



# Lab 9 DCL and TCL



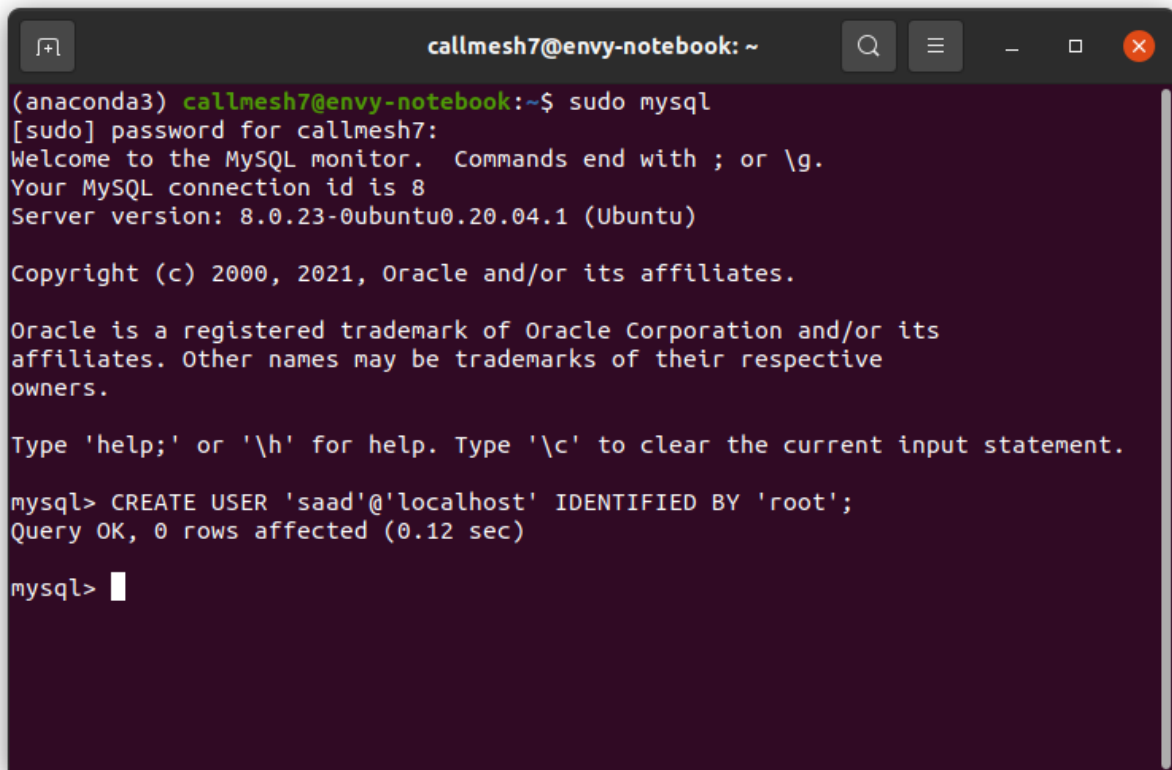
Submitted to

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## Exercises

1. Create a user, user name should be your name.

A terminal window titled 'callmesh7@envy-notebook: ~' with standard window controls. The terminal shows a user running 'sudo mysql' in an 'anaconda3' environment. The MySQL monitor prompts for a password, which is 'callmesh7'. It then displays the MySQL welcome message, connection ID (8), and server version (8.0.23-0ubuntu0.20.04.1). The user enters the command 'CREATE USER 'saad'@'localhost' IDENTIFIED BY 'root';', which executes successfully. The prompt returns to 'mysql>'.

```
(anaconda3) callmesh7@envy-notebook:~$ sudo mysql
[sudo] password for callmesh7:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.23-0ubuntu0.20.04.1 (Ubuntu)

Copyright (c) 2000, 2021, Oracle and/or its affiliates.

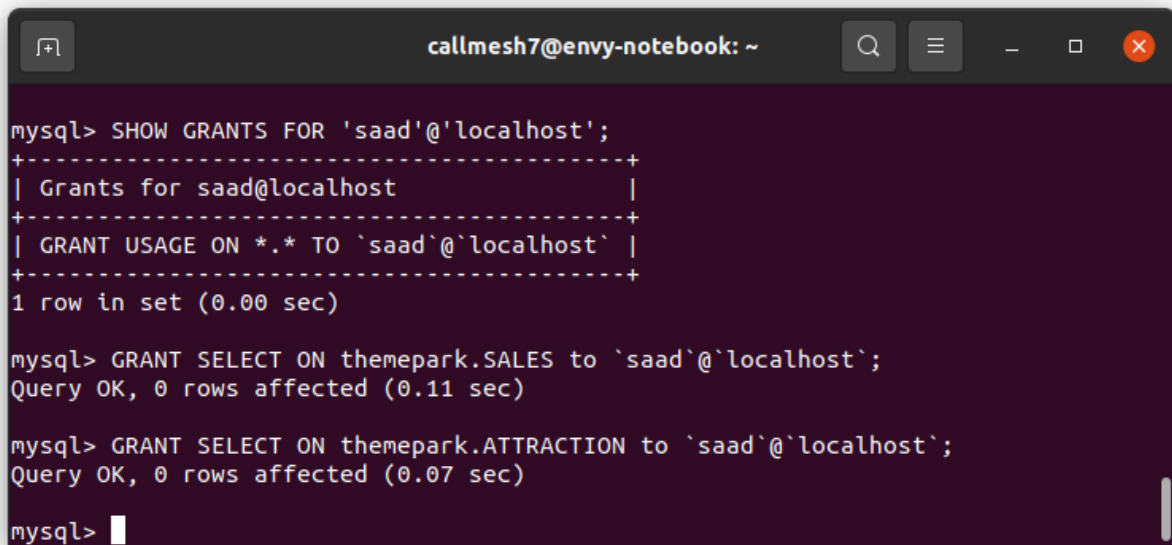
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE USER 'saad'@'localhost' IDENTIFIED BY 'root';
Query OK, 0 rows affected (0.12 sec)

mysql> 
```

2. Grants privileges to the user you created
  - To access tables from database theme park (at least 1).



```

callmesh7@envy-notebook: ~
mysql> SHOW GRANTS FOR 'saad'@'localhost';
+-----+
| Grants for saad@localhost          |
+-----+
| GRANT USAGE ON *.* TO `saad`@`localhost` |
+-----+
1 row in set (0.00 sec)

mysql> GRANT SELECT ON themepark.SALES to `saad`@`localhost`;
Query OK, 0 rows affected (0.11 sec)

