DBMS
Lab Assignment : Week 8

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Task 1 : Write a function to find the number of tickets booked by a customer. If no of tickets is more than 3 for the current month then display error message as "cannot purchase tickets current limit is over"

Code :

```sql
DELIMITER $$

CREATE FUNCTION check_ticket_count(p_id VARCHAR(20))
RETURNS VARCHAR(50)
DETERMINISTIC

BEGIN
DECLARE msg VARCHAR(50);
DECLARE count INT;
SET count = (SELECT COUNT(*)
FROM TICKET
WHERE passenger_id=p_id AND MONTH(CURRENT_DATE())=MONTH(travel_date)
GROUP BY passenger_id, MONTH(travel_date));
IF count > 3 THEN
SET msg = 'Cannot purchase more tickets';
ELSE
SET msg = 'Can purchase more tickets.';
END IF;
RETURN msg;
END;$$

DELIMITER ;
```

Output :

Initially ::-

```
MariaDB [620_rr]> select * from ticket;
+--------+----------+------------+------------+-----------+----------------+--------------+--------------+------------+------------------+----------------+
| pnr    | train_no | travel_date| departure  | arrival   | departure_time | arrival_time | passenger_id | train_type | compartment_type | compartment_no |
+--------+----------+------------+------------+-----------+----------------+--------------+--------------+------------+------------------+----------------+
| PNR001 |    62621 | 2022-08-07 | Bengaluru  | Chennai   | 16:00:00       | 20:30:00     | ADM_001      | Superfast  | I Class          | F01            |
| PNR002 |    62620 | 2022-08-14 | Chennai    | Bengaluru | 08:00:00       | 12:25:00     | ADM_001      | Superfast  | I Class          | F02            |
| PNR003 |    25261 | 2022-08-01 | Chennai    | Mangaluru | 18:00:00       | 07:30:00     | ADM_003      | Mail       | III Class        | G02            |
| PNR004 |    25260 | 2022-08-15 | Mangaluru  | Chennai   | 19:15:00       | 08:00:00     | ADM_003      | Mail       | II Class         | S02            |
| PNR005 |    58451 | 2022-08-03 | Bengaluru  | Mangaluru | 06:00:00       | 14:00:00     | USR_002      | Fast       | III Class        | G01            |
| PNR006 |    58450 | 2033-08-04 | Mangaluru  | Bengaluru | 08:00:00       | 10:15:00     | USR_002      | Fast       | II Class         | S01            |
| PNR007 |    62621 | 2022-08-07 | Bangarpet  | Chennai   | 18:00:00       | 20:30:00     | ADM_002      | Superfast  | II Class         | S01            |
| PNR008 |    62620 | 2022-08-02 | Chennai    | Bangarpet | 08:00:00       | 09:00:00     | ADM_002      | Superfast  | I Class          | F01            |
| PNR010 |    25260 | 2022-08-19 | Mangaluru  | Kannur    | 19:15:00       | 23:15:00     | USR_007      | Mail       | II Class         | S01            |
| PNR011 |    62621 | 2022-08-22 | Katapadi   | Chennai   | 19:00:00       | 20:30:00     | USR_008      | Superfast  | I Class          | F01            |
| PNR012 |    58451 | 2022-08-11 | Subramanya | Mangaluru | 11:00:00       | 14:00:00     | USR_009      | Fast       | I Class          | F01            |
| PNR014 |    25260 | 2022-08-17 | Kannur     | Palakkad  | 23:15:00       | 04:30:00     | USR_010      | Mail       | II Class         | S01            |
| PNR015 |    25260 | 2022-08-05 | Palakkad   | Chennai   | 04:30:00       | 08:00:00     | USR_012      | Mail       | II Class         | S01            |
| PNR021 |    62621 | 2021-10-22 | Bengaluru  | Chennai   | 16:00:00       | 20:30:00     | USR_008      | Superfast  | I Class          | F01            |
+--------+----------+------------+------------+-----------+----------------+--------------+--------------+------------+------------------+----------------+
14 rows in set (0.001 sec)

MariaDB [620_rr]> DELIMITER $$
MariaDB [620_rr]>
MariaDB [620_rr]> CREATE FUNCTION check_ticket_count(p_id VARCHAR(20))
    -> RETURNS VARCHAR(50)
    -> DETERMINISTIC
    ->
    -> BEGIN
    -> DECLARE msg VARCHAR(50);
    -> DECLARE count INT;
    -> SET count = (SELECT COUNT(*)
    -> FROM TICKET
    -> WHERE passenger_id=p_id AND MONTH(CURRENT_DATE())=MONTH(travel_date)
    -> GROUP BY passenger_id, MONTH(travel_date));
    -> IF count > 3 THEN
    -> SET msg = 'Cannot purchase more tickets';
    -> ELSE
    -> SET msg = 'Can purchase more tickets.';
    -> END IF;
    -> RETURN msg;
    -> END;$$
Query OK, 0 rows affected (0.053 sec)

MariaDB [620_rr]>
MariaDB [620_rr]> DELIMITER ;
```

