Assignment 10

1) Create Trigger

```
mysql> DELIMITER $

mysql> CREATE TRIGGER UPDATEADSTATUS BEFORE INSERT ON EMPLOYEE
    -> FOR EACH ROW
    -> BEGIN
    -> IF NEW.AGE>=18 THEN SET NEW.ADULT_STATUS=1;
    -> ELSE SET NEW.ADULT_STATUS=0;
    -> END IF;
    -> END;
    -> $
Query OK, 0 rows affected (0.06 sec)

mysql> INSERT INTO EMPLOYEE VALUES(1, 12, 90)$
Query OK, 1 row affected (0.04 sec)

mysql> SELECT * FROM EMPLOYEE$
+----+------+--------------+
| ID | AGE  | ADULT_STATUS |
+----+------+--------------+
|  1 |   12 |            0 |
+----+------+--------------+
1 row in set (0.00 sec)

mysql> INSERT INTO EMPLOYEE(ID, AGE) VALUES(2, 19)$
Query OK, 1 row affected (0.04 sec)

mysql> SELECT * FROM EMPLOYEE$
+----+------+--------------+
| ID | AGE  | ADULT_STATUS |
+----+------+--------------+
|  1 |   12 |            0 |
|  2 |   19 |            1 |
+----+------+--------------+
2 rows in set (0.00 sec)
```

2) Trigger on update

```
mysql> create trigger t before update on employee1 FOR EACH ROW BEGIN INSERT INTO
employees_audit SET action = 'update', employeeNumber = OLD.empno, firstname = OLD.empname,
changedat = NOW(); END$
Query OK, 0 rows affected (0.07 sec)

mysql> SELECT * FROM employee1$
+-------+---------+-----------------+-------+------------+--------+-------+
| empno | empname | job             | mngid | hiredate   | salary | depno |
+-------+---------+-----------------+-------+------------+--------+-------+
|     1 | ashish  | assitant        |    23 | 2016-03-03 |  20000 |    10 |
|     2 | sachin  | assitant        |    22 | 2015-03-03 |  25000 |    10 |
|     3 | rahul   | developer       |    24 | 2014-04-03 |  26000 |    20 |
|     4 | sankalp | project head    |    21 | 2013-04-03 |  36000 |    30 |
|     5 | krishna | manging partner |    25 | 2011-04-03 |  66000 |    60 |
+-------+---------+-----------------+-------+------------+--------+-------+
5 rows in set (0.00 sec)


mysql> update employee1 set empname='manjeet' where empno=1;
    -> $
Query OK, 1 row affected (0.05 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> SELECT * FROM employee1$
+-------+---------+-----------------+-------+------------+--------+-------+
| empno | empname | job             | mngid | hiredate   | salary | depno |
+-------+---------+-----------------+-------+------------+--------+-------+
|     1 | manjeet | assitant        |    23 | 2016-03-03 |  20000 |    10 |
|     2 | sachin  | assitant        |    22 | 2015-03-03 |  25000 |    10 |
|     3 | rahul   | developer       |    24 | 2014-04-03 |  26000 |    20 |
|     4 | sankalp | project head    |    21 | 2013-04-03 |  36000 |    30 |
|     5 | krishna | manging partner |    25 | 2011-04-03 |  66000 |    60 |
+-------+---------+-----------------+-------+------------+--------+-------+
5 rows in set (0.00 sec)

mysql> select * from employees_audit$
+----+----------------+-----------+---------------------+--------+
| id | employeeNumber | firstname | changedat           | action |
+----+----------------+-----------+---------------------+--------+
|  1 |              1 | ashish    | 2019-08-27 12:26:44 | update |
+----+----------------+-----------+---------------------+--------+
1 row in set (0.00 sec)
```

3) After insert on table

```
mysql> CREATE TABLE ITEM(ITEM_ID INT PRIMARY KEY, ITEM_DESCRIPTION VARCHAR(20), QOH INT,
PRICE FLOAT, CATEGORY VARCHAR(20))$
Query OK, 0 rows affected (0.19 sec)

mysql> CREATE TABLE SALES(SID INT PRIMARY KEY, ITEM_ID INT, Q_SOLD INT, PRICE FLOAT, TOTAL
INT)$
Query OK, 0 rows affected (0.19 sec)

mysql> insert into ITEM values(2,'batman',100,100,'toy')$
Query OK, 1 row affected (0.04 sec)

mysql> insert into ITEM values(3,'superman',100,100,'toy');$
Query OK, 1 row affected (0.04 sec)

mysql> insert into ITEM values(4,'rice',100,100,'food');$
Query OK, 1 row affected (0.04 sec)

mysql> insert into ITEM values(5,'dettol',100,100,'health');$
Query OK, 1 row affected (0.04 sec)

mysql> SELECT * FROM ITEM$
+---------+------------------+------+-------+----------+
| ITEM_ID | ITEM_DESCRIPTION | QOH  | PRICE | CATEGORY |
+---------+------------------+------+-------+----------+
|       1 | car              |  100 |   100 | toy      |
|       2 | batman           |  100 |   100 | toy      |
|       3 | superman         |  100 |   100 | toy      |
|       4 | rice             |  100 |   100 | food     |
|       5 | dettol           |  100 |   100 | health   |
+---------+------------------+------+-------+----------+
5 rows in set (0.00 sec)

mysql> CREATE TRIGGER ITEMTRIG AFTER INSERT ON SALES FOR EACH ROW BEGIN UPDATE ITEM SET QOH
= QOH - NEW.Q_SOLD; END;$
Query OK, 0 rows affected (0.06 sec)

mysql> CREATE TRIGGER ITEMTRIG AFTER INSERT ON SALES FOR EACH ROW BEGIN UPDATE ITEM SET QOH
= QOH - NEW.Q_SOLD WHERE ITEM_ID = NEW.ITEM_ID; END;$
Query OK, 0 rows affected (0.06 sec)

mysql> INSERT INTO SALES VALUES(2, 1, 10, 100, 100)$
```

```
Query OK, 1 row affected (0.06 sec)

mysql> SELECT * FROM ITEM$
+---------+------------------+------+-------+----------+
| ITEM_ID | ITEM_DESCRIPTION | QOH  | PRICE | CATEGORY |
+---------+------------------+------+-------+----------+
|       1 | car              |   80 |   100 | toy      |
|       2 | batman           |   90 |   100 | toy      |
|       3 | superman         |   90 |   100 | toy      |
|       4 | rice             |   90 |   100 | food     |
|       5 | dettol           |   90 |   100 | health   |
+---------+------------------+------+-------+----------+
5 rows in set (0.00 sec)
```

