Name: Shubham Chemate

Roll Number: 31118

Subject: DBSL Lab – Assignment 07 – Triggers

Code:

```sql
create table library_table (
    id int primary key not null,
    title varchar(300) not null,
    author varchar(300) not null,
    price int not null
);

create table audit_table (
    id int not null,
    title varchar(300) not null,
    author varchar(300) not null,
    price int not null,
    action varchar(300) not null,
    changed_at timestamp default now()
);

insert into library_table
values (1, 'Babylon', 'Clason', 190),
(2, 'Rich Dad', 'R Kiyo', 230),
(3, '7 Habits', 'Nepo Hill', 400),
(4, 'Room 105', 'C Bhagat', 130),
(5, 'Ice and Fire', 'GR Martin', 800),
(6, 'LOTR', 'Tolkin', 900);

delimiter $$
create trigger delete_trig after delete
on library_table
for each row
insert into audit_table
values (OLD.id, OLD.title, OLD.author, OLD.price, "deleted", now()); $$
delimiter ;

delimiter $$
create trigger update_trig before update
on library_table
for each row
insert into audit_table
values (OLD.id, OLD.title, OLD.author, OLD.price, 'updated', now()); $$
delimiter ;
```

```
delete from library_table where id=6;
update library_table set price=100 where id=1;
```

Outputs:

Tables:

```
mysql> show tables;
+----------------------+
| Tables_in_a07_database |
+----------------------+
| audit_table          |
| library_table        |
+----------------------+
2 rows in set (0.00 sec)
```

Schemas:

```
mysql> desc library_table;
+--------+--------------+------+-----+---------+-------+
| Field  | Type         | Null | Key | Default | Extra |
+--------+--------------+------+-----+---------+-------+
| id     | int          | NO   | PRI | NULL    |       |
| title  | varchar(300) | NO   |     | NULL    |       |
| author | varchar(300) | NO   |     | NULL    |       |
| price  | int          | NO   |     | NULL    |       |
+--------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

```
mysql> desc audit_table;
+------------+--------------+------+-----+-------------------+-------------------+
| Field      | Type         | Null | Key | Default           | Extra             |
+------------+--------------+------+-----+-------------------+-------------------+
| id         | int          | NO   |     | NULL              |                   |
| title      | varchar(300) | NO   |     | NULL              |                   |
| author     | varchar(300) | NO   |     | NULL              |                   |
| price      | int          | NO   |     | NULL              |                   |
| action     | varchar(300) | NO   |     | NULL              |                   |
| changed_at | timestamp    | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+------------+--------------+------+-----+-------------------+-------------------+
6 rows in set (0.00 sec)
```

Initial Data:

```
mysql> select * from library_table;
+----+-------------+-----------+-------+
| id | title       | author    | price |
+----+-------------+-----------+-------+
|  1 | Babylon     | Clason    |   190 |
|  2 | Rich Dad    | R Kiyo    |   230 |
|  3 | 7 Habits    | Nepo Hill |   400 |
|  4 | Room 105    | C Bhagat  |   400 |
|  5 | Ice and Fire| GR Martin |   800 |
|  6 | LOTR        | Tolkin    |   900 |
+----+-------------+-----------+-------+
6 rows in set (0.00 sec)
```

```
mysql> select * from audit_table;
Empty set (0.00 sec)
```

Delete Command (for delete trigger):

```
mysql> delete from library_table where id=6;
Query OK, 1 row affected (0.00 sec)

mysql> select * from audit_table;
+----+-------+--------+-------+---------+---------------------+
| id | title | author | price | action  | changed_at          |
+----+-------+--------+-------+---------+---------------------+
|  6 | LOTR  | Tolkin |   900 | deleted | 2021-09-30 10:34:46 |
+----+-------+--------+-------+---------+---------------------+
1 row in set (0.00 sec)
```

Update Command (for update trigger):

```
mysql> update library_table set price=100 where id=1;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from audit_table;
+----+---------+--------+-------+---------+---------------------+
| id | title   | author | price | action  | changed_at          |
+----+---------+--------+-------+---------+---------------------+
|  6 | LOTR    | Tolkin |   900 | deleted | 2021-09-30 10:34:46 |
|  1 | Babylon | Clason |   190 | updated | 2021-09-30 10:35:49 |
+----+---------+--------+-------+---------+---------------------+
2 rows in set (0.00 sec)

mysql> select * from library_table;
+----+-------------+-----------+-------+
| id | title       | author    | price |
+----+-------------+-----------+-------+
|  1 | Babylon     | Clason    |   100 |
|  2 | Rich Dad    | R Kiyo    |   230 |
|  3 | 7 Habits    | Nepo Hill |   400 |
|  4 | Room 105    | C Bhagat  |   400 |
|  5 | Ice and Fire | GR Martin |   800 |
+----+-------------+-----------+-------+
5 rows in set (0.00 sec)
```

Thank You!