mysql> GRANT SELECT ON themepark.ATTRACTION to `saad`@`localhost`;
Query OK, 0 rows affected (0.07 sec)

mysql>

```

- To access the views you have created in themepark (at least 1 view).

Since I had issues while finding themepark view that i did in recent labs , so here I will write just query for it:

**GRANT SELECT ON themepark.emp\_details TO 'saad'@'localhost';**

-> this query should work.

To access full database of employee (which you have used in assignment 1)

To create a database

**mysql -u root -p bank -e "grant all privileges on \* . \* to 'saad'@'localhost' ";**

-> this query should work.

(

I don't have Employee databases therefore I used bank database. In the above screen shot I gave all

---

the privileges to user saad for bank database

)

3. Revoke the right to access the view you granted in exercise 2.

Since I had issues while finding themepark view that i did in recent labs , so here I will write just query for it:

**REVOKE SELECT ON themepark.emp\_details FROM 'saad'@'localhost';**

-> this query should work.

4. Grant the insert permission on table ticket and allow him to grant this permission to other users.

**GRANT INSERT ON themepark.TICKET to 'saad'@'localhost';**

-> this query should work.

5. Give a demonstration of commit, rollback and savepoint commands.

- You can use any already defined database for the demonstration of TCL commands.
- Disable the autocommit option as shown in the lab manual.

```
mysql> SET AUTOCOMMIT =0;
Query OK, 0 rows affected (0.28 sec)
```

