

Name - Yash Lakhtariya

Enrollment number - 21162101012

Branch - CBA , Batch - 31

DBMS Practical 12

Institute of computer technology
Ganpat university
B.tech. CSE (CBA/BDA/CS)

(2CSE301) DATABASE MANAGEMENT SYSTEM

PRACTICAL 12

Initial Environment for practical :

```
mycli -h haribol64 -
788.0 b/s 57.5 kb/s 11:55:20 AM
mycli -h haribol64 -

MariaDB yash@haribol64 in (none) > create database prac_12;
Query OK, 1 row affected
Time: 0.000s

MariaDB yash@haribol64 in (none) > use prac_12;
You are now connected to database "prac_12" as user "yash"
Time: 0.000s

MariaDB yash@haribol64 in prac_12 > delimiter //
Changed delimiter to //
Time: 0.000s

MariaDB yash@haribol64 in prac_12 > CREATE TABLE `prac_12` (
--> `EMPLOYEE_ID` varchar(11) DEFAULT NULL,
--> `FIRST_NAME` varchar(10) DEFAULT NULL,
--> `LAST_NAME` varchar(9) DEFAULT NULL,
--> `EMAIL` varchar(8) DEFAULT NULL,
--> `PHONE_NUMBER` varchar(12) DEFAULT NULL,
--> `HIRE_DATE` varchar(10) DEFAULT NULL,
--> `JOB_ID` varchar(10) DEFAULT NULL,
--> `SALARY` varchar(6) DEFAULT NULL,
--> `MANAGER_ID` varchar(10) DEFAULT NULL,
--> `DEPARTMENT_ID` varchar(13) DEFAULT NULL
--> )
--> //
Query OK, 0 rows affected
Time: 0.012s

MariaDB yash@haribol64 in prac_12 > INSERT INTO `prac_12` (`EMPLOYEE_ID`, `FIRST_NAME`, `LAST_NAME`, `EMAIL`, `PHONE_NUMBER`, `HIRE_DATE`, `JOB_ID`, `SALARY`, `MANAGER_ID`,
--> `DEPARTMENT_ID`) VALUES
--> ('', '', '', '', '', '', '', '', '', ''),
--> ('100', 'Steven', 'King', 'SKING', '515.123.4567', '1987-06-17', 'AD_PRES', '24000', '0', '90'),
--> ('101', 'Neena', 'Kochhar', 'NKOCHHAR', '515.123.4568', '1987-06-18', 'AD_VP', '17000', '100', '90'),
--> ('102', 'Alexander', 'Hunold', 'AHUNOLD', '590.423.4567', '1987-06-20', 'IT_PROG', '9000', '102', '60'),
--> ('103', 'Bruce', 'Ernst', 'BERNST', '590.423.4568', '1987-06-21', 'IT_PROG', '6000', '103', '60'),
--> ('104', 'David', 'Austin', 'DAUSTIN', '590.423.4569', '1987-06-22', 'IT_PROG', '4800', '103', '60'),
--> ('105', 'Valli', 'Pataballa', 'VPATABAL', '590.423.4560', '1987-06-23', 'IT_PROG', '4800', '103', '60'),
--> ('106', 'Diana', 'Lorentz', 'DLORENTZ', '590.423.5567', '1987-06-24', 'IT_PROG', '4200', '103', '60'),
```

Problems, Respected Queries and Outputs :

PART A: STRING FUNCTIONS

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1) Write a query to update the portion of the phone_number in the db_prac11 table, within the phone number the substring '124' will be replaced by '999'.

```
mycli -h haribol64 -
0.0 b/s 13.6 kb/s 11:56:42 AM
mycli -h haribol64 -
Query OK, 15 rows affected
Time: 0.008s

MariaDB yash@haribol64 in prac_12 > update prac_12 set PHONE_NUMBER = replace(PHONE_NUMBER,'124','999')//
You're about to run a destructive command.
Do you want to proceed? (y/n): y
Your call!
Query OK, 5 rows affected
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select PHONE_NUMBER from prac_12//
+-----+
| PHONE_NUMBER |
+-----+
| 515.123.4567 |
| 515.123.4568 |
| 590.423.4567 |
| 590.423.4568 |
| 590.423.4569 |
| 590.423.4560 |
| 590.423.5567 |
| 515.999.4569 |
| 515.999.4169 |
| 515.999.4269 |
| 515.999.4369 |
| 515.999.4567 |
| 515.127.4561 |
| 515.127.4562 |
+-----+

15 rows in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 > 
```

