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DBMS Practical Implementation, Lab 10.

1. Task1: Perform following task.

SELECT “Task1: Perform following task”

create table student(id int PRIMARY KEY, name varchar(20));

start transaction;

insert into student values(1,'Amita'),(2,'Sheena'),(3,'Lavina'),(4,'Rex'),(5, 'Rahul');

UPDATE student SET name = 'Abhijit' WHERE id = '5';

SAVEPOINT A;

INSERT INTO student VALUES(6, 'Chris');

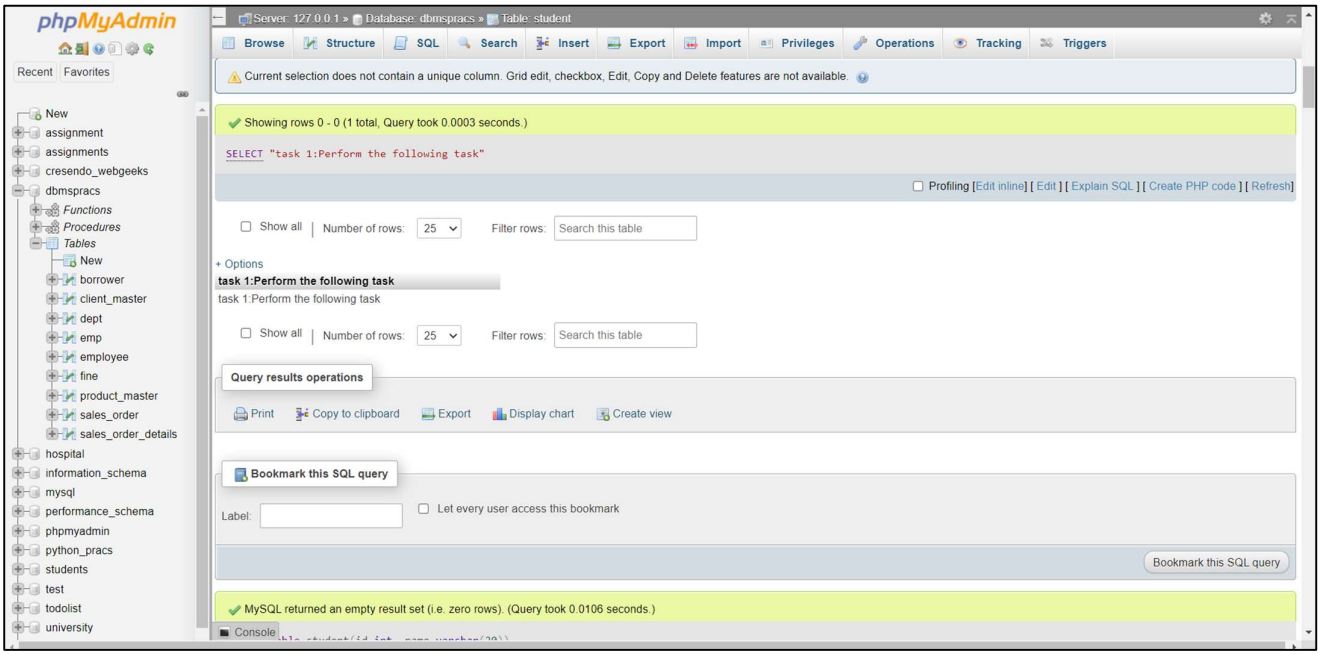
SAVEPOINT B;

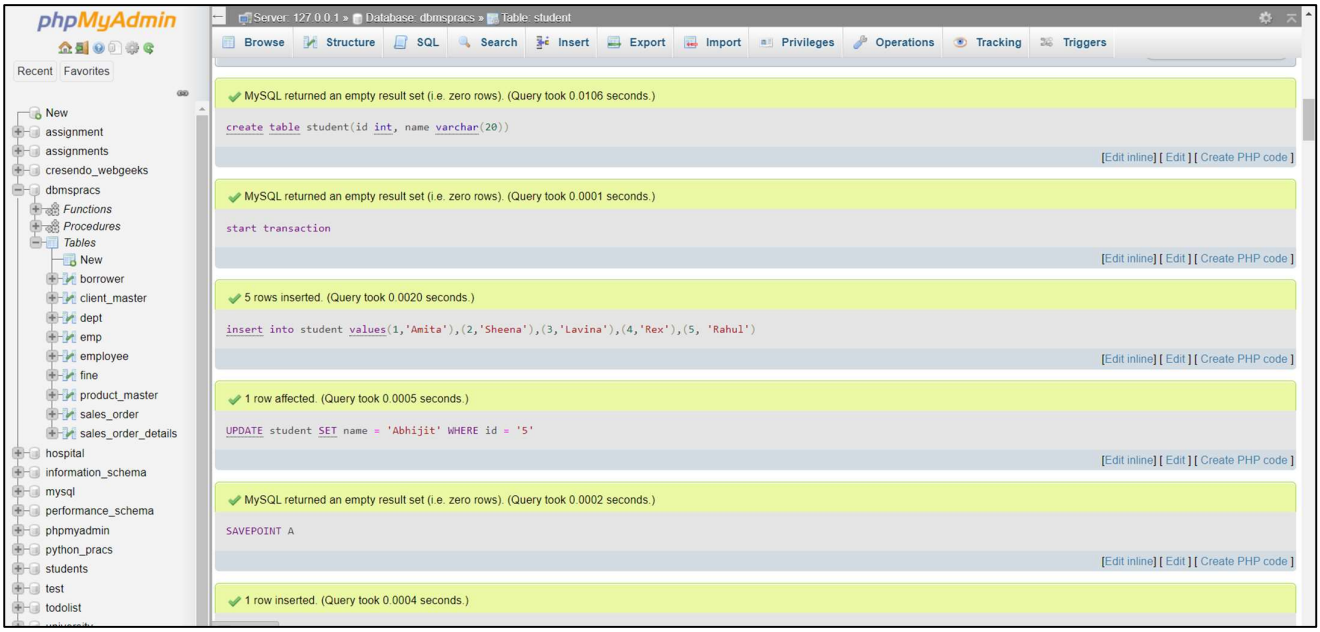
INSERT INTO student VALUES (7, 'Bravo');

