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**// DBMSL Assignment 8**

**//Queries:-**

**mysql> use dbmsla8;**

**Database changed**

**mysql> delimiter //**

**mysql> CREATE TRIGGER before\_library\_insert BEFORE INSERT ON library**

**-> FOR EACH ROW**

**-> BEGIN**

**-> declare numbooks int;**

**-> select count(\*) into numbooks from library where roll=NEW.roll;**

**-> if numbooks > 3 then**

**-> insert into lib\_audit values (NEW.roll,NEW.stud\_name,NEW.bname,"Any issue after 3 active issues will be charged for Rs. 10",sysdate());**

**-> else**

**-> insert into lib\_audit values (NEW.roll,NEW.stud\_name,NEW.bname,"No. of active issues is less than 3",sysdate());**

**-> end if;**

**-> END;**

**-> //**

**Query OK, 0 rows affected (0.17 sec)**

**mysql> CREATE TRIGGER after\_library\_insert AFTER INSERT ON library**

**-> FOR EACH ROW**

**-> BEGIN**

**-> insert into lib\_audit values (NEW.roll,NEW.stud\_name,NEW.bname,**

**-> "Book successfully issued",sysdate());**

**-> END;**

**-> //**

Query OK, 0 rows affected (0.19 sec)

```
mysql> CREATE TRIGGER before_library_delete BEFORE DELETE ON library
```

```
-> FOR EACH ROW
```

```
-> BEGIN
```

```
-> declare issuedays int;
```

```
-> declare fine int;
```

```
-> declare logstmt varchar(100);
```

```
-> declare finestr varchar(100);
```

```
-> declare finallogstmt varchar(200);
```

```
-> SET issuedays = (select datediff(sysdate(),OLD.doi));
```

```
-> SET fine = 10*(issuedays-15);
```

```
-> SET finestr = (select CONVERT(fine, char(100)));
```

```
-> if issuedays < 15 then
```

```
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"No fine to be paid",sysdate());
```

```
-> else
```

```
-> SET logstmt = "The fine to be paid is: ";
```

```
-> SET finallogstmt = (SELECT CONCAT(logstmt,finestr));
```

```
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,finallogstmt,sysdate());
```

```
-> end if;
```

```
-> END;
```

```
-> //
```

Query OK, 0 rows affected (0.12 sec)

```
mysql> CREATE TRIGGER after_library_delete AFTER DELETE ON library
```

```
-> FOR EACH ROW
```

```
-> BEGIN
```

```
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"The book was successfully returned",sysdate());
```

```
-> END;
```

```
-> //
```

Query OK, 0 rows affected (0.20 sec)

```
mysql> CREATE TRIGGER before_library_update BEFORE UPDATE ON library
```

```
-> FOR EACH ROW
```

```
-> BEGIN
```

```
-> declare issuedays int;
```

```
-> declare fine int;
```

```
-> declare logstmt varchar(100);
```

```
-> declare finestr varchar(100);
```

```
-> declare finallogstmt varchar(200);
```

```
-> SET issuedays = (select datediff(sysdate(),OLD.doi));
```

```
-> SET fine = 10*(issuedays-15);
```

```
-> SET finestr = (select CONVERT(fine, char(100)));
```

```
-> if issuedays < 15 then
```

```
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"No fine to be paid",sysdate());
```

```
-> else
```

```
-> SET logstmt = "The fine to be paid is: ";
```

```
-> SET finallogstmt = (SELECT CONCAT(logstmt,finestr));
```

```
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,finallogstmt,sysdate());
```

```
-> end if;
```

```
-> END;
```

```
-> //
```

Query OK, 0 rows affected (0.23 sec)

```
mysql> CREATE TRIGGER after_library_update AFTER UPDATE ON library
```

```
-> FOR EACH ROW
```

```
-> BEGIN
```

```
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"The book was successfully reissued",sysdate());
```

```
-> END;
```

```
-> //
```

Query OK, 0 rows affected (0.15 sec)

```
mysql> select * from library;
```

```
-> //
```

roll	stud_name	bname	doi
12	Durvesh	DBMS	2020-10-02
19	Pratik	ADS	2020-09-03
22	Raj	Agriculture Fundamentals	2020-09-27
9	Prathamesh	Economics	2020-08-01
26	Tanmay	Mathematics	2020-09-21

5 rows in set (0.07 sec)

```
mysql> select * from lib_audit;
```

```
-> //
```

Empty set (0.05 sec)

```
mysql> delimiter ;
```

```
mysql> insert into library values (12,"Durvesh","CN",'2020-09-17');
```