9.3 TCL (Transaction Control Language)

```
mysql> SELECT * FROM PRODUCT LIMIT 2;
+-----+-----+-----+-----+-----+
| PRODUCT_CD | DATE_OFFERED | DATE_RETIRED | NAME      | PRODUCT_TYPE_CD |
+-----+-----+-----+-----+-----+
| AAA        | 2021-04-29   | NULL         | KING      | ACCOUNT          |
| AUT        | 2000-01-01   | NULL         | auto loan | LOAN              |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> DELETE FROM PRODUCT WHERE PRODUCT_CD = 'AAA';
Query OK, 1 row affected (0.31 sec)
```

```
mysql> SELECT * FROM PRODUCT LIMIT 2;
+-----+-----+-----+-----+-----+
| PRODUCT_CD | DATE_OFFERED | DATE_RETIRED | NAME      | PRODUCT_TYPE_CD |
+-----+-----+-----+-----+-----+
| AUT        | 2000-01-01   | NULL         | auto loan | LOAN              |
| BBB        | 2021-04-29   | NULL         | PANDAS    | ACCOUNT          |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

Example of TCL commands:

- COMMIT - commits a transaction.
- ROLLBACK - rolls back a transaction in a database.
- SAVEPOINT - sets a savepoint within a transaction.

```
mysql> ROLLBACK;
Query OK, 0 rows affected (0.15 sec)
```

```
mysql> SELECT * FROM PRODUCT LIMIT 2;
+-----+-----+-----+-----+-----+
| PRODUCT_CD | DATE_OFFERED | DATE_RETIRED | NAME      | PRODUCT_TYPE_CD |
+-----+-----+-----+-----+-----+
| AAA        | 2021-04-29   | NULL         | KING      | ACCOUNT          |
| AUT        | 2000-01-01   | NULL         | auto loan | LOAN              |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

Insert some data in any table, update some data in any table

Now apply rollback and see the result

```
mysql> DELETE FROM PRODUCT WHERE PRODUCT_CD = 'AUT';
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM PRODUCT LIMIT 5;
+-----+-----+-----+-----+-----+
| PRODUCT_CD | DATE_OFFERED | DATE_RETIRED | NAME | PRODUCT_TYPE_CD |
+-----+-----+-----+-----+-----+
| AAA | 2021-04-29 | NULL | KING | ACCOUNT |
| BBB | 2021-04-29 | NULL | PANDAS | ACCOUNT |
| BUS | 2000-01-01 | NULL | BUSINESS line of credit | LOAN |
| CCC | 2021-04-29 | NULL | conda | ACCOUNT |
| CD | 2000-01-01 | NULL | certificate of deposit | ACCOUNT |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> COMMIT;
Query OK, 0 rows affected (0.10 sec)

mysql> ROLLBACK;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM PRODUCT LIMIT 5;
+-----+-----+-----+-----+-----+
| PRODUCT_CD | DATE_OFFERED | DATE_RETIRED | NAME | PRODUCT_TYPE_CD |
+-----+-----+-----+-----+-----+
| AAA | 2021-04-29 | NULL | KING | ACCOUNT |
| BBB | 2021-04-29 | NULL | PANDAS | ACCOUNT |
| BUS | 2000-01-01 | NULL | BUSINESS line of credit | LOAN |
| CCC | 2021-04-29 | NULL | conda | ACCOUNT |
| CD | 2000-01-01 | NULL | certificate of deposit | ACCOUNT |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

As we can see that ROLLBACK command restores the database to last committed state. Therefore

when I did commit and then ROLLBACK the deleted row didn't effected because that row is

permanently deleted due to COMMIT.

- 
-

Do some more transactions of insert, update and delete. Afterwards add a savepoint

Insert 2 to 3 rows and then go back to previous savepoint and see the results.

```
mysql> select * from PRODUCT_TYPE;
+-----+-----+
| PRODUCT_TYPE_CD | NAME                |
+-----+-----+
| ACCOUNT         | Customer Accounts  |
| INSURANCE       | Insurance Offerings|
| LOAN            | Individual and Business Loans |
+-----+-----+
3 rows in set (0.05 sec)

mysql> INSERT INTO PRODUCT_TYPE_CD VALUES('AAMIR', 'I DON'T WANNA CHANGE');
'> ^C
mysql> INSERT INTO PRODUCT_TYPE VALUES('AAMIR', 'I DON'T WANNA CHANGE');
'> ^C
mysql> INSERT INTO PRODUCT_TYPE VALUES('AAMIR', 'I DONT WANNA CHANGE');
Query OK, 1 row affected (0.04 sec)

mysql> INSERT INTO PRODUCT_TYPE VALUES('AAMIR_KHAN', 'I DONT WANNA CHANGE TOO');
Query OK, 1 row affected (0.00 sec)

mysql> SAVEPOINT MY CHECK;
Query OK, 0 rows affected (0.00 sec)

mysql> INSERT INTO PRODUCT_TYPE VALUES('KHANI', 'I WILL BE CHANGE');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO PRODUCT_TYPE VALUES('DEVDA', 'I WILL DIE');
Query OK, 1 row affected (0.00 sec)
```