After running the function :

```
MariaDB [620_rr]> with t as (Select passenger_id,count(pnr) as count from ticket group by passenger_id)SELECT passenger_id, check_ticket_count(count) as Validate, count as ticket_purchased from t;
+--------------+----------------------------+------------------+
| passenger_id | Validate                   | ticket_purchased |
+--------------+----------------------------+------------------+
| ADM_001      | Can purchase more tickets. |                2 |
| ADM_002      | Can purchase more tickets. |                2 |
| ADM_003      | Can purchase more tickets. |                2 |
| USR_002      | Can purchase more tickets. |                2 |
| USR_007      | Can purchase more tickets. |                1 |
| USR_008      | Can purchase more tickets. |                2 |
| USR_009      | Can purchase more tickets. |                1 |
| USR_010      | Can purchase more tickets. |                1 |
| USR_012      | Can purchase more tickets. |                1 |
+--------------+----------------------------+------------------+
9 rows in set (0.083 sec)
```

Task 2 : Write a stored procedure to calculate the age of the customer when the date of birth is given.
Update the column named age in the customer table.

Code :

```sql
DELIMITER $$
CREATE PROCEDURE update_age_in_table (
IN user_id VARCHAR(20), OUT msg VARCHAR(30)
)

BEGIN
DECLARE age_ INT;
DECLARE dob_ DATE;

SET age_ = (SELECT age FROM train_user WHERE train_user.user_id=user_id);
SET dob_ = (SELECT dob FROM train_user WHERE train_user.user_id=user_id);

IF age_ IS NULL THEN
SET msg = 'Updating age';
UPDATE train_user SET age=DATEDIFF(CURRENT_DATE(), dob_)/365
WHERE train_user.user_id=user_id;
ELSE
SET msg = 'Already updated';
END IF;

END$$
DELIMITER ;
```

Output :