Query OK, 1 row affected (0.51 sec)

```
mysql> select * from lib_audit;
```

roll	stud_name	bname	log	timestamp
12	Durvesh	CN	No. of active issues is less than 3	2020-10-07
12	Durvesh	CN	Book successfully issued	2020-10-07

2 rows in set (0.00 sec)

```
mysql> update library SET doi='2020-10-07' where roll=26;
```

Query OK, 1 row affected (0.42 sec)

Rows matched: 1 Changed: 1 Warnings: 0

```
mysql> select * from lib_audit;
```

roll	stud_name	bname	log	timestamp
12	Durvesh	CN	No. of active issues is less than 3	2020-10-07
12	Durvesh	CN	Book successfully issued	2020-10-07
26	Tanmay	Mathematics	The fine to be paid is: 10	2020-10-07
26	Tanmay	Mathematics	The book was successfully reissued	2020-10-07

4 rows in set (0.00 sec)

```
mysql> delete from library where roll=9;
```

Query OK, 1 row affected (0.39 sec)

```
mysql> select * from lib_audit;
```

roll	stud_name	bname	log	timestamp
12	Durvesh	CN	No. of active issues is less than 3	2020-10-07
12	Durvesh	CN	Book successfully issued	2020-10-07
26	Tanmay	Mathematics	The fine to be paid is: 10	2020-10-07
26	Tanmay	Mathematics	The book was successfully reissued	2020-10-07
9	Prathamesh	Economics	THE fine to be paid is: 520	2020-10-07
9	Prathamesh	Economics	The book was successfully returned	2020-10-07

6 rows in set (0.00 sec)