SAVEPOINT C;

SELECT “After task 1”

SELECT * FROM student;




phpMyAdmin
Recent Favorites
New
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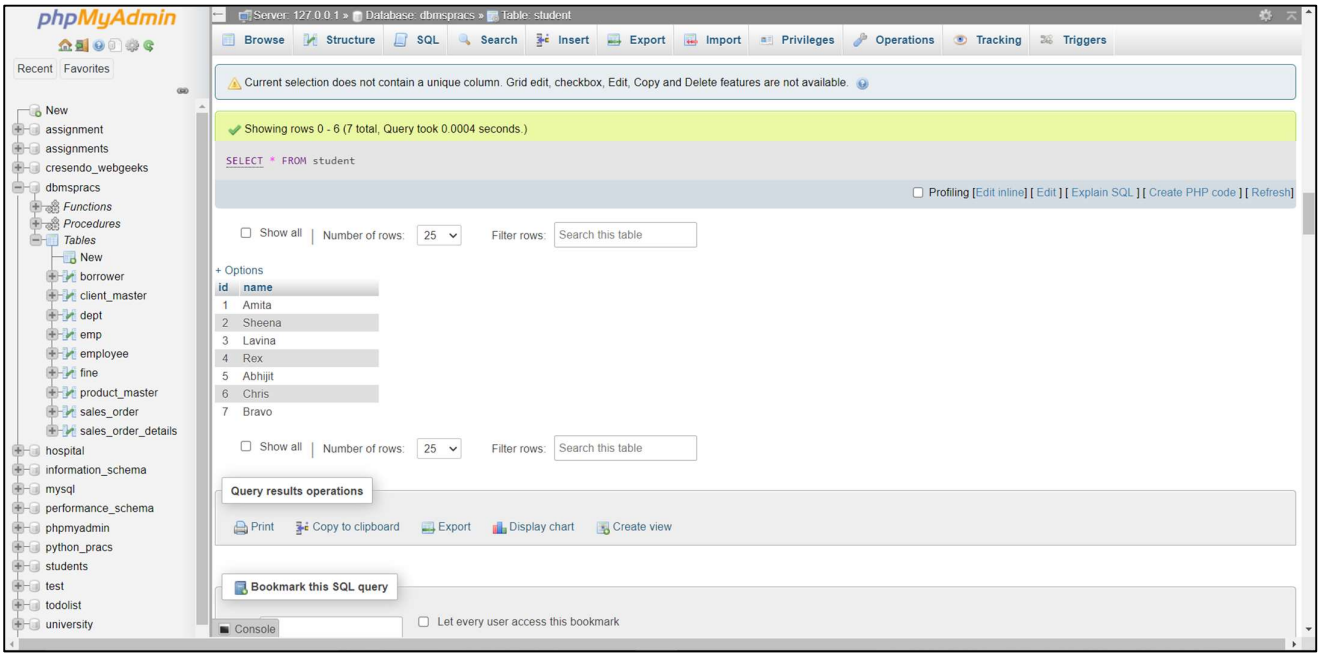
test
todolist
Server: 127.0.0.1 » Database: dbmspracs » Table: student
Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0106 seconds.)
create table student(id int, name varchar(20))
[Edit inline] [Edit] [Create PHP code]
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0001 seconds.)
start transaction
[Edit inline] [Edit] [Create PHP code]
5 rows inserted. (Query took 0.0020 seconds.)
insert into student values(1,'Amita'),(2,'Sheena'),(3,'Lavina'),(4,'Rex'),(5, 'Rahul')
[Edit inline] [Edit] [Create PHP code]
1 row affected. (Query took 0.0005 seconds.)
UPDATE student SET name = 'Abhijit' WHERE id = '5'
[Edit inline] [Edit] [Create PHP code]
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)
SAVEPOINT A
[Edit inline] [Edit] [Create PHP code]
1 row inserted. (Query took 0.0004 seconds.)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product_master
sales_order
sales_order_details
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information_schema
mysql
performance_schema
phpmyadmin
python_pracs
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todolist
university
Server: 127.0.0.1 » Database: dbmspracs » Table: student
Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers
Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.
Showing rows 0 - 6 (7 total, Query took 0.0004 seconds.)
SELECT * FROM student
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table
+ Options
id name
1 Amita
2 Sheena
3 Lavina
4 Rex
5 Abhijit
6 Chris
7 Bravo
Show all | Number of rows: 25 Filter rows: Search this table
Query results operations
Print Copy to clipboard Export Display chart Create view
Bookmark this SQL query
Console
Let every user access this bookmark