:- initially.

```
MariaDB [620_rr]> select * from train_user;
+---------+-----------+-----------+-----------+------+------------+---------+----------------------------+
| user_id | user_type | firstname | lastname  | age  | dob        | pincode | street_number              |
+---------+-----------+-----------+-----------+------+------------+---------+----------------------------+
| ADM_001 | ADMIN     | Narendra  | Modi      | NULL | 1989-04-14 | 600047  | Old Jail Road              |
| ADM_002 | ADMIN     | Droupadi  | Murmu     | NULL | 1990-04-14 | 640012  | High Street                |
| ADM_003 | ADMIN     | Manmohan  | Singh     | NULL | 1991-04-08 | 575003  | Pumpwell Road              |
| USR_001 | PSGR      |     Ajit  | Ullal     | NULL | 1971-01-01 | 560001  | 10, Janpath                |
| USR_002 | PSGR      | Muhammed  | Ali       | NULL | 2000-10-09 | 560003  | 10, Downing                |
| USR_003 | PSGR      | Sai Deepak| Reddy     | NULL | 1996-12-12 | 600001  | 14, Kailsh Marg            |
| USR_004 | PSGR      | Rudra     | Agarwal   | NULL | 1996-12-13 | 600042  | 5, Lohia Garden            |
| USR_005 | PSGR      | Rahul     | Khanna    | NULL | 1997-12-14 | 600067  | 1, Pink Street             |
| USR_006 | PSGR      | Nirmala   | Seturaman | NULL | 1998-12-15 | 560105  | 3, Blue Avenue             |
| USR_007 | PSGR      | Smriti    | Irani     | NULL | 1999-12-16 | 575014  | 4, Banyan Avenie           |
| USR_008 | PSGR      | Ajit      | Sethi     | NULL | 1966-04-14 | 575001  | 6, Poes Garden             |
| USR_009 | PSGR      | Arjun     | Allu      | NULL | 1967-04-08 | 575020  | 7, Dhamaka street          |
| USR_010 | PSGR      | Samanta   | Prabhu    | NULL | 1968-04-14 | 600042  | 8, Clone Colony            |
| USR_011 | PSGR      | Kiran     | Bedi      | NULL | 1969-04-14 | 560003  | 56, Brigade Road           |
| USR_012 | PSGR      | Rahul     | Gandhi    | NULL | 1970-04-08 | 475001  | Mirza road                 |
| USR_013 | PSGR      | Rashkit   | Shetty    | NULL | 1971-04-14 | 560009  | JC Road                    |
| USR_014 | PSGR      | Rishi     | Sunak     | NULL | 1972-04-14 | 600034  | Anna Sali                  |
| USR_015 | PSGR      | Vedavalli | Srinath   | NULL | 1973-04-14 | 560054  | Church Street, Bangalore   |
| USR_016 | PSGR      | Subbu     | Saravana  | NULL | 1974-04-14 | 600043  | American Street            |