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2) Write a query to get the details of the employees where the length of the first name is greater than or equal to 8.

```
mycli -h haribol64 -
0.0 b/s 23.9 kb/s 11:57:09 AM
mycli -h haribol64 -
| 515.123.4568 |
| 590.423.4567 |
| 590.423.4568 |
| 590.423.4569 |
| 590.423.4560 |
| 590.423.5567 |
| 515.999.4569 |
| 515.999.4169 |
| 515.999.4269 |
| 515.999.4369 |
| 515.999.4567 |
| 515.127.4561 |
| 515.127.4562 |
+-----+
15 rows in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 > select * from prac_12 where length(FIRST_NAME) >= 8 //
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| EMPLOYEE_ID | FIRST_NAME | LAST_NAME | EMAIL | PHONE_NUMBER | HIRE_DATE | JOB_ID | SALARY | MANAGER_ID | DEPARTMENT_ID |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 102          | Alexander | Hunold   | AHUNOLD | 590.423.4567 | 1987-06-20 | IT_PROG | 9000   | 102        | 60              |
| 114          | Alexander | Khoo     | AKHOO   | 515.127.4562 | 1987-07-02 | PU_CLERK | 3100   | 114        | 30              |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

2 rows in set
Time: 0.009s

MariaDB yash@haribol64 in prac_12 >
(Delimiter [//] will end the line) [F3] Multiline: ON
```

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3) Write a query to append '@example.com' to the email field.

```
mycli -h haribol64 -
1.4 kb/s 6.3 kb/s 12:01:11 PM
mycli -h haribol64 -

MariaDB yash@haribol64 in prac_12 > update prac_12 set EMAIL = concat(EMAIL,'@example.com')//
You're about to run a destructive command.
Do you want to proceed? (y/n): y
Your call!
Query OK, 15 rows affected
Time: 0.006s

MariaDB yash@haribol64 in prac_12 > select EMAIL from prac_12//
+-----+
| EMAIL |
+-----+
| @example.com |
| SKING@example.com |
| NKOCHHAR@example.com |
| AHUNOLD@example.com |
| BERNST@example.com |
| DAUSTIN@example.com |
| VPATABAL@example.com |
| DLORENTZ@example.com |
| NGREENBE@example.com |
| DFAVIET@example.com |
| JCHEN@example.com |
| ISCIARRA@example.com |
| LPOPP@example.com |
| DRAPHEAL@example.com |
| AKH00@example.com |
+-----+

15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > 
```

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4) Write a query to display all employees first names in upper case.

```
mycli -h haribol64 -
26.8 kb/s 17.7 kb/s 12:01:47 PM
mycli -h haribol64 -

+-----+
15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select upper(FIRST_NAME) from prac_12//
+-----+
| upper(FIRST_NAME) |
+-----+
| STEVEN             |
| NEENA              |
| ALEXANDER          |
| BRUCE              |
| DAVID              |
| VALLI              |
| DIANA              |
| NANCY              |
| DANIEL             |
| JOHN               |
| ISMAEL             |
| LUIS               |
| DEN                |
| ALEXANDER          |
+-----+

15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```

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5) Write a query to extract the last 4 characters of phone numbers.

```
mycli -h haribol64 -
376.0 b/s 46.0 kb/s 12:02:32 PM
mycli -h haribol64 -

+-----+
15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select right(PHONE_NUMBER, 4) as ExtractString from prac_12//
+-----+
| ExtractString |
+-----+
| 4567          |
| 4568          |
| 4567          |
| 4568          |
| 4569          |
| 4560          |
| 5567          |
| 4569          |
| 4169          |
| 4269          |
| 4369          |
| 4567          |
| 4561          |
| 4562          |
+-----+

