CSE370: Database Systems

Assignment 01 | Fall 2024

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Question 1 : Create the above table with the appropriate data type for each column.

Query : create table developers
(
member_id int,
name varchar(30),
email varchar(30),
influence_count int,
joining_date date,
multiplier int
);

```
MariaDB [google_22301076]> create table developers
    -> (
    -> member_id int,
    -> name varchar(30),
    -> email varchar(30),
    -> influence_count int,
    -> joining_date date,
    -> multiplier int
    -> );
Query OK, 0 rows affected (0.007 sec)
```

Query : Describe developers ;

```
MariaDB [google_22301076]> describe developers;
+------------------+-------------+------+-----+---------+-------+
| Field            | Type        | Null | Key | Default | Extra |
+------------------+-------------+------+-----+---------+-------+
| member_id        | int(11)     | YES  |     | NULL    |       |
| name             | varchar(30) | YES  |     | NULL    |       |
| email            | varchar(30) | YES  |     | NULL    |       |
| influence_count  | int(11)     | YES  |     | NULL    |       |
| joining_date     | date        | YES  |     | NULL    |       |
| multiplier       | int(11)     | YES  |     | NULL    |       |
+------------------+-------------+------+-----+---------+-------+
6 rows in set (0.019 sec)
```

Query :insert into developers values
(1,'Taylor Otwell','otwell@laravel.com',739360,'2020-6-10','10'),
…..

```
MariaDB [google_22301076]> insert into developers values
    -> (1,'Taylor Otwell','otwell@laravel.com',739360,'2020-6-10','10'),
    -> (2,'Ryan Dahl','ryan@nodejs.org',633632,'2020-04-22','10'),
    -> (3,'Brendan Eich','eich@javascript.com',939570,'2020-05-07','8'),
    -> (4,'Evan You','you@vuejs.org',982630,'2020-06-11','7'),
    -> (5,'Rasmus Lerdorf','lerdorf@php.net',937927,'2020-06-3','8'),
    -> (6,'Guido van Rossum','guido@python.org',968827,'2020-07-18','19'),
    -> (7,'Adrian Holovaty','adrian@djangoproject.com',570724,'2020-05-07','5'),
    -> (8,'Simon Willison','simon@djangoproject.com',864615,'2020-04-30','4'),
    -> (9,'James Gosling','james@java.com',719491,'2020-05-18','5'),
    -> (10,'Rod Johnson','rod@spring.io',601744,'2020-05-18','7'),
    -> (11,'Satoshi Nakamoto','nakamoto@blockchain.com',630488,'2020-05-10','10');
Query OK, 11 rows affected (0.040 sec)
Records: 11  Duplicates: 0  Warnings: 0
```

Query : select * from developers;

```
MariaDB [google_22301076]> select * from developers;
+-----------+-----------------+-------------------------+----------------+--------------+------------+
| member_id | name            | email                   | influence_count | joining_date | multiplier |
+-----------+-----------------+-------------------------+----------------+--------------+------------+
|         1 | Taylor Otwell   | otwell@laravel.com      |          739360 | 2020-06-10   |         10 |
|         2 | Ryan Dahl       | ryan@nodejs.org         |          633632 | 2020-04-22   |         10 |
|         3 | Brendan Eich    | eich@javascript.com     |          939570 | 2020-05-07   |          8 |
|         4 | Evan You        | you@vuejs.org           |          982630 | 2020-06-11   |          7 |
|         5 | Rasmus Lerdorf  | lerdorf@php.net         |          937927 | 2020-06-03   |          8 |
|         6 | Guido van Rossum| guido@python.org        |          968827 | 2020-07-18   |         19 |
|         7 | Adrian Holovaty | adrian@djangoproject.com|          570724 | 2020-05-07   |          5 |
|         8 | Simon Willison  | simon@djangoproject.com |          864615 | 2020-04-30   |          4 |
|         9 | James Gosling   | james@java.com          |          719491 | 2020-05-18   |          5 |
|        10 | Rod Johnson     | rod@spring.io           |          601744 | 2020-05-18   |          7 |
|        11 | Satoshi Nakamoto| nakamoto@blockchain.com |          630488 | 2020-05-10   |         10 |
+-----------+-----------------+-------------------------+----------------+--------------+------------+
11 rows in set (0.000 sec)
```

Question 2 : Change the column name "influence_count". The new name should be "followers," and the data type should be integer.

Query : alter table developers change column influence_count followers int;

```
MariaDB [google_22301076]> alter table developers change column influence_count followers int;
Query OK, 0 rows affected (0.006 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [google_22301076]> select * from developers;
+-----------+-----------------+-------------------------+-----------+--------------+------------+
| member_id | name            | email                   | followers | joining_date | multiplier |
+-----------+-----------------+-------------------------+-----------+--------------+------------+
|         1 | Taylor Otwell   | otwell@laravel.com      |    739360 | 2020-06-10   |         10 |
|         2 | Ryan Dahl       | ryan@nodejs.org         |    633632 | 2020-04-22   |         10 |
|         3 | Brendan Eich    | eich@javascript.com     |    939570 | 2020-05-07   |          8 |
|         4 | Evan You        | you@vuejs.org           |    982630 | 2020-06-11   |          7 |
|         5 | Rasmus Lerdorf  | lerdorf@php.net         |    937927 | 2020-06-03   |          8 |
|         6 | Guido van Rossum| guido@python.org        |    968827 | 2020-07-18   |         19 |
|         7 | Adrian Holovaty | adrian@djangoproject.com|    570724 | 2020-05-07   |          5 |
|         8 | Simon Willison  | simon@djangoproject.com |    864615 | 2020-04-30   |          4 |
|         9 | James Gosling   | james@java.com          |    719491 | 2020-05-18   |          5 |
|        10 | Rod Johnson     | rod@spring.io           |    601744 | 2020-05-18   |          7 |
|        11 | Satoshi Nakamoto| nakamoto@blockchain.com |    630488 | 2020-05-10   |         10 |
+-----------+-----------------+-------------------------+-----------+--------------+------------+
11 rows in set (0.000 sec)
```

Question 3: Update the number of followers of each developer by +10.