```
mysql> SELECT * FROM PRODUCT_TYPE;
+-----+-----+
| PRODUCT_TYPE_CD | NAME                |
+-----+-----+
| AAMIR           | I DONT WANNA CHANGE |
| AAMIR_KHAN      | I DONT WANNA CHANGE TOO |
| ACCOUNT         | Customer Accounts   |
| DEVDas         | I WILL DIE          |
| INSURANCE       | Insurance Offerings  |
| KHANI           | I WILL BE CHANGE    |
| LOAN            | Individual and Business Loans |
+-----+-----+
7 rows in set (0.00 sec)

mysql> ROLLBACK TO MY_CHECK;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM PRODUCT_TYPE;
+-----+-----+
| PRODUCT_TYPE_CD | NAME                |
+-----+-----+
| AAMIR           | I DONT WANNA CHANGE |
| AAMIR_KHAN      | I DONT WANNA CHANGE TOO |
| ACCOUNT         | Customer Accounts   |
| INSURANCE       | Insurance Offerings  |
| LOAN            | Individual and Business Loans |
+-----+-----+
5 rows in set (0.00 sec)
```

Now in the Above Screen shot I saved a check point after two insert queries , and then inserted 2

more queries , when I did ROLLBACK TO SAVE\_POINT the ist two queries did not affect because

I save the point after that two queries.



```
mysql> SELECT * FROM PRODUCT_TYPE;
+-----+-----+
| PRODUCT_TYPE_CD | NAME                                |
+-----+-----+
| AAMIR            | I DONT WANNA CHANGE                |
| AAMIR_KHAN       | I DONT WANNA CHANGE TOO            |
| ACCOUNT          | Customer Accounts                  |
| INSURANCE        | Insurance Offerings                |
| LOAN             | Individual and Business Loans      |
+-----+-----+
5 rows in set (0.00 sec)
```

Now, I will delete the first two rows. When I did this, I saved the point after that.

```
mysql> ROLLBACK;
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> SELECT * FROM PRODUCT_TYPE;
+-----+-----+
| PRODUCT_TYPE_CD | NAME                                |
+-----+-----+
| ACCOUNT          | Customer Accounts                  |
| INSURANCE        | Insurance Offerings                |
| LOAN             | Individual and Business Loans      |
+-----+-----+
3 rows in set (0.00 sec)
```

### Bonus Task

6. Write a PHP script that shows the division table in shown in below figure using loops.

For each number, display whether that number is prime or not. Display this information within an HTML table.

### Check If the Number is Prime Or not

1	2	3	4	5	6				
3131									
	304								
		7.34					1515	93	
				9					
	77								

Check Answers

### Check If the Number is Prime Or not


Check Answers

1(NP)	2(Prime)	3(Prime)	4(NP)	5(Prime)	6(NP)				
3131(NP)									
	304(NP)								
								93(NP)	
		7.34(NP)					1515(NP)		
				9(NP)					
	77(NP)								

Source code is given below..

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<body style="background-color:darkcyan;">
```

```
<h1 style="color:white;">Check If the Number is Prime Or
```

```
not</h1>

<form action="index.php" method="POST">

<div >

<?php

$myVar;

// header("refresh: 2");

$inc = 0;

$decimal_exists = false;

for($i = 0 ;$i < 10; $i++ )

{

for($j = 0; $j < 10; $j++)

{

$inc ++;

?>

<input name= <?php echo $inc; ?> type="text" placeholder= ""

style="width: 120px;" value= <?php echo $myVar; ?> >

<?php

}

}

?> <br> <button style="font-size: 15px; color:white; background-

color:blue; padding: 15px; border-radius: 17px;" class="but"
```