15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```

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6) Write a query to display the length of first name for employees where the last name contains character 'c' after 2nd position.

```
mycli -h haribol64 -
1.3 kb/s 17.2 kb/s 12:03:04 PM
mycli -h haribol64 -
| 4567 |
| 4568 |
| 4567 |
| 4568 |
| 4569 |
| 4560 |
| 5567 |
| 4569 |
| 4169 |
| 4269 |
| 4369 |
| 4567 |
| 4561 |
| 4562 |
+-----+
15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select length(FIRST_NAME) from prac_12 where LAST_NAME like '_c%';
+-----+
| length(FIRST_NAME) |
+-----+
| 6                   |
+-----+
1 row in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```

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7) Write a query that displays the first name and the length of the first name for all employees whose name starts with the letters 'A', 'J' or 'M'. Give each column an appropriate label. Sort the results by the employees' first names.

```
mycli -h haribol64 -
788.0 b/s 46.6 kb/s 12:03:40 PM
mycli -h haribol64 -

| 4562 |
+-----+
15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select length(FIRST_NAME) from prac_12 where LAST_NAME like '_c%'//
+-----+
| length(FIRST_NAME) |
+-----+
| 6 |
+-----+

1 row in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 > select FIRST_NAME,length(FIRST_NAME) from prac_12 where FIRST_NAME like 'A%' or FIRST_NAME LIKE 'J%' or FIRST_NAME LIKE 'M%' order by
--> FIRST_NAME//
+-----+-----+
| FIRST_NAME | length(FIRST_NAME) |
+-----+-----+
| Alexander | 9 |
| Alexander | 9 |
| John | 4 |
+-----+-----+

3 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```


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8) Write a query to display the first name and salary for all employees. Format the salary to be 10 characters long, left-padded with the \$ symbol. Label the column SALARY.

```
mycli -h haribol64 -
13.4 kb/s 41.8 kb/s 12:05:28 PM
mycli -h haribol64 -

+-----+
| Alexander | 9 |
| Alexander | 9 |
| John      | 4 |
+-----+

3 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select FIRST_NAME,LPAD(SALARY,10,'$') as SALARY from prac_12//

+-----+
| FIRST_NAME | SALARY |
+-----+
| Steven     | $$$$$$$$ |
| Neena      | $$$$24000 |
| Neena      | $$$$17000 |
| Alexander  | $$$$9000  |
| Bruce      | $$$$6000  |
| David      | $$$$4800  |
| Valli      | $$$$4800  |
| Diana      | $$$$4200  |
| Nancy      | $$$$12000 |
| Daniel     | $$$$9000  |
| John       | $$$$8200  |
| Ismael     | $$$$7700  |
| Luis       | $$$$6900  |
| Den        | $$$$11000 |
| Alexander  | $$$$3100  |
+-----+

15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > 
```

