       14 | sbaelish | 2022-05-10 | 10:20:18   | US       | 192.168.16.99   |       1 |
|       15 | lyamamot | 2022-05-09 | 17:17:26   | USA      | 192.168.183.51  |       0 |
|       16 | mcouliba | 2022-05-11 | 06:44:22   | CAN      | 192.168.172.189 |       1 |
|       17 | pwashing | 2022-05-11 | 02:33:02   | USA      | 192.168.81.89   |       1 |
|       18 | pwashing | 2022-05-11 | 19:28:50   | US       | 192.168.66.142  |       0 |
|       19 | jhill    | 2022-05-12 | 13:09:04   | US       | 192.168.142.245 |       1 |
|       20 | tshah    | 2022-05-12 | 18:56:36   | MEXICO   | 192.168.109.50  |       0 |
|       21 | iuduike  | 2022-05-11 | 17:50:00   | US       | 192.168.131.147 |       1 |
|       22 | rjensen  | 2022-05-11 | 00:59:26   | MEX      | 192.168.213.128 |       0 |
```

Task 3. Order login attempts data.

3.1. Query, which orders `log_in_attempts` data by `login_date`:

Query:

SELECT *

FROM log_in_attempts

ORDER BY login_date;

```
MariaDB [organization]>
MariaDB [organization]> SELECT *
    -> FROM log_in_attempts
    -> ORDER BY login_date;
+----------+----------+------------+------------+---------+------------------+---------+
| event_id | username | login_date | login_time | country | ip_address       | success |
+----------+----------+------------+------------+---------+------------------+---------+
|      145 | ivelasco | 2022-05-08 | 09:06:02   | CANADA  | 192.168.39.196   |       1 |
|      163 | tmitchel | 2022-05-08 | 09:21:16   | MEX     | 192.168.119.29   |       0 |
|       36 | asundara | 2022-05-08 | 09:00:42   | US      | 192.168.78.151   |       1 |
|      165 | jreckley | 2022-05-08 | 15:28:43   | MEXICO  | 192.168.34.193   |       0 |
|      168 | jlansky  | 2022-05-08 | 13:25:42   | USA     | 192.168.210.94   |       1 |
|      169 | alevitsk | 2022-05-08 | 08:10:43   | CANADA  | 192.168.210.228  |       0 |
|       72 | alevitsk | 2022-05-08 | 12:09:10   | CANADA  | 192.168.139.176  |       1 |
|      101 | sbaelish | 2022-05-08 | 12:01:22   | US      | 192.168.145.158  |       0 |
|      172 | mabadi   | 2022-05-08 | 08:06:50   | US      | 192.168.180.41   |       1 |
|      150 | nmason   | 2022-05-08 | 14:40:02   | CAN     | 192.168.204.124  |       0 |
|       68 | mrah     | 2022-05-08 | 17:16:13   | US      | 192.168.42.248   |       1 |
|       66 | aestrada | 2022-05-08 | 21:58:32   | MEX     | 192.168.67.223   |       1 |
|       53 | nmason   | 2022-05-08 | 11:51:38   | CAN     | 192.168.133.188  |       1 |
|      147 | yappiah  | 2022-05-08 | 06:04:34   | MEX     | 192.168.65.245   |       0 |
|      148 | daquino  | 2022-05-08 | 06:15:55   | CANADA  | 192.168.135.6    |       1 |
```

3.2. Query from the previous step by adding the login time to the `ORDER BY` clause. You must replace X with the appropriate column name:

Query:

SELECT *

FROM log_in_attempts

ORDER BY login_date, login_time;

```
MariaDB [organization]>
MariaDB [organization]> SELECT *
    -> FROM log_in_attempts
    -> ORDER BY login_date, login_time;
+----------+----------+------------+------------+---------+-----------------+---------+
| event_id | username | login_date | login_time | country | ip_address      | success |
+----------+----------+------------+------------+---------+-----------------+---------+
|      117 | bsand    | 2022-05-08 | 00:19:11   | USA     | 192.168.197.187 |       0 |
|       92 | pwashing | 2022-05-08 | 00:36:12   | US      | 192.168.247.219 |       0 |
|        8 | bisles   | 2022-05-08 | 01:30:17   | US      | 192.168.119.173 |       0 |
|        4 | dkot     | 2022-05-08 | 02:00:39   | USA     | 192.168.178.71  |       0 |
|       80 | cjackson | 2022-05-08 | 02:18:10   | CANADA  | 192.168.33.140  |       1 |
|       43 | mcouliba | 2022-05-08 | 02:35:34   | CANADA  | 192.168.16.208  |       0 |
|      184 | alevitsk | 2022-05-08 | 03:09:48   | CAN     | 192.168.33.70   |       0 |
|       56 | acook    | 2022-05-08 | 04:56:30   | CAN     | 192.168.209.130 |       1 |
|       47 | dkot     | 2022-05-08 | 05:06:45   | US      | 192.168.233.24  |       1 |
|      189 | nmason   | 2022-05-08 | 05:37:24   | CANADA  | 192.168.168.117 |       1 |
|      147 | yappiah  | 2022-05-08 | 06:04:34   | MEX     | 192.168.65.245  |       0 |
|      148 | daquino  | 2022-05-08 | 06:15:55   | CANADA  | 192.168.135.6   |       1 |
|      191 | cjackson | 2022-05-08 | 06:46:07   | CANADA  | 192.168.7.187   |       0 |
|       44 | daquino  | 2022-05-08 | 07:02:35   | CANADA  | 192.168.168.144 |       0 |
|      193 | lrodriqu | 2022-05-08 | 07:11:29   | US      | 192.168.125.240 |       0 |
|      172 | mabadi   | 2022-05-08 | 08:06:50   | US      | 192.168.180.41  |       1 |
|       83 | lrodriqu | 2022-05-08 | 08:10:23   | USA     | 192.168.67.69   |       1 |
|      169 | alevitsk | 2022-05-08 | 08:10:43   | CANADA  | 192.168.210.228 |       0 |
|       36 | asundara | 2022-05-08 | 09:00:42   | US      | 192.168.78.151  |       1 |
|      197 | jsoto    | 2022-05-08 | 09:05:09   | US      | 192.168.36.21   |       0 |
|      145 | jvelasco | 2022-05-08 | 09:06:02   | CANADA  | 192.168.39.196  |       1 |
```