2. Rollback to save point B and observe the output:

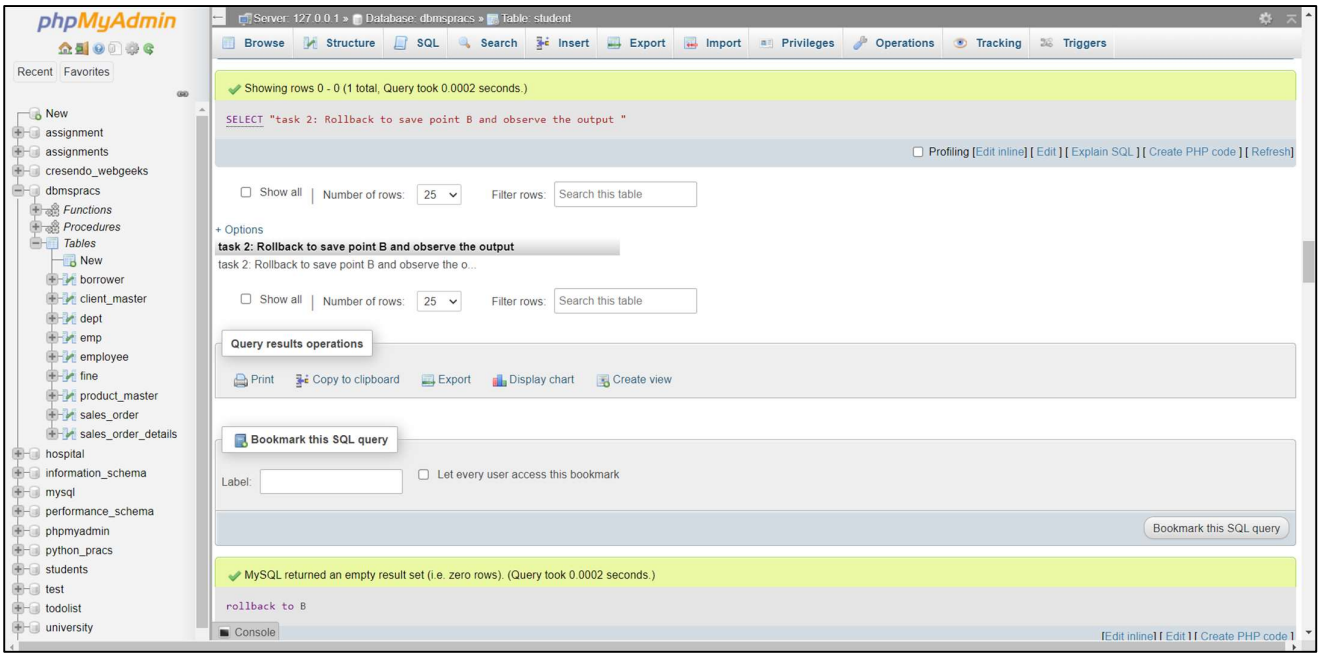
rollback to B;
SELECT * FROM student;

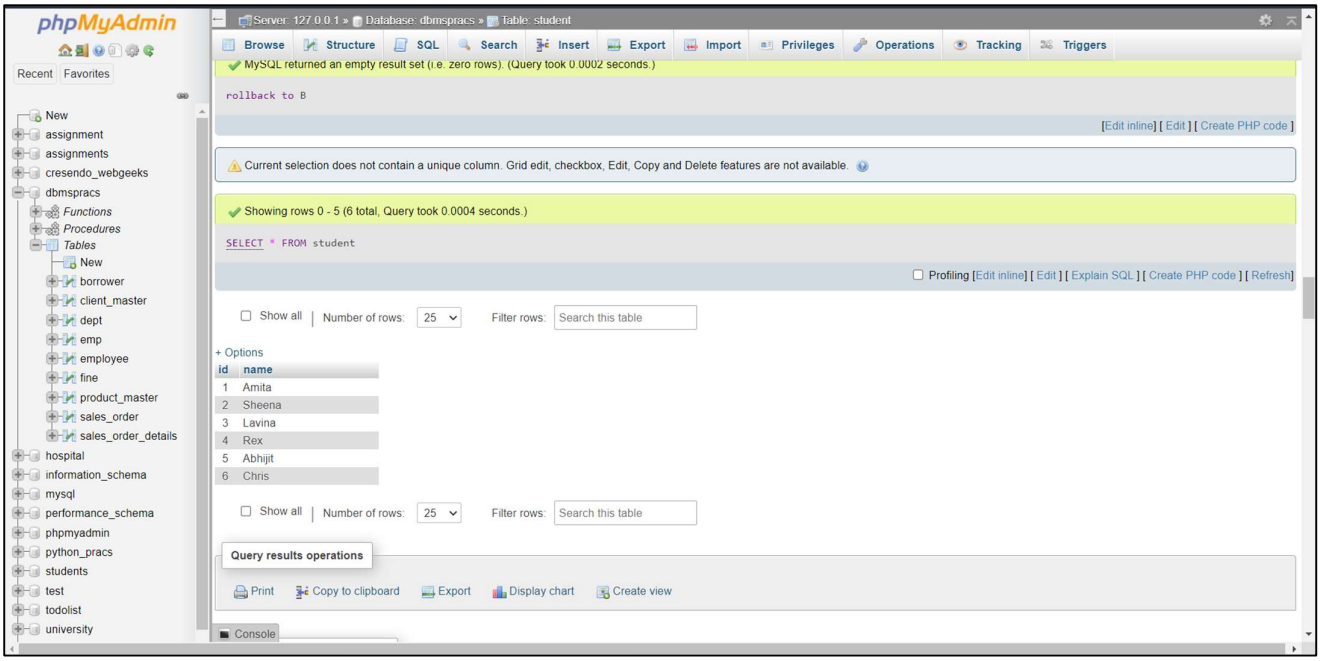
Explanation:

Note that transaction is rolled back to savepoint B, so whatever operations performed after save point B will be rolled back.