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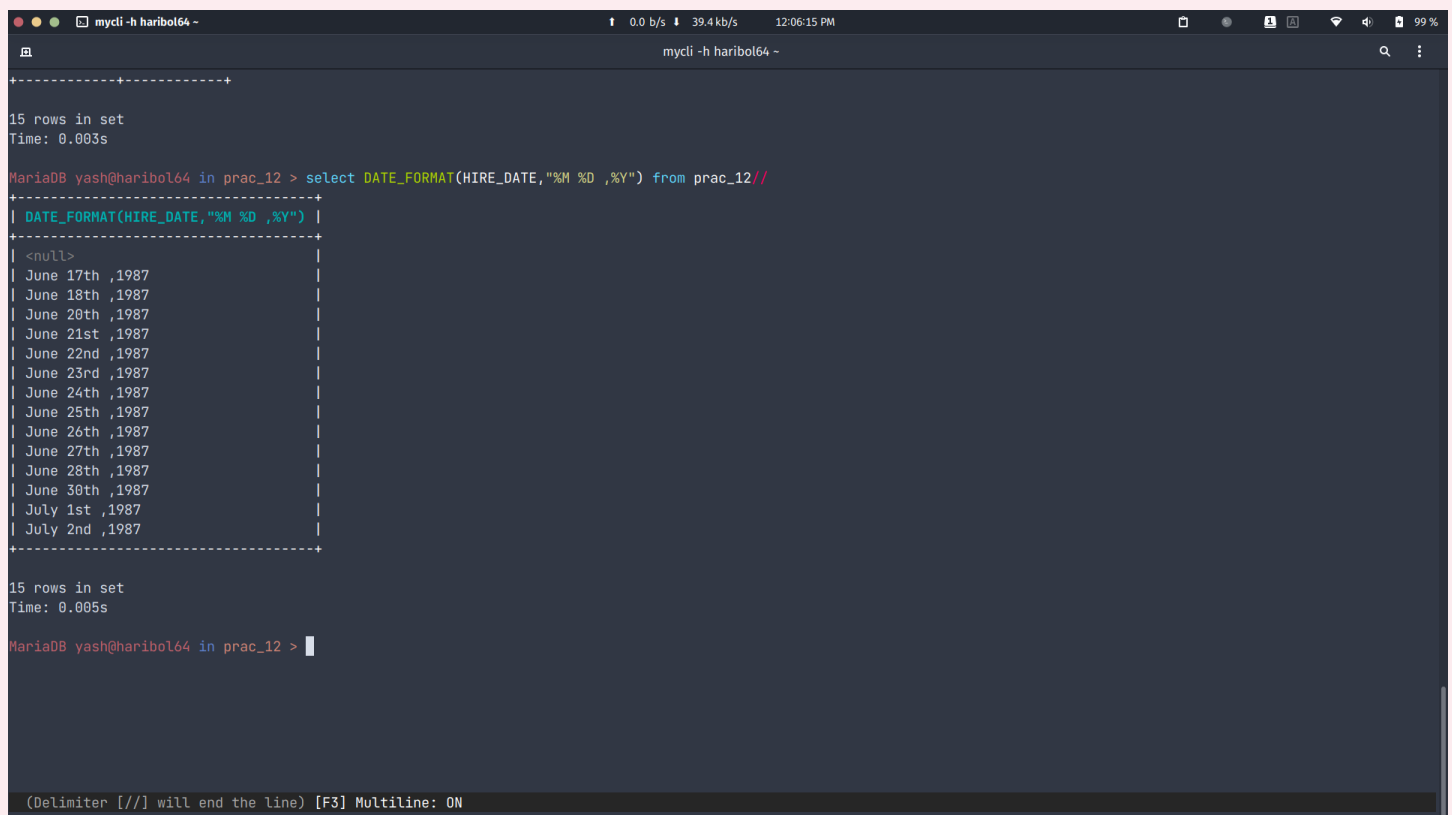
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PART B: DATE FUNCTIONS

9) Write a query to get the given date in the following format.

Sample date : 2021-10-18

Output : OCTOBER 18, 2021



The screenshot shows a MySQL terminal window with the following content:

```
mycli -h haribol64 ~
0.0 b/s 39.4 kb/s 12:06:15 PM
mycli -h haribol64 ~

+-----+
15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select DATE_FORMAT(HIRE_DATE, "%M %D ,%Y") from prac_12//
+-----+
| DATE_FORMAT(HIRE_DATE, "%M %D ,%Y") |
+-----+
| <null>                                |
| June 17th ,1987                       |
| June 18th ,1987                       |
| June 20th ,1987                       |
| June 21st ,1987                       |
| June 22nd ,1987                       |
| June 23rd ,1987                       |
| June 24th ,1987                       |
| June 25th ,1987                       |
| June 26th ,1987                       |
| June 27th ,1987                       |
| June 28th ,1987                       |
| June 30th ,1987                       |
| July 1st ,1987                        |
| July 2nd ,1987                        |
+-----+

15 rows in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```

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10) Write a query to extract the year from the system's current date.

```
mycli -h haribol64 -
78.6 kb/s 248.0 kb/s 12:06:56 PM
mycli -h haribol64 -
| June 17th ,1987 |
| June 18th ,1987 |
| June 20th ,1987 |
| June 21st ,1987 |
| June 22nd ,1987 |
| June 23rd ,1987 |
| June 24th ,1987 |
| June 25th ,1987 |
| June 26th ,1987 |
| June 27th ,1987 |
| June 28th ,1987 |
| June 30th ,1987 |
| July 1st ,1987 |
| July 2nd ,1987 |
+-----+
15 rows in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 > select EXTRACT(YEAR FROM NOW())//
+-----+
| EXTRACT(YEAR FROM NOW()) |
+-----+
| 2022 |
+-----+

