

OPERATING SYSTEMS LAB

LAB TASK

Submitted By

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Submitted to

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Exercises

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

```
mysql> CREATE USER 'aamirk2244'@'localhost' IDENTIFIED BY 'root';
Query OK, 0 rows affected (0.18 sec)
```

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

```
mysql> SHOW GRANTS FOR 'aamirk2244'@'localhost';
+-----+
| Grants for aamirk2244@localhost |
+-----+
| GRANT USAGE ON *.* TO `aamirk2244`@`localhost` |
+-----+
1 row in set (0.02 sec)

mysql> GRANT SELECT ON theme_park.ATTRACTION to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.14 sec)

mysql> GRANT SELECT ON theme_park.EMPLOYEE to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.13 sec)

mysql> GRANT SELECT ON theme_park.HOURS to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.49 sec)

mysql> GRANT SELECT ON theme_park.SALES to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.10 sec)

mysql> GRANT SELECT ON theme_park.SALES_LINE to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.13 sec)

mysql> GRANT SELECT ON theme_park.THEMEPARK to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.12 sec)

mysql> GRANT SELECT ON theme_park.TICKET to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.09 sec)

mysql> GRANT SELECT ON theme_park.TICKET_SALES to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.11 sec)
```

```
mysql> SHOW GRANTS FOR aamirk2244@localhost;
```

```
+-----+
| Grants for aamirk2244@localhost |
+-----+
| GRANT USAGE ON *.* TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`ATTRACTION` TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`EMPLOYEE` TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`HOURS` TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`SALES_LINE` TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`SALES` TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`THEMEPARK` TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`TICKET_SALES` TO `aamirk2244`@`localhost` |
| GRANT SELECT ON `theme_park`.`TICKET` TO `aamirk2244`@`localhost` |
+-----+
9 rows in set (0.00 sec)
```

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

```
mysql> GRANT SELECT ON theme_park.emp_details to 'aamirk2244'@'localhost';
Query OK, 0 rows affected (0.11 sec)
```

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

```
(anaconda3) aamir@coder:~/Downloads$ mysql -u root -p bank -e "show tables;"
Enter password:
+-----+
| Tables_in_bank |
+-----+
| ACCOUNT |
| ACC_TRANSACTION |
| BRANCH |
| BUSINESS |
| CUSTOMER |
| DEPARTMENT |
| EMPLOYEE |
| INDIVIDUAL |
| OFFICER |
| PRODUCT |
| PRODUCT_TYPE |
| customer_accounts |
| customer_info |
| individual_info |
| senior_views |
+-----+
(anaconda3) aamir@coder:~/Downloads$ mysql -u root -p bank -e "GRANT ALL PRIVILEGES ON *.* TO 'aamirk2244'@'localhost';"
Enter password:
```

I don't have Employee databases therefore I used bank database. In the above screen shot I gave all the privileges to user aamirk2244 for bank database.

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

```
mysql> REVOKE SELECT ON theme_park.emp_details FROM aamirk2244@localhost;
Query OK, 0 rows affected (0.12 sec)
```

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

```
mysql> GRANT INSERT ON theme_park.TICKET to aamirk2244@localhost;
Query OK, 0 rows affected (0.11 sec)
```

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

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

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

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)

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('DEVDAAS', 'I WILL DIE');
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM PRODUCT_TYPE;
```

```
mysql> SELECT * FROM PRODUCT_TYPE;
+-----+-----+
| PRODUCT_TYPE_CD | NAME                                |
+-----+-----+
| AAMIR           | I DONT WANNA CHANGE                |
| AAMIR_KHAN      | I DONT WANNA CHANGE TOO            |
| ACCOUNT         | Customer Accounts                  |
| DEVNAS          | 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)

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)								
		7.34(NP)					1515(NP)	93(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)';
```

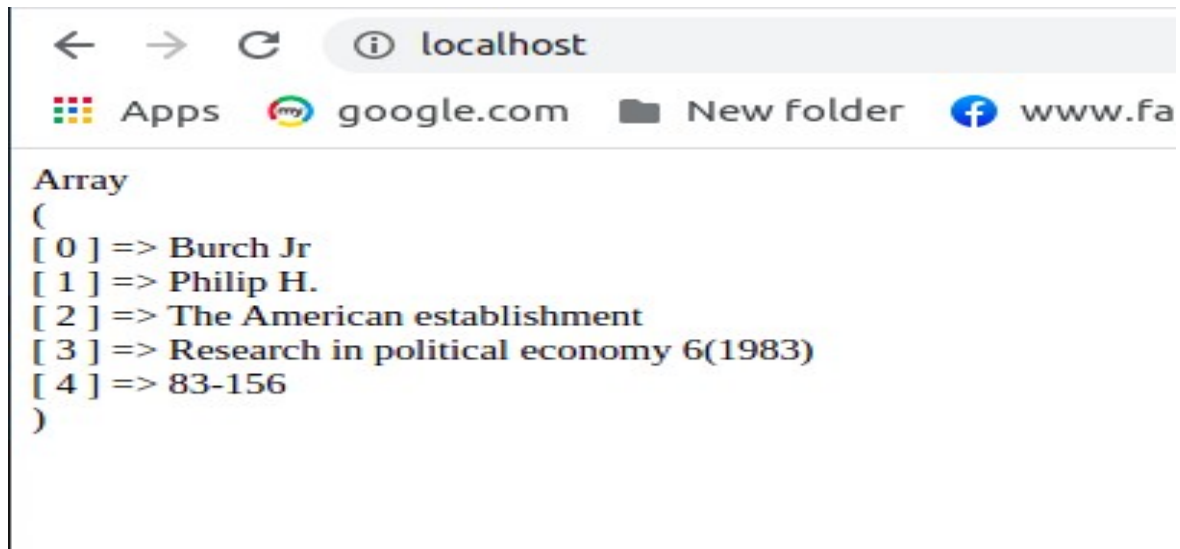
```
?>  
<input type="text" placeholder= "" style="width: 120px;" value=  
<?php echo $myVar ; ?> >  
<?php  
}  
}  
}
```

```
?>
```

```
</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';



```
Array
(
    [ 0 ] => Burch Jr
    [ 1 ] => Philip H.
    [ 2 ] => The American establishment
    [ 3 ] => Research in political economy 6(1983)
    [ 4 ] => 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>

```

Thank you