4) After insert on table

```
mysql> create table product(prod_id int primary key,price int,quantity int, total_cost int)$
Query OK, 0 rows affected (0.18 sec)

mysql>  create  trigger  t2  before  insert  on  product  for  each  row  begin  set
new.total_cost=new.price*new.quantity; end;$
Query OK, 0 rows affected (0.06 sec)

mysql>          insert          into          product(prod_id,price,quantity)          values
(1,200,10),(2,50,25),(3,80,10),(4,10,100)$
Query OK, 4 rows affected (0.03 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from product$
+---------+-------+----------+------------+
| prod_id | price | quantity | total_cost |
+---------+-------+----------+------------+
|       1 |   200 |       10 |       2000 |
|       2 |    50 |       25 |       1250 |
|       3 |    80 |       10 |        800 |
|       4 |    10 |      100 |       1000 |
+---------+-------+----------+------------+
4 rows in set (0.00 sec)
```

5) Show triggers

```
mysql> show triggers$
+------------------------+--------+-----------+-----------------------------------------
----------------------------------------------------------------------------------------
+--------+-----------------------+-------------------------------------------------------
-------------------------------------------------------------------------------+-------
---------+----------------------+----------------------+--------------------+
|  Trigger                                  |  Event    |  Table           |  Statement
|   Timing    |   Created                                                    |   sql_mode
| Definer        | character_set_client | collation_connection | Database Collation |
+------------------------+--------+-----------+-----------------------------------------
----------------------------------------------------------------------------------------
+--------+-----------------------+-------------------------------------------------------
-------------------------------------------------------------------------------+-------
---------+----------------------+----------------------+--------------------+
| UPDATEADSTATUS          | INSERT | EMPLOYEE  | BEGIN
IF NEW.AGE>=18 THEN SET NEW.ADULT_STATUS=1;
ELSE SET NEW.ADULT_STATUS=0;
END IF;
END                                                    | BEFORE | 2019-08-27 12:17:14.63 |
ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_Z
ERO,NO_AUTO_CREATE_USER,NO_ENGINE_SUBSTITUTION | root@localhost | utf8                    |
utf8_general_ci      | latin1_swedish_ci  |
```

```
| before_employee1_update | UPDATE | employee1 | BEGIN INSERT INTO employees_audit SET action
= 'update', employeeNumber = OLD.empno, firstname = OLD.empname, changedat = NOW(); END |
BEFORE                |               2019-08-27               12:26:01.18               |
ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_Z
ERO,NO_AUTO_CREATE_USER,NO_ENGINE_SUBSTITUTION | root@localhost | utf8                    |
utf8_general_ci      | latin1_swedish_ci  |
| t2                  | INSERT | product   | begin set new.total_cost=new.price*new.quantity;
end                                                                                  | BEFORE
|                       2019-08-27                        12:31:05.84                    |
ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_Z
ERO,NO_AUTO_CREATE_USER,NO_ENGINE_SUBSTITUTION | root@localhost | utf8                    |
utf8_general_ci      | latin1_swedish_ci  |
+------------------------+--------+-----------+----------------------------------------
----------------------------------------------------------------------------------------
+--------+----------------------+--------------------------------------------------------
-------------------------------------------------------------------------------+-------
---------+----------------------+----------------------+--------------------+
3 rows in set (0.00 sec)
```

6) Show custom errors on insert

```
mysql> create trigger t3 before insert on employee1 for each row begin if new.salary<10000
then signal sqlstate '20000' set message_text='error'; end if; end;$
Query OK, 0 rows affected (0.06 sec)

mysql> insert into employee1 values(6,'manjeets','ass',25,'2018/02/02',5000,10)$
ERROR 1644 (20000): error
```

7) Trigger on delete.

```
mysql> create trigger T4 before delete on employee1 for each row begin if old.salary<20000
then signal sqlstate '20000' set message_text='error cannot delete'; end if; end;$
Query OK, 0 rows affected (0.07 sec)

mysql>  delete from employee1 where salary=15000$
ERROR 1644 (20000): error cannot delete
```