1 row in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```

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11) Write a query to get the years in which more than 10 employees joined.

```
mycli -h haribol64 -
0.0 b/s 15.8 kb/s 12:08:27 PM
mycli -h haribol64 -
| June 28th ,1987 |
| June 30th ,1987 |
| July 1st ,1987 |
| July 2nd ,1987 |
+-----+
15 rows in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 > select EXTRACT(YEAR FROM NOW())//
+-----+
| EXTRACT(YEAR FROM NOW()) |
+-----+
| 2022 |
+-----+
1 row in set
Time: 0.005s

MariaDB yash@haribol64 in prac_12 > select date_format(HIRE_DATE,'%Y') from prac_12 group by date_format(HIRE_DATE,'%Y') having count(*)>=10//
+-----+
| date_format(HIRE_DATE,'%Y') |
+-----+
| 1987 |
+-----+
1 row in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```

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12) Write a query to get employee ID, last name, and date of first salary of the employees.

```
mycli -h haribol64 -
2.2 kb/s 70.6 kb/s 12:10:53 PM
mycli -h haribol64 -

MariaDB yash@haribol64 in prac_12 > select EMPLOYEE_ID, FIRST_NAME, LAST_NAME, HIRE_DATE, (LAST_DAY(HIRE_DATE) as 'First Salary on') from prac_12//
(1064, "You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'as 'First Salary on') from p
prac_12' at line 1")

MariaDB yash@haribol64 in prac_12 > select EMPLOYEE_ID, FIRST_NAME, LAST_NAME, HIRE_DATE, LAST_DAY(HIRE_DATE) as 'First Salary on' from prac_12//

+-----+-----+-----+-----+-----+
| EMPLOYEE_ID | FIRST_NAME | LAST_NAME | HIRE_DATE | First Salary on |
+-----+-----+-----+-----+-----+
| 100          | Steven    | King      | 1987-06-17 | 1987-06-30      |
| 101          | Neena     | Kochhar   | 1987-06-18 | 1987-06-30      |
| 102          | Alexander | Hunold    | 1987-06-20 | 1987-06-30      |
| 103          | Bruce     | Ernst     | 1987-06-21 | 1987-06-30      |
| 104          | David     | Austin    | 1987-06-22 | 1987-06-30      |
| 105          | Valli     | Pataballa | 1987-06-23 | 1987-06-30      |
| 106          | Diana     | Lorentz   | 1987-06-24 | 1987-06-30      |
| 107          | Nancy     | Greenberg | 1987-06-25 | 1987-06-30      |
| 108          | Daniel    | Faviet    | 1987-06-26 | 1987-06-30      |
| 109          | John      | Chen      | 1987-06-27 | 1987-06-30      |
| 110          | Ismael    | Sciarra   | 1987-06-28 | 1987-06-30      |
| 112          | Luis      | Popp      | 1987-06-30 | 1987-06-30      |
| 113          | Den       | Raphaely  | 1987-07-01 | 1987-07-31      |
| 114          | Alexander | Khoo      | 1987-07-02 | 1987-07-31      |
+-----+-----+-----+-----+-----+

15 rows in set
Time: 0.010s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```

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13) Write a query to get first name, hire date and experience of the employees.

```
mycli -h haribol64 -
0.0 b/s 11.3 kb/s 12:12:42 PM
mycli -h haribol64 -

+-----+
15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 > select FIRST_NAME, DATEDIFF(CURDATE(),HIRE_DATE) as Experience from prac_12//
+-----+
| FIRST_NAME | Experience |
+-----+
| <null>      |           |
| Steven      | 12931      |
| Neena       | 12930      |
| Alexander   | 12928      |
| Bruce       | 12927      |
| David       | 12926      |
| Valli       | 12925      |
| Diana       | 12924      |
| Nancy       | 12923      |
| Daniel      | 12922      |
| John        | 12921      |
| Ismael      | 12920      |
| Luis        | 12918      |
| Den         | 12917      |
| Alexander   | 12916      |
+-----+

15 rows in set
Time: 0.003s

MariaDB yash@haribol64 in prac_12 >

(Delimiter [//] will end the line) [F3] Multiline: ON
```