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1. Write SQL queries in MySQL for the following.

a. Write an SQL Query to find the year from date.
Ans.

```
 SELECT YEAR("2024-07-24") as year;
+------+
| year |
+------+
| 2024 |
+------+
```

b. Check whether date passed to Query is the date of a given format or not.
Ans.

```
mysql> SELECT STR_TO_DATE("2024-07-25", "%Y-%m-%d") AS isvalid;
+------------+
| isvalid    |
+------------+
| 2024-07-25 |
+------------+

SELECT STR_TO_DATE("2024-25-07", "%Y-%m-%d") AS isvalid;
+---------+
| isvalid |
+---------+
| NULL    |
+---------+
```

c. Find the size of the SCHEMA/USER.
Ans.

```
SELECT table_schema AS "Database",  ROUND(SUM(data_length + index_length) / 1024 / 1024, 2) AS "Size (MB)"  FROM information_schema.TABLES  GROUP BY table_schema;
+--------------------+-----------+
| Database           | Size (MB) |
```

```
+--------------------+-----------+
| mysql              |      2.64 |
| information_schema |      0.00 |
| sys                |      0.02 |
| Exam               |      0.09 |
| endsem             |      0.09 |
| performance_schema |      0.00 |
| D2                 |      0.02 |
| EMPLOYEE           |      0.02 |
| vishnu             |      0.02 |
| ADI                |      0.14 |
| DTP                |      0.05 |
| ACC                |      0.03 |
| DB                 |      0.05 |
| lab4               |      0.03 |
| dtbs               |      0.31 |
| mydb               |      0.05 |
| dtb                |      0.05 |
| lab6_dbms          |      0.03 |
| dtbe               |      0.09 |
| LAB1               |      0.13 |
+--------------------+-----------+
20 rows in set (0.01 sec)
```

d. Display the current time.

Ans.

```
SELECT NOW() as rn;
+---------------------+
| rn                  |
+---------------------+
| 2024-07-26 00:57:31 |
+---------------------+
```

e. Given a date, retrieve the next day's date.

Ans.

```
SELECT DATE_ADD(CURDATE(), INTERVAL 1 DAY) as tmrw;
+------------+
| tmrw       |
```

```
+------------+
| 2024-07-26 |
+------------+
```

f. Get database's date.

Ans.

```
SELECT CURRENT_TIMESTAMP();
+---------------------+
| CURRENT_TIMESTAMP() |
+---------------------+
| 2024-07-26 01:02:45 |
+---------------------+
```

g. Returns the default(current) database name.

Ans.

```
mysql> SELECT CURRENT_USER();
+----------------+
| CURRENT_USER() |
+----------------+
| root@localhost |
+----------------+
```

h. Retrieve the current MySQL user name and host name.

Ans.

```
mysql> SELECT CURRENT_USER();
+----------------+
| CURRENT_USER() |
+----------------+
| root@localhost |
+----------------+
```

i. Find the string that tells the MySQL server version.

Ans.

```
SELECT VERSION();
+-------------------------+
| VERSION()               |
+-------------------------+
```

```
| 8.0.37-0ubuntu0.20.04.3 |
+-------------------------+
```

j. Perform Bitwise OR, Bitwise XOR and Bitwise AND.

Ans.

```
SELECT (11 | 7) as bitwiseOR, (11^7) as bitwiseXOR, (11 & 7) as bitwiseand;
+-----------+------------+------------+
| bitwiseOR | bitwiseXOR | bitwiseand |
+-----------+------------+------------+
|         15 |             12 |              3 |
+-----------+------------+------------+
```

k. Find the difference between two dates and print in terms of the number of days.

Ans.

```
SELECT DATEDIFF("2012-2-20", "2012-1-1") AS diff;
+------+
| diff |
+------+
|   50 |
+------+
```

l. Add one day to the current date.

Ans.

```
SELECT DATE_ADD(CURDATE(), INTERVAL 1 DAY) as tmrw;
+------------+
| tmrw           |
+------------+
| 2024-07-27 |
+------------+
```

m. Add two hours and 5000 minutes to the current date and print the new date.

Ans.

```
SELECT DATE_ADD(NOW(), INTERVAL 170 MINUTE);
+-------------------------------------+
| DATE_ADD(NOW(), INTERVAL 170 MINUTE) |
+-------------------------------------+
```

```
| 2024-07-26 04:31:38                 |
+-------------------------------------+
```

n. Find the floor and ceil values of a floating point number. Also operate on thepower, log, modulus, round off and truncate functions.

Ans.

```
SELECT FLOOR(10.4) as floorval, ceil(10.4) as ceilval, POW(2,4) as powerval,
LN(24) as log, 10%3 as modulo, TRUNCATE(10.1354, 2);
+----------+---------+----------+-------------------+--------+---------------------+
| floorval | ceilval | powerval | log               | modulo | TRUNCATE(10.1354, 2) |
+----------+---------+----------+-------------------+--------+---------------------+
|         10 |     11 |     16 | 3.1780538303479458 |         1 |                10.13 |
+----------+---------+----------+-------------------+--------+---------------------+
```

o. In the first name of the employee, match the following using regular expressions.

Ans.

p. Compare two strings and print the value ‘yes’ if they are equal, else print ‘no’.

Ans.

```
SELECT STRCMP("hello", "hi");
+----------------------+
| STRCMP("hello", "hi") |
+----------------------+
|                   -1 |
+----------------------+
```

q. Simulate the “IF... ELSE” construct in MySQL for a mark and grade setup.

Ans.

```
SELECT
    ->      85 AS marks,
    ->      CASE
    ->      WHEN 85 >= 90 THEN 'A'
    ->      WHEN 85 >= 80 THEN 'B'
    ->      WHEN 85 >= 70 THEN 'C'
    ->      WHEN 85 >= 60 THEN 'D'
    ->      ELSE 'F'
    ->      END AS grade;
    +-------+-------+
```

```
| marks | grade |
+-------+-------+
|    85 | B     |
+-------+-------+
```

r. Use IFNULL to check whether a mathematical expression gives a NULL value or not.

Ans.

```
SELECT IFNULL(100, "it is null");
+--------------------------+
| IFNULL(100, "it is null") |
+--------------------------+
| 100                      |
+--------------------------+
```