Report

Subject: Transactions.

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Github Repository: https://github.com/IsmailBourbie/master-one-practical-work/tree/master/db_dm/TP2

Let's Execute The Following Line Of SQL Script:

```
SET AUTOCOMMIT = 0;
INSERT INTO R VALUES (5, 6);
SAVEPOINT my_save_point_1;
INSERT INTO R VALUES (7, 8);
SAVEPOINT my_save_point_2;
INSERT INTO R VALUES (9, 10);
ROLLBACK TO my_save_point_1;
INSERT INTO R VALUES (11, 12);
INSERT INTO R VALUES (23, 6);
```

The Result we got is The Following;

As we can see, None of The Previous Insert Into was inserted into the database, and this due to the AUTOCOMMIT variable which we turned off in the beginning of transaction, so at the end the DBMS Was waiting to a COMMIT action but we did not provide it so the DBMS did nothing to the database and he inserted nothing.

We tried to add a COMMIT action as following:

```
SET AUTOCOMMIT = 0;
INSERT INTO R VALUES (5, 6);
SAVEPOINT my_save_point_1;
INSERT INTO R VALUES (7, 8);
SAVEPOINT my_save_point_2;
INSERT INTO R VALUES (9, 10);
ROLLBACK TO my_save_point_1;
INSERT INTO R VALUES (11, 12);
COMMIT;
INSERT INTO R VALUES (23, 6);
```

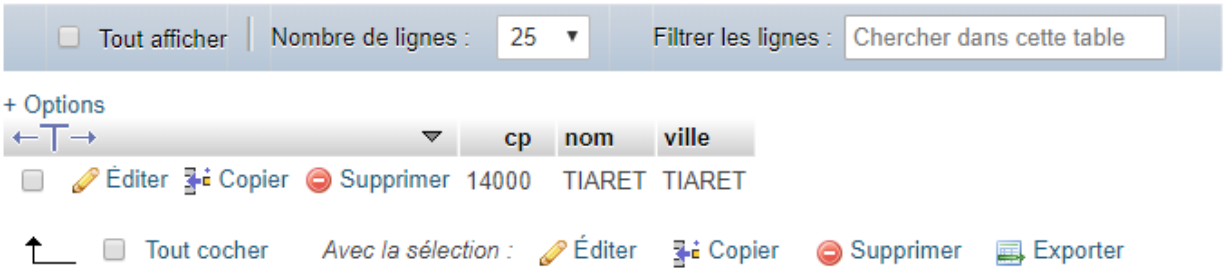
And This Time the Result was great:

We see that the two rows and that because when the first line was executed the and inserted (5,6) then we saved an save point the we inserted two more rows (7,8) , (9,10) and then we rolled back to the first save point , and by this we have invalidate the two preceding rows (7,8) , (9,10) and not the first one (5,6) and the we insert (11,12) and we commit , by this we have validate the preceding operation (Two inserts) and then we inserted (23,6) but this one was not followed by a commit action so it was not inserted into the database.

The Second Exercise was the following script:

```
SET AUTOCOMMIT = 0;
START TRANSACTION;
SAVEPOINT sp1;
INSERT INTO villes VALUES (14000, 'TIARET' , 'TIARET');
SAVEPOINT sp2;
INSERT INTO villes VALUES (14002, 'SOUGEUR' , 'TIARET');
ROLLBACK TO SAVEPOINT sp2;
COMMIT;
SELECT * FROM villes;
```

And The Result was the following:



By This Result we clearly understand that the first line was added because the rollback was rolled back to the sp2 and after this save point the second line was inserted so we invalidate it and the first line was inserted before this save point so it was not touched by the rollback, then the commit action came to validate our first line and by this the first line was inserted.