| USR_017 | PSGR      | Sheela    | Dixit     | NULL | 1975-04-08 | 560048  | Kasturba Road              |
| USR_018 | PSGR      | Margaret  | Alva      | NULL | 1976-04-14 | 560008  | New BEL Road               |
| USR_019 | PSGR      | Arun      | Kumar     | NULL | 1977-04-14 | 600046  | Mint Street                |
| USR_020 | PSGR      | Anshu     | Bhardwaj  | NULL | 1978-04-14 | 575001  | KSR Road                   |
| USR_021 | PSGR      | Suma      | Sampat    | NULL | 1979-04-08 | 560012  | Old Airport Road, Bangalore|
| USR_022 | PSGR      | Srihari   | Udupa     | NULL | 1980-04-14 | 560015  | Suranjan Das Road          |
| USR_023 | PSGR      | Satish    | Kotian    | NULL | 1981-04-14 | 600044  | T Nagar                    |
| USR_024 | PSGR      | Shradha   | Nayar     | NULL | 1982-04-08 | 560006  | M G Road, Bangalore        |
| USR_025 | PSGR      | Manisha   | Solanki   | NULL | 1983-04-08 | 575030  | M G Road                   |
| USR_026 | PSGR      | Bharti    | Devgan    | NULL | 1984-04-14 | 560059  | NAL Wind Tunnel Road       |
| USR_027 | PSGR      | Roopa     | Ram       | NULL | 1985-04-14 | 575023  | Bunder Road                |
| USR_028 | PSGR      | Pallavi   | Ram       | NULL | 1986-04-08 | 560044  | Lavelle Road               |
| USR_029 | PSGR      | Ravi      | Naik      | NULL | 1987-04-14 | 600045  | Thiru V ka Salai           |
| USR_030 | PSGR      | Virat     | Murthy    | NULL | 1988-04-14 | 575011  | Bejai New Road             |
+---------+-----------+-----------+-----------+------+------------+---------+----------------------------+
33 rows in set (0.001 sec)

MariaDB [620_rr]> DELIMITER $$
MariaDB [620_rr]> CREATE PROCEDURE update_age_in_table (
    -> IN user_id VARCHAR(20), OUT msg VARCHAR(30)
    -> )
    ->
    -> BEGIN
    -> DECLARE age_ INT;
    -> DECLARE dob_ DATE;
    ->
    -> SET age_ = (SELECT age FROM train_user WHERE train_user.user_id=user_id);
    -> SET dob_ = (SELECT dob FROM train_user WHERE train_user.user_id=user_id);
    ->
    -> IF age_ IS NULL THEN
    -> SET msg = 'Updating age';
    -> UPDATE train_user SET age=DATEDIFF(CURRENT_DATE(), dob_)/365
    -> WHERE train_user.user_id=user_id;
    -> ELSE
    -> SET msg = 'Already updated';
    -> END IF;
    ->
    -> END$$
Query OK, 0 rows affected (0.061 sec)
```

