DBMS Lab 9
Triggers

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1. Write a trigger on insert to compartment table when a new compartment gets added to a train and make sure that total number of compartments available in the train does not exceed more than 4.

```
delimiter $$
create trigger comp_check
before insert
on compartment for each row
begin
declare c int;
declare msg varchar(255);
set msg=('Compartments available in train exceeds 4');
if (select count(*)
from compartment
where train_number=new.train_number)>=4 then
SIGNAL sqlstate '45001'
set message_text=msg;
end if;
end$$
delimiter ;

insert into COMPARTMENT
(compartment_no,compartment_type,capacity,availability,train_number)
values
('F01','III Class','12','8','62621');

insert into COMPARTMENT
((compartment_no,compartment_type,capacity,availability,train_number
) values
('F01','I Class','12','8','62620');
insert into COMPARTMENT
(compartment_no,compartment_type,capacity,availability,train_number)
values
('G01','II Class','5','8','62620');
insert into COMPARTMENT
(compartment_no,compartment_type,capacity,availability,train_number)
values
```

```
('S01','III Class','14','8','62620');
```



```
MariaDB [pes1ug20cs645_railway]> delimiter $$
MariaDB [pes1ug20cs645_railway]> create trigger comp_check
    -> before insert
    -> on compartment for each row
    -> begin
    -> declare c int;
    -> declare msg varchar(255);
    -> set msg=('Compartments available in train exceeds 4');
    -> if (select count(*)
    -> from compartment
    -> where train_number=new.train_number)>=4 then
    -> SIGNAL sqlstate '45001'
    -> set message_text=msg;
    -> end if;
    -> end$$
Query OK, 0 rows affected (0.017 sec)
```



```
MariaDB [pes1ug20cs645_railway]> insert into COMPARTMENT (compartment_no,compartment_type,capacity,availability,train_number) values
    -> ('G01','II Class','5','8','62620');
Query OK, 1 row affected (0.002 sec)

MariaDB [pes1ug20cs645_railway]> insert into COMPARTMENT (compartment_no,compartment_type,capacity,availability,train_number) values
    -> ('S01','III Class','14','8','62620');
Query OK, 1 row affected (0.004 sec)
```

2. Create a trigger to add payment information to the backup table when we try to delete some information from ticket table.

```
Create table payment_info_backup( transaction_no bigint NOT NULL,
                   price int,
                   card_no long,
                   bank  varchar(255),
                   pnr varchar(255),
                   PRIMARY KEY(transaction_no));

set foreign_key_checks=0;

delimiter $$
create trigger payment_backup
before delete
on ticket for each row
begin
declare tn bigint;
declare prc int;
declare cn long;
```

```
declare bnk varchar(255);
declare pnr1 varchar(255);
select * into tn,bnk,cn,prc,pnr1
from payment_info
where pnr=old.pnr;
insert into
payment_info_backup(Transaction_No,Bank,Card_No,Price,pnr)
values (tn,bnk,cn,prc,pnr1);
end$$
delimiter ;

delete from ticket where PNR='PNR005';
select * from payment_info_backup;

drop trigger payment_backup;
drop table payment_info_backup;
```

```
MariaDB [pes1ug20cs645_railway]> delimiter $$
MariaDB [pes1ug20cs645_railway]> create trigger payment_backup
    -> before delete
    -> on ticket for each row
    -> begin
    -> declare tn bigint;
    -> declare prc int;
    -> declare cn long;
    -> declare bnk varchar(255);
    -> declare pnr1 varchar(255);
    -> select * into tn,bnk,cn,prc,pnr1
    -> from payment_info
    -> where pnr=old.pnr;
    -> insert into payment_info_backup(Transaction_No,Bank,Card_No,Price,pnr)
    -> values (tn,bnk,cn,prc,pnr1);
    -> end$$
ERROR 1359 (HY000): Trigger 'pes1ug20cs645_railway.payment_backup' already exists
MariaDB [pes1ug20cs645_railway]> drop trigger payment_backup $$
Query OK, 0 rows affected (0.006 sec)

MariaDB [pes1ug20cs645_railway]> create trigger payment_backup before delete on ticket for each ro
w begin declare tn bigint; declare prc int; declare cn long; declare bnk varchar(255); declare pnr
1 varchar(255); select * into tn,bnk,cn,prc,pnr1 from payment_info  where pnr=old.pnr; insert into
 payment_info_backup(Transaction_No,Bank,Card_No,Price,pnr) values (tn,bnk,cn,prc,pnr1); end$$
Query OK, 0 rows affected (0.016 sec)

MariaDB [pes1ug20cs645_railway]> delimiter ;
MariaDB [pes1ug20cs645_railway]> select * from payment_info_backup;
Empty set (0.002 sec)

MariaDB [pes1ug20cs645_railway]>
MariaDB [pes1ug20cs645_railway]> delete from ticket where PNR='PNR005';
Query OK, 1 row affected (0.018 sec)

MariaDB [pes1ug20cs645_railway]> select * from payment_info_backup;
+----------------+-------+-------------+-------------+--------+
| transaction_no | price | card_no     | bank        | pnr    |
+----------------+-------+-------------+-------------+--------+
```

```
MariaDB [pes1ug20cs645_railway]> select * from payment_info_backup;
+----------------+-------+-------------+-------------+--------+
| transaction_no | price | card_no     | bank        | pnr    |
+----------------+-------+-------------+-------------+--------+
|         978098 |  2012 | 9.88733E+15 | INDIAN BANK | PNR005 |
+----------------+-------+-------------+-------------+--------+
1 row in set (0.001 sec)

MariaDB [pes1ug20cs645_railway]> drop trigger payment_backup;
Query OK, 0 rows affected (0.003 sec)

MariaDB [pes1ug20cs645_railway]> drop table payment_info_backup;
Query OK, 0 rows affected (0.008 sec)

MariaDB [pes1ug20cs645_railway]>
```