So record of ‘Bravo’ that was inserted after save point B will be rolled back.

Output:





3. Rollback to save point A and observe the output

Rollback to A;

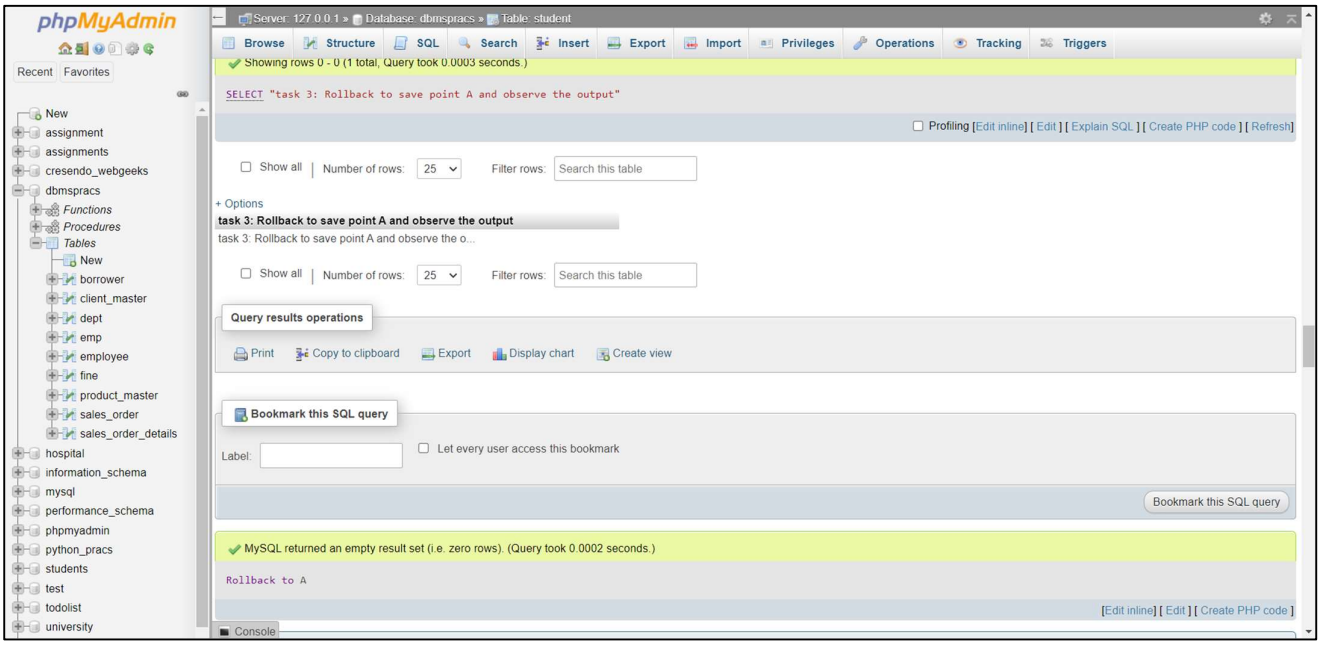
SELECT * FROM student;

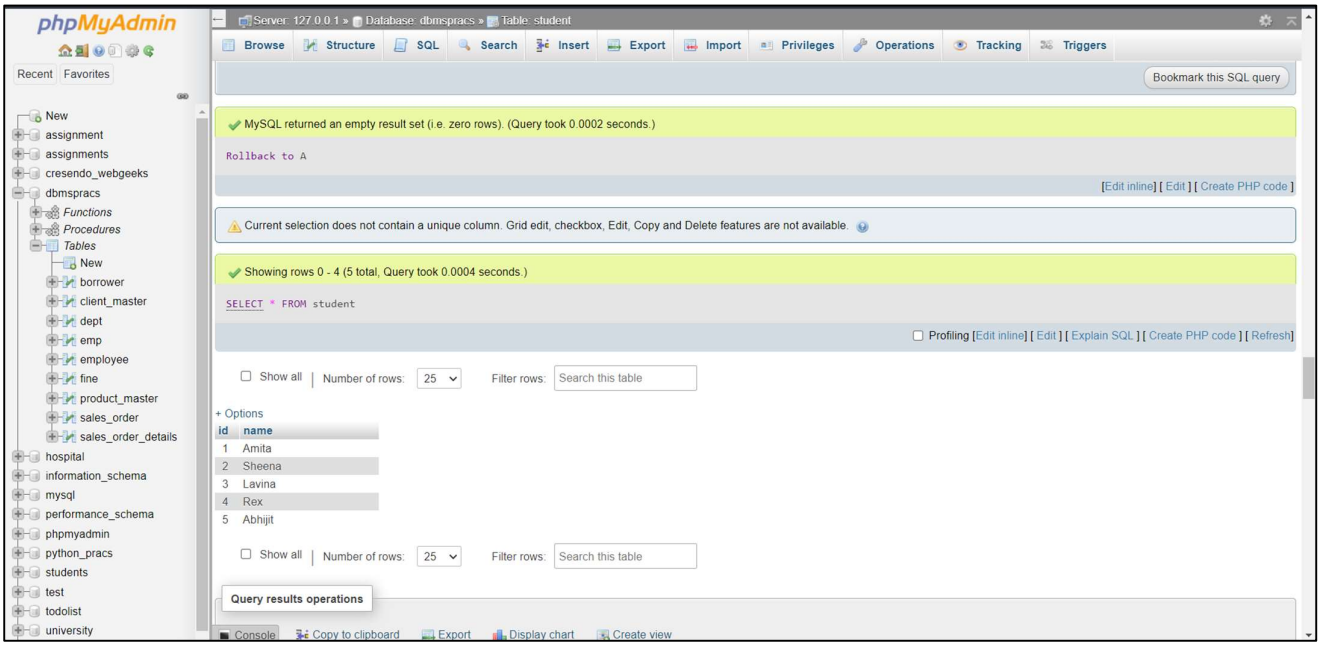
Explanation:

Note that transaction is rolled back to savepoint A, so whatever operations performed after save point A will be rolled back.

So After save point A we inserted record of ‘chris’ and ‘Bravo’ so this insert statements will be rolled back and hence table contains only 5 records.

Output:





4. Now delete record of ‘Rex’, before delete create a save point, and rollback to this save point to undo this delete operation

savepoint DD;
delete from student where id =4;
select * from student;

// Now we want to undo this delete operation, so perform rollback to check point DD

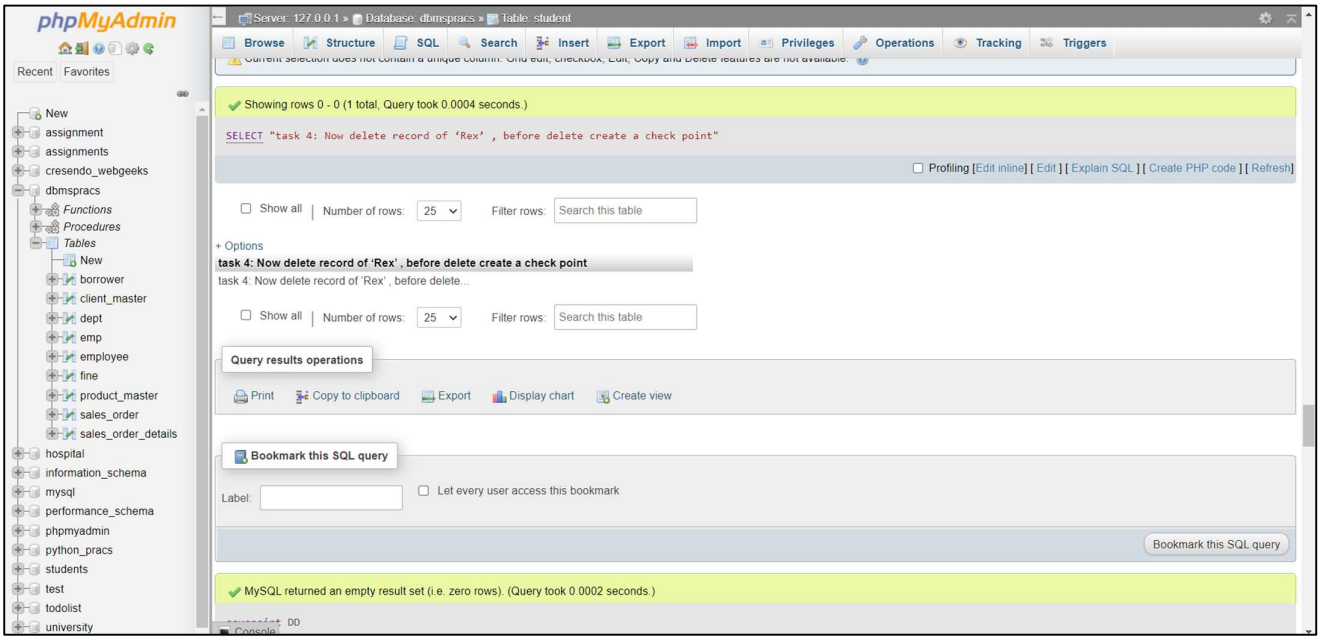
rollback to DD;