## //Output:-

```
MySQL 8.0 Command Line Client
mysql> use dbasl8;
Database changed
mysql> delimiter //
mysql> CREATE TRIGGER before_library_insert BEFORE INSERT ON library
-> FOR EACH ROW
-> BEGIN
-> declare numbooks int;
-> select count(*) into numbooks from library where roll=NEW.roll;
-> if numbooks > 3 then
-> insert into lib_audit values (NEW.roll,NEW.stud_name,NEW.bname,"Any issue after 3 active issues will be charged for Rs. 10",sysdate());
-> else
-> insert into lib_audit values (NEW.roll,NEW.stud_name,NEW.bname,"No. of active issues is less than 3",sysdate());
-> end if;
-> END;
-> //
Query OK, 0 rows affected (0.17 sec)

mysql> CREATE TRIGGER after_library_insert AFTER INSERT ON library
-> FOR EACH ROW
-> BEGIN
-> insert into lib_audit values (NEW.roll,NEW.stud_name,NEW.bname,
-> "Book successfully issued",sysdate());
-> END;
-> //
Query OK, 0 rows affected (0.19 sec)

mysql> CREATE TRIGGER before_library_delete BEFORE DELETE ON library
-> FOR EACH ROW
-> BEGIN
-> declare issuedays int;
-> declare fine int;
-> declare logstat varchar(100);
-> declare finestr varchar(100);
-> declare finallogstat varchar(200);
-> SET issuedays = (select datediff(sysdate(),OLD.doi));
-> SET fine = 10*(issuedays-15);
-> SET finestr = (select CONVERT(fine, char(100)));
-> if issuedays < 15 then
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"No fine to be paid",sysdate());
-> else
-> SET logstat = "The fine to be paid is: ";
-> SET finallogstat = (SELECT CONCAT(logstat,finestr));
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,finallogstat,sysdate());
-> end if;
-> END;
-> //
Query OK, 0 rows affected (0.12 sec)

mysql> CREATE TRIGGER after_library_delete AFTER DELETE ON library
-> FOR EACH ROW
```

```
MySQL 8.0 Command Line Client
-> //
Query OK, 0 rows affected (0.12 sec)

mysql> CREATE TRIGGER after_library_delete AFTER DELETE ON library
-> FOR EACH ROW
-> BEGIN
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"The book was successfully returned",sysdate());
-> END;
-> //
Query OK, 0 rows affected (0.20 sec)

mysql> CREATE TRIGGER before_library_update BEFORE UPDATE ON library
-> FOR EACH ROW
-> BEGIN
-> declare issuedays int;
-> declare fine int;
-> declare logstat varchar(100);
-> declare finestr varchar(100);
-> declare finallogstat varchar(200);
-> SET issuedays = (select datediff(sysdate(),OLD.doi));
-> SET fine = 10*(issuedays-15);
-> SET finestr = (select CONVERT(fine, char(100)));
-> if issuedays < 15 then
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"No fine to be paid",sysdate());
-> else
-> SET logstat = "The fine to be paid is: ";
-> SET finallogstat = (SELECT CONCAT(logstat,finestr));
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,finallogstat,sysdate());
-> end if;
-> END;
-> //
Query OK, 0 rows affected (0.23 sec)

mysql> CREATE TRIGGER after_library_update AFTER UPDATE ON library
-> FOR EACH ROW
-> BEGIN
-> insert into lib_audit values (OLD.roll,OLD.stud_name,OLD.bname,"The book was successfully reissued",sysdate());
-> END;
-> //
Query OK, 0 rows affected (0.15 sec)

mysql> select * from library;
-> //
+----+-----+-----+-----+
| roll | stud_name | bname | doi |
+----+-----+-----+-----+
| 12 | Durvesh | DBMS | 2020-10-02 |
| 19 | Pratik | ADS | 2020-09-03 |
| 22 | Raj | Agriculture Fundamentals | 2020-09-27 |
| 9 | Prathamesh | Economics | 2020-08-01 |
+----+-----+-----+-----+
```

```
MySQL 8.0 Command Line Client
-> //
Query OK, 0 rows affected (0.15 sec)

mysql> select * from library;
-> //
+-----+-----+-----+-----+
| roll | stud_name | bname | doi |
+-----+-----+-----+-----+
| 12 | Durvish | DBMS | 2020-10-02 |
| 19 | Pratik | ADS | 2020-09-03 |
| 22 | Raj | Agriculture Fundamentals | 2020-09-27 |
| 9 | Prathamash | Economics | 2020-08-01 |
| 26 | Tanmay | Mathematics | 2020-09-21 |
+-----+-----+-----+-----+
5 rows in set (0.07 sec)

mysql> select * from lib_audit;
-> //
Empty set (0.05 sec)

mysql> delimiter ;
mysql> insert into library values (12,"Durvish","CN","2020-09-17");
Query OK, 1 row affected (0.51 sec)

mysql> select * from lib_audit;
+-----+-----+-----+-----+-----+
| roll | stud_name | bname | log | timestamp |
+-----+-----+-----+-----+-----+
| 12 | Durvish | CN | No. of active issues is less than 3 | 2020-10-07 |
| 12 | Durvish | CN | Book successfully issued | 2020-10-07 |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> update library SET doi='2020-10-07' where roll=26;
Query OK, 1 row affected (0.42 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from lib_audit;
+-----+-----+-----+-----+-----+
| roll | stud_name | bname | log | timestamp |
+-----+-----+-----+-----+-----+
| 12 | Durvish | CN | No. of active issues is less than 3 | 2020-10-07 |
| 12 | Durvish | CN | Book successfully issued | 2020-10-07 |
| 26 | Tanmay | Mathematics | The fine to be paid is: 10 | 2020-10-07 |
| 26 | Tanmay | Mathematics | The book was successfully reissued | 2020-10-07 |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> delete from library where roll=9;
Query OK, 1 row affected (0.39 sec)
```

```
MySQL 8.0 Command Line Client
+-----+-----+-----+-----+
| 12 | Durvish | CN | Book successfully issued | 2020-10-07 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> update library SET doi='2020-10-07' where roll=26;
Query OK, 1 row affected (0.42 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from lib_audit;
+-----+-----+-----+-----+-----+
| roll | stud_name | bname | log | timestamp |
+-----+-----+-----+-----+-----+
| 12 | Durvish | CN | No. of active issues is less than 3 | 2020-10-07 |
| 12 | Durvish | CN | Book successfully issued | 2020-10-07 |
| 26 | Tanmay | Mathematics | The fine to be paid is: 10 | 2020-10-07 |
| 26 | Tanmay | Mathematics | The book was successfully reissued | 2020-10-07 |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> delete from library where roll=9;
Query OK, 1 row affected (0.39 sec)

mysql> select * from lib_audit;
+-----+-----+-----+-----+-----+
| roll | stud_name | bname | log | timestamp |
+-----+-----+-----+-----+-----+
| 12 | Durvish | CN | No. of active issues is less than 3 | 2020-10-07 |
| 12 | Durvish | CN | Book successfully issued | 2020-10-07 |
| 26 | Tanmay | Mathematics | The fine to be paid is: 10 | 2020-10-07 |
| 26 | Tanmay | Mathematics | The book was successfully reissued | 2020-10-07 |
| 9 | Prathamash | Economics | The fine to be paid is: 520 | 2020-10-07 |
| 9 | Prathamash | Economics | The book was successfully returned | 2020-10-07 |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```