Triggers:

1.**Create a table DebitCard - id, token, date of expiry, status**

postgres=#create table debit_card(id int primary key,token varchar(20),date_of_expiry date,status varchar(20));
CREATE TABLE
2.**When a new debit card inserted update the status column in table as follows if Date of Expiry is greater than current date then the status should be "ACTIVE" if Date of Expiry is less than or equal to current date then the status should be "INACTIVE"**

students=# create function status_update()
students-# returns trigger as
students-# $$ begin
students$# if new.date_of_expiry > current_date then
students$# update debit_card set status = 'Active' where id=new.id;
students$# elsif new.date_of_expiry <= current_date then
students$# update debit_card set status = 'Inactive' where id=new.id;
students$# end if; return new;
students$# end;
students$# $$ language plpgsql;
CREATE FUNCTION

students=# create trigger update_trigger after insert on debit_card for each row execute function status_update();
CREATE TRIGGER
students=# insert into debit_card values(4508935,'sbi8093','2024-10-01');
INSERT 0 1
students=# insert into debit_card values(4507032,'sbi7098','2022-01-01');
INSERT 0 1
students=# select*from debit_card;

```
   id    | token  | date_of_expiry | status
---------+---------+----------------+----------
 3076452 | ab3076  | 2022-10-20     | Active
 3076421 | ab3045  | 2022-06-10     | Inactive
 4508935 | sbi8093 | 2024-10-01     | Active
 4507032 | sbi7098 | 2022-01-01     | Inactive
(4 rows)
```

3.Maintain the history for all updates or deletion of debit cards in a separate table "DebitCardHistory" having a new column CapturedDate which should get updated with current date and time automatically
update function:
students=# create function update_history() returns trigger as $$
students$# begin
students$# insert into
debit_card_history(id,token,date_of_expiry,status,message,captured_date)
values(old.id,old.token,old.date_of_expiry,old.status,'updated',current_timestamp);
students$# return new;
students$# end; $$ language plpgsql;
CREATE FUNCTION

students=# create trigger update_history_trigger after update on debit_card for each row execute function update_history();
CREATE TRIGGER

```