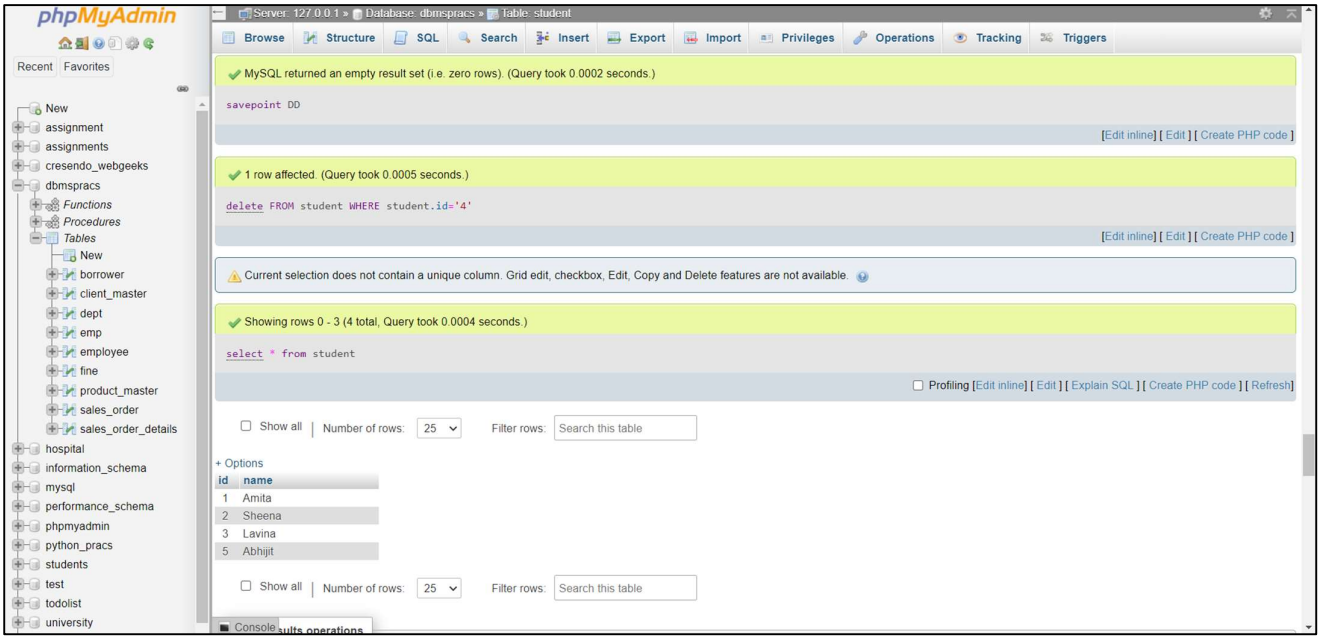
select * from student;

Explanation:

Note a new savepoint is created in the transaction DD and Rex with id = 4 is deleted from the database. But now to reverse the effect of delete we rollback to savepoint DD

Output:

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performance_schema
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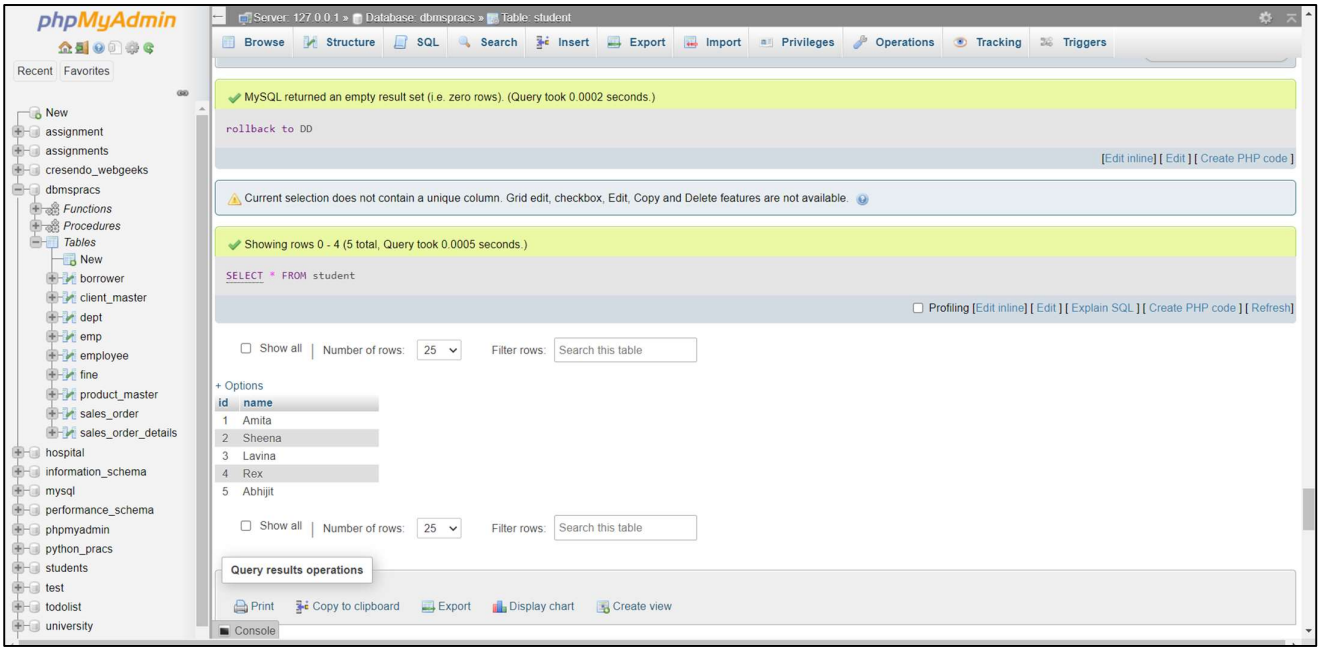
test
todolist
university
Server: 127.0.0.1 » Database: dbmspracs » Table: student
Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)
savepoint DD
[Edit inline] [Edit] [Create PHP code]
1 row affected. (Query took 0.0005 seconds.)
delete FROM student WHERE student.id='4'
[Edit inline] [Edit] [Create PHP code]
Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.
Showing rows 0 - 3 (4 total, Query took 0.0004 seconds.)
select * from student
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table
+ Options
id name
1 Amita
2 Sheena
3 Lavina
5 Abhijit
Show all | Number of rows: 25 Filter rows: Search this table
Console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product_master
sales_order
sales_order_details
hospital
information_schema
mysql
performance_schema
phpmyadmin
python_pracs
students
test
todolist
university
Server: 127.0.0.1 » Database: dbmspracs » Table: student
Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)
rollback to DD
[Edit inline] [Edit] [Create PHP code]
Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.
Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)
SELECT * FROM student
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table
+ Options
id name
1 Amita
2 Sheena
3 Lavina
4 Rex
5 Abhijit
Show all | Number of rows: 25 Filter rows: Search this table
Query results operations
Print Copy to clipboard Export Display chart Create view
Console