After the procedure gets called ::-

```
MariaDB [620_rr]> call update_age_in_table('ADM_001',@A);
Query OK, 1 row affected (0.029 sec)

MariaDB [620_rr]> select * from train_user;
+---------+-----------+-----------+-----------+------+------------+---------+--------------------------------+
| user_id | user_type | firstname | lastname  | age  | dob        | pincode | street_number                  |
+---------+-----------+-----------+-----------+------+------------+---------+--------------------------------+
| ADM_001 | ADMIN     | Narendra  | Modi      |   34 | 1989-04-14 | 600047  | Old Jail Road                  |
| ADM_002 | ADMIN     | Droupadi  | Murmu     | NULL | 1990-04-14 | 640012  | High Street                    |
| ADM_003 | ADMIN     | Manmohan  | Singh     | NULL | 1991-04-08 | 575003  | Pumpwell Road                  |
| USR_001 | PSGR      | Ajit      | Ullal     | NULL | 1971-01-01 | 560001  | 10, Janpath                    |
| USR_002 | PSGR      | Muhammed  | Ali       | NULL | 2000-10-09 | 560003  | 10, Downing                    |
| USR_003 | PSGR      | Sai Deepak| Reddy     | NULL | 1996-12-12 | 600001  | 14, Kailsh Marg                |
| USR_004 | PSGR      | Rudra     | Agarwal   | NULL | 1996-12-13 | 600042  | 5, Lohia Garden                |
| USR_005 | PSGR      | Rahul     | Khanna    | NULL | 1997-12-14 | 600067  | 1, Pink Street                 |
| USR_006 | PSGR      | Nirmala   | Seturaman | NULL | 1998-12-15 | 560105  | 3, Blue Avenue                 |
| USR_007 | PSGR      | Smriti    | Irani     | NULL | 1999-12-16 | 575014  | 4, Banyan Avenie               |
| USR_008 | PSGR      | Ajit      | Sethi     | NULL | 1966-04-14 | 575001  | 6, Poes Garden                 |
| USR_009 | PSGR      | Arjun     | Allu      | NULL | 1967-04-08 | 575020  | 7, Dhamaka street              |
| USR_010 | PSGR      | Samanta   | Prabhu    | NULL | 1968-04-14 | 600042  | 8, Clone Colony                |
| USR_011 | PSGR      | Kiran     | Bedi      | NULL | 1969-04-14 | 560003  | 56, Brigade Road               |
| USR_012 | PSGR      | Rahul     | Gandhi    | NULL | 1970-04-08 | 475001  | Mirza road                     |
| USR_013 | PSGR      | Rashkit   | Shetty    | NULL | 1971-04-14 | 560009  | JC Road                        |
| USR_014 | PSGR      | Rishi     | Sunak     | NULL | 1972-04-14 | 600034  | Anna Sali                      |
| USR_015 | PSGR      | Vedavalli | Srinath   | NULL | 1973-04-14 | 560054  | Church Street, Bangalore       |
| USR_016 | PSGR      | Subbu     | Saravana  | NULL | 1974-04-14 | 600043  | American Street                |
| USR_017 | PSGR      | Sheela    | Dixit     | NULL | 1975-04-08 | 560048  | Kasturba Road                  |
| USR_018 | PSGR      | Margaret  | Alva      | NULL | 1976-04-14 | 560008  | New BEL Road                   |
| USR_019 | PSGR      | Arun      | Kumar     | NULL | 1977-04-14 | 600046  | Mint Street                    |
| USR_020 | PSGR      | Anshu     | Bhardwaj  | NULL | 1978-04-14 | 575001  | KSR Road                       |
| USR_021 | PSGR      | Suma      | Sampat    | NULL | 1979-04-08 | 560012  | Old Airport Road, Bangalore    |
| USR_022 | PSGR      | Srihari   | Udupa     | NULL | 1980-04-14 | 560015  | Suranjan Das Road              |
| USR_023 | PSGR      | Satish    | Kotian    | NULL | 1981-04-14 | 600044  | T Nagar                        |
| USR_024 | PSGR      | Shradha   | Nayar     | NULL | 1982-04-08 | 560006  | M G Road, Bangalore            |
| USR_025 | PSGR      | Manisha   | Solanki   | NULL | 1983-04-08 | 575030  | M G Road                       |
| USR_026 | PSGR      | Bharti    | Devgan    | NULL | 1984-04-14 | 560059  | NAL Wind Tunnel Road           |
| USR_027 | PSGR      | Roopa     | Ram       | NULL | 1985-04-14 | 575023  | Bunder Road                    |
| USR_028 | PSGR      | Pallavi   | Ram       | NULL | 1986-04-08 | 560044  | Lavelle Road                   |
| USR_029 | PSGR      | Ravi      | Naik      | NULL | 1987-04-14 | 600045  | Thiru V ka Salai               |
| USR_030 | PSGR      | Virat     | Murthy    | NULL | 1988-04-14 | 575011  | Bejai New Road                 |
+---------+-----------+-----------+-----------+------+------------+---------+--------------------------------+
33 rows in set (0.036 sec)

MariaDB [620_rr]>
```