Query : update developers set followers = followers + 10;

```
MariaDB [google_22301076]> update developers set followers = followers + 10;
Query OK, 11 rows affected (0.002 sec)
Rows matched: 11  Changed: 11  Warnings: 0

MariaDB [google_22301076]> select * from developers;
+-----------+------------------+---------------------------+-----------+--------------+------------+
| member_id | name             | email                     | followers | joining_date | multiplier |
+-----------+------------------+---------------------------+-----------+--------------+------------+
|         1 | Taylor Otwell    | otwell@laravel.com        |    739370 | 2020-06-10   |         10 |
|         2 | Ryan Dahl        | ryan@nodejs.org           |    633642 | 2020-04-22   |         10 |
|         3 | Brendan Eich     | eich@javascript.com       |    939580 | 2020-05-07   |          8 |
|         4 | Evan You         | you@vuejs.org             |    982640 | 2020-06-11   |          7 |
|         5 | Rasmus Lerdorf   | lerdorf@php.net           |    937937 | 2020-06-03   |          8 |
|         6 | Guido van Rossum | guido@python.org          |    968837 | 2020-07-18   |         19 |
|         7 | Adrian Holovaty  | adrian@djangoproject.com  |    570734 | 2020-05-07   |          5 |
|         8 | Simon Willison   | simon@djangoproject.com   |    864625 | 2020-04-30   |          4 |
|         9 | James Gosling    | james@java.com            |    719501 | 2020-05-18   |          5 |
|        10 | Rod Johnson      | rod@spring.io             |    601754 | 2020-05-18   |          7 |
|        11 | Satoshi Nakamoto | nakamoto@blockchain.com   |    630498 | 2020-05-10   |         10 |
+-----------+------------------+---------------------------+-----------+--------------+------------+
11 rows in set (0.000 sec)
```

Question 4 : There is a formula to find the efficiency of the developers. Efficiency = ((followers*100/1000000) * (multiplier*100/20))/100. Show the efficiency of each developer in a column named "Efficiency" along with their name.

Query :

Select name, ((followers*100/1000000) * (multiplier*100/20))/100 as Efficiency from developers;

```
MariaDB [google_22301076]> Select name, ((followers*100/1000000) * (multiplier*100/20))/100 as Efficiency from developer
s;
+------------------+------------------+
| name             | Efficiency       |
+------------------+------------------+
| Taylor Otwell    | 36.968500000000  |
| Ryan Dahl        | 31.682100000000  |
| Brendan Eich     | 37.583200000000  |
| Evan You         | 34.392400000000  |
| Rasmus Lerdorf   | 37.517480000000  |
| Guido van Rossum | 92.039515000000  |
| Adrian Holovaty  | 14.268350000000  |
| Simon Willison   | 17.292500000000  |
| James Gosling    | 17.987525000000  |
| Rod Johnson      | 21.061390000000  |
| Satoshi Nakamoto | 31.524900000000  |
+------------------+------------------+
11 rows in set (0.000 sec)
```

Question 5 : Show the name of the developers in UpperCase and the descending order of their Joining_date.

Query :

Select upper(name) as name,joining_date from developers order by joining_date desc;

```
MariaDB [google_22301076]> Select upper(name) as name,joining_date from developers order by joining_date desc;
+------------------+--------------+
| name             | joining_date |
+------------------+--------------+
| GUIDO VAN ROSSUM | 2020-07-18   |
| EVAN YOU         | 2020-06-11   |
| TAYLOR OTWELL    | 2020-06-10   |
| RASMUS LERDORF   | 2020-06-03   |
| JAMES GOSLING    | 2020-05-18   |
| ROD JOHNSON      | 2020-05-18   |
| SATOSHI NAKAMOTO | 2020-05-10   |
| BRENDAN EICH     | 2020-05-07   |
| ADRIAN HOLOVATY  | 2020-05-07   |
| SIMON WILLISON   | 2020-04-30   |
| RYAN DAHL        | 2020-04-22   |
+------------------+--------------+
11 rows in set (0.000 sec)
```

Question 6 : Retrieve the member_ id, name, email and followers of the developers who have either ".com" or ".net" in their email address.

 Query : Select member_id, email, followers from developers where email like '%.com' or email like '%.net';

```
MariaDB [google_22301076]> Select member_id, email, followers from developers where email like '%.
com' or email like '%.net';
+-----------+-----------------------------+-----------+
| member_id | email                       | followers |
+-----------+-----------------------------+-----------+
|         1 | otwell@laravel.com          |    739370 |
|         3 | eich@javascript.com         |    939580 |
|         5 | lerdorf@php.net             |    937937 |
|         7 | adrian@djangoproject.com    |    570734 |
|         8 | simon@djangoproject.com     |    864625 |
|         9 | james@java.com              |    719501 |
|        11 | nakamoto@blockchain.com     |    630498 |
+-----------+-----------------------------+-----------+
7 rows in set (0.000 sec)
```