5. Task 5: Now Perform commit:

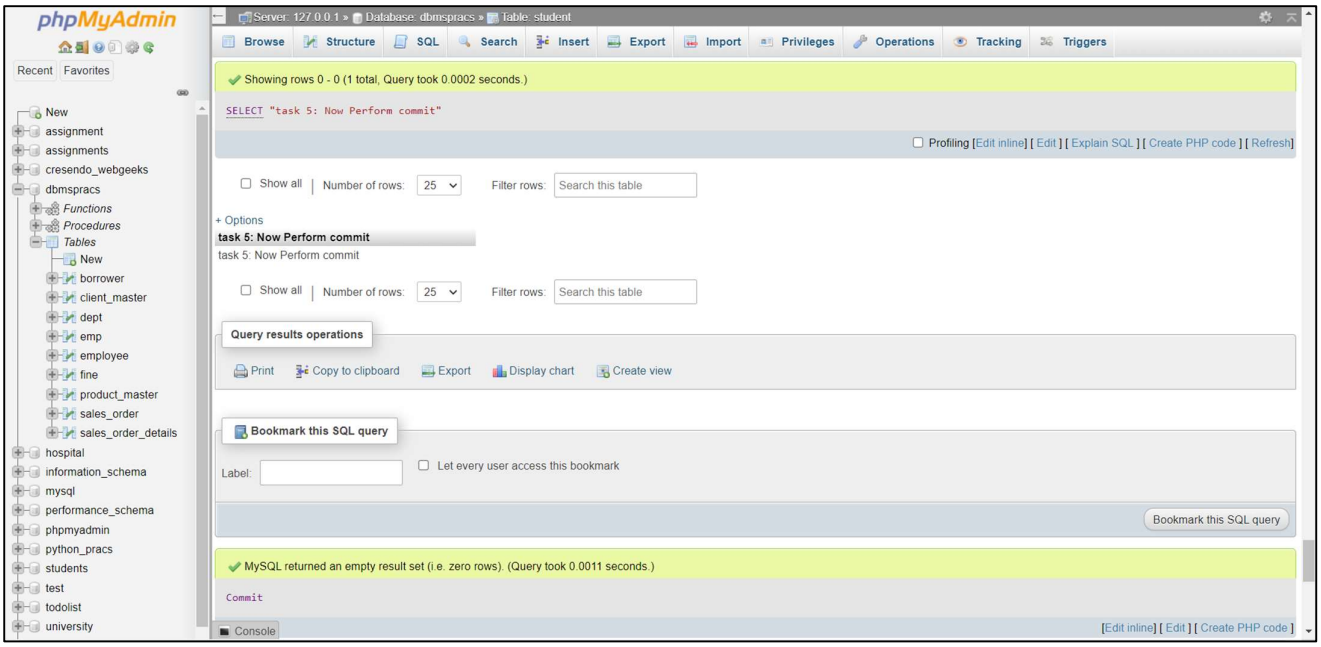
Commit;

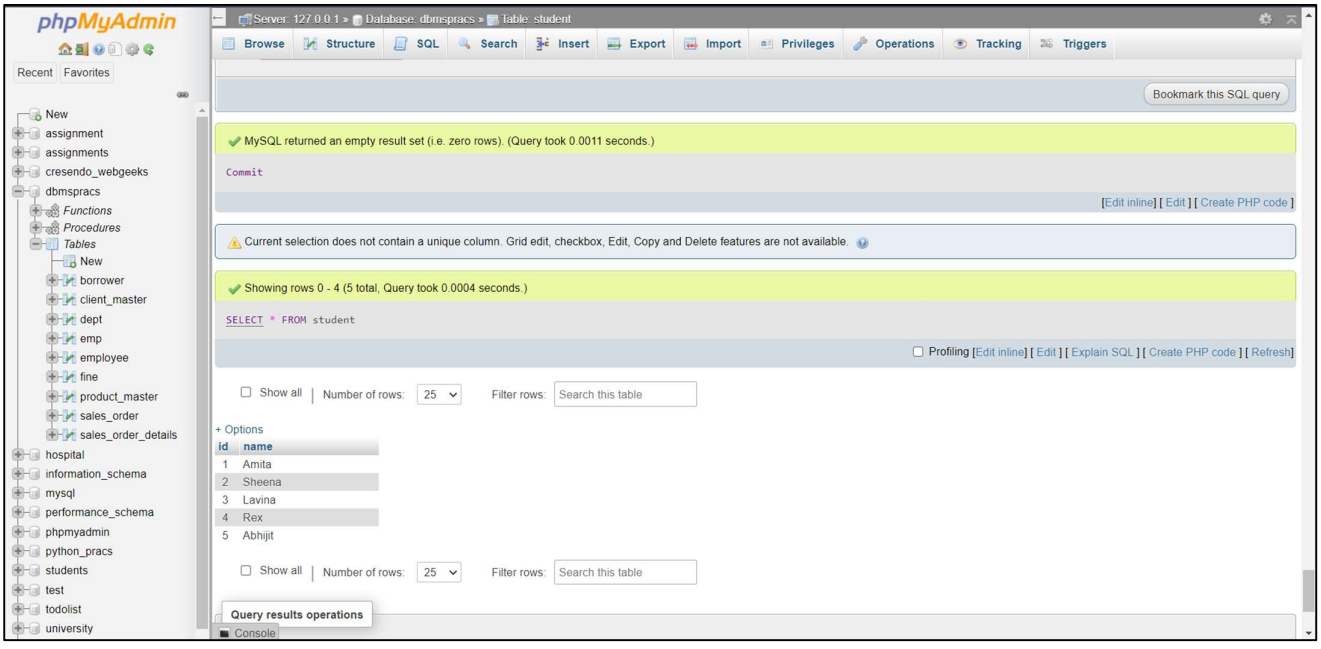
SELECT * FROM student;