If incase we need to update the age of all the users ::-

```
MariaDB [620_rr]> DELIMITER $$
MariaDB [620_rr]> CREATE procedure age_eval()
    -> BEGIN
    -> UPDATE train_user set Age = FLOOR(DATEDIFF(CURRENT_DATE,dob)/365);
    -> END;
    -> $$
ERROR 1304 (42000): PROCEDURE age_eval already exists
MariaDB [620_rr]> DELIMITER ;
MariaDB [620_rr]> call age_eval();
Query OK, 33 rows affected (0.097 sec)

MariaDB [620_rr]> select * from train_user;
+---------+-----------+-----------+----------+------+------------+---------+------------------------------+
| user_id | user_type | firstname | lastname | age  | dob        | pincode | street_number                |
+---------+-----------+-----------+----------+------+------------+---------+------------------------------+
| ADM_001 | ADMIN     | Narendra  | Modi     |   33 | 1989-04-14 | 600047  | Old Jail Road                |
| ADM_002 | ADMIN     | Droupadi  | Murmu    |   32 | 1990-04-14 | 640012  | High Street                  |
| ADM_003 | ADMIN     | Manmohan  | Singh    |   31 | 1991-04-08 | 575003  | Pumpwell Road                |
| USR_001 | PSGR      | Ajit      | Ullal    |   51 | 1971-01-01 | 560001  | 10, Janpath                  |
| USR_002 | PSGR      | Muhammed  | Ali      |   22 | 2000-10-09 | 560003  | 10, Downing                  |
| USR_003 | PSGR      | Sai Deepak| Reddy    |   25 | 1996-12-12 | 600001  | 14, Kailsh Marg              |
| USR_004 | PSGR      | Rudra     | Agarwal  |   25 | 1996-12-13 | 600042  | 5, Lohia Garden              |
| USR_005 | PSGR      | Rahul     | Khanna   |   24 | 1997-12-14 | 600067  | 1, Pink Street               |
| USR_006 | PSGR      | Nirmala   | Seturaman|   23 | 1998-12-15 | 560105  | 3, Blue Avenue               |
| USR_007 | PSGR      | Smriti    | Irani    |   22 | 1999-12-16 | 575014  | 4, Banyan Avenie             |
| USR_008 | PSGR      | Ajit      | Sethi    |   56 | 1966-04-14 | 575001  | 6, Poes Garden               |
| USR_009 | PSGR      | Arjun     | Allu     |   55 | 1967-04-08 | 575020  | 7, Dhamaka street            |
| USR_010 | PSGR      | Samanta   | Prabhu   |   54 | 1968-04-14 | 600042  | 8, Clone Colony              |
| USR_011 | PSGR      | Kiran     | Bedi     |   53 | 1969-04-14 | 560003  | 56, Brigade Road             |
| USR_012 | PSGR      | Rahul     | Gandhi   |   52 | 1970-04-08 | 475001  | Mirza road                   |
| USR_013 | PSGR      | Rashkit   | Shetty   |   51 | 1971-04-14 | 560009  | JC Road                      |
| USR_014 | PSGR      | Rishi     | Sunak    |   50 | 1972-04-14 | 600034  | Anna Sali                    |
| USR_015 | PSGR      | Vedavalli | Srinath  |   49 | 1973-04-14 | 560054  | Church Street, Bangalore     |
| USR_016 | PSGR      | Subbu     | Saravana |   48 | 1974-04-14 | 600043  | American Street              |
| USR_017 | PSGR      | Sheela    | Dixit    |   47 | 1975-04-08 | 560048  | Kasturba Road                |
| USR_018 | PSGR      | Margaret  | Alva     |   46 | 1976-04-14 | 560008  | New BEL Road                 |
| USR_019 | PSGR      | Arun      | Kumar    |   45 | 1977-04-14 | 600046  | Mint Street                  |
| USR_020 | PSGR      | Anshu     | Bhardwaj |   44 | 1978-04-14 | 575001  | KSR Road                     |
| USR_021 | PSGR      | Suma      | Sampat   |   43 | 1979-04-14 | 560012  | Old Airport Road, Bangalore  |
| USR_022 | PSGR      | Srihari   | Udupa    |   42 | 1980-04-14 | 560015  | Suranjan Das Road            |
| USR_023 | PSGR      | Satish    | Kotian   |   41 | 1981-04-14 | 600044  | T Nagar                      |
| USR_024 | PSGR      | Shradha   | Nayar    |   40 | 1982-04-08 | 560006  | M G Road, Bangalore          |
| USR_025 | PSGR      | Manisha   | Solanki  |   39 | 1983-04-08 | 575030  | M G Road                     |
| USR_026 | PSGR      | Bharti    | Devgan   |   38 | 1984-04-14 | 560059  | NAL Wind Tunnel Road         |
| USR_027 | PSGR      | Roopa     | Ram      |   37 | 1985-04-14 | 575023  | Bunder Road                  |
| USR_028 | PSGR      | Pallavi   | Ram      |   36 | 1986-04-08 | 560044  | Lavelle Road                 |
| USR_029 | PSGR      | Ravi      | Naik     |   35 | 1987-04-14 | 600045  | Thiru V ka Salai             |
| USR_030 | PSGR      | Virat     | Murthy   |   34 | 1988-04-14 | 575011  | Bejai New Road               |
+---------+-----------+-----------+----------+------+------------+---------+------------------------------+
33 rows in set (0.001 sec)
```