---

```
name="clicked">Check Answers</button>

</form> <br>

<?php

if(isset($_POST['clicked']))

{

$name = 1;

$name = 0;

function primeCheck($number)

{

if($number == 1)return 0;

for($i = 2; $i <= $number/2; $i++)

{

if($number % $i == 0)return 0;}

return 1;

}

for($grid_row = 0 ;$grid_row < 10; $grid_row++ )

{

for($grid_column = 0; $grid_column < 10; $grid_column++)

{

$name ++;

$myVar = $_POST[$name];
```

---

```
$i = 0;

while($myVar[$i] != NULL)
{
    if($myVar[$i] == '.')$decimal_exists = true;
    $i++;
}

if($myVar == NULL) $myVar = "";
elseif($decimal_exists) $myVar = $myVar . '(NP)';
elseif (primeCheck($myVar))
{
    $myVar = $myVar . '(Prime)';
}
else $myVar = $myVar . '(NP)';
?>

<input type="text" placeholder=" " style="width: 120px;" value=

<?php echo $myVar ; ?> >

<?php

}

}

}

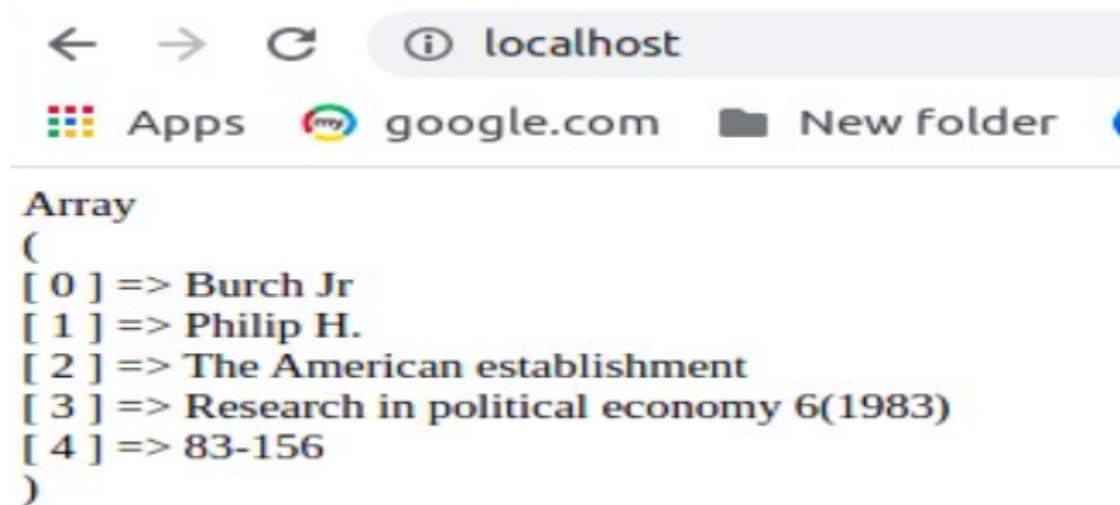
?>

</div>
```

```
</body>
```

```
</html>
```

7. Write a PHP program to convert the given string into an array. Suppose the string is 'Burch Jr, Philip H., The American establishment, Research in political economy 6(1983), 83-156';



Below is the Source code for the above screen shot

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<body>
```

```
<?php
```

```
$var = 'Burch Jr, Philip H., The American establishment
```

```
Research in political
```



---

```
economy 6(1983), 83-156'
```

```
$myArray = array();
```

```
$slice = ''
```

```
$append_index = -1;
```

```
$length = 0;
```

```
while(true)
```

```
{
```

```
if($var[$length] == NULL)break;
```

```
$length += 1;
```

```
}
```

```
$length += 1;
```

```
for($i = 0; $i <= $length; $i++){
```

```
if ( $i == $length || $var[$i] == ';' )
```

```
{
```

```
$append_index += 1;
```

```
$myArray[$append_index] = $slice;
```

```
$slice = ''
```

```
continue;
```

```
}
```

```
$slice = $slice . $var[$i];
```

```
}
```

```
echo 'Array ' . '<br/>' . '(' . '<br/>';
```

```
$index = 0;
```

---

```
foreach($myArray as $val)
```

```
{
```

```
    echo '[' . $index . ']' . ' => ' . $val . ' ';
```

```
    $index += 1;
```

```
    echo '<br/>';
```

```
}
```

```
echo ' )';
```

```
?>
```

```
</body>
```

```
</html>
```

```
***** FIN *****
```