Explanation:

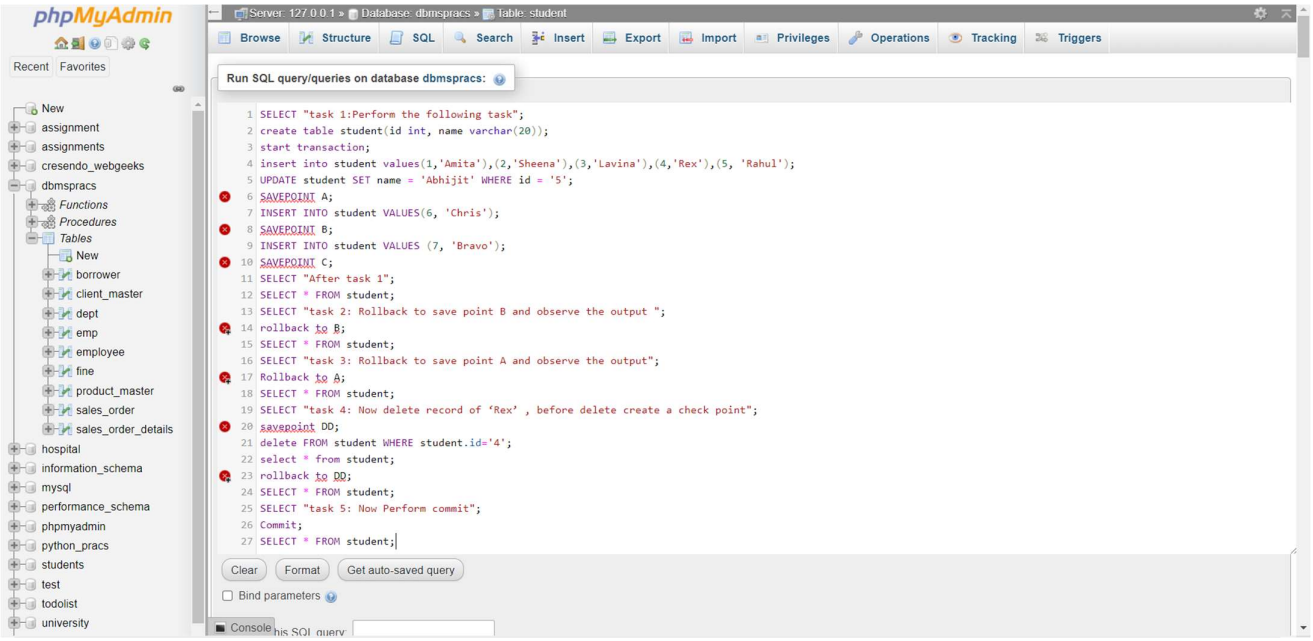
Now as the transaction is complete i.e. all operations are done we commit the changes to the database. Here after the changes will be reflected in the database.

Output:





6. The Complete SQL Query:



Postlab:

1. Explain Set Transaction command in SQL

Ans.

The SET TRANSACTION command can be used to initiate a database transaction. This command is used to specify characteristics for the transaction that follows. For example, you can specify a transaction to be read only or read write.

Transactions group a set of tasks into a single execution unit. Each transaction begins with a specific task and ends when all the tasks in the group successfully complete. If any of the tasks fail, the transaction fails. Therefore, a transaction has only two results: success or failure.

Use the SET TRANSACTION statement to establish the current transaction as read-only or read/write, establish its isolation level, or assign it to a specified rollback segment.The operations performed by a SET TRANSACTION statement affect only your current transaction, not other users or other transactions. Your transaction ends whenever you issue a COMMIT or ROLLBACK statement.

2. Explain how do you remove a save point (checkpoint) that you have created?

Ans.

RELEASE SAVEPOINT destroys a savepoint previously defined in the current transaction. Destroying a savepoint makes it unavailable as a rollback point, but it has no other user visible behaviour. It does not undo the effects of commands executed after the savepoint was established. (To do that, see ROLLBACK TO SAVEPOINT.) Destroying a savepoint when it is no longer needed allows the system to reclaim some resources earlier than transaction end. RELEASE SAVEPOINT also destroys all savepoints that were established after the named savepoint was established.

Specifying a savepoint name that was not previously defined is an error. It is not possible to release a savepoint when the transaction is in an aborted state. If multiple savepoints have the same name, only the one that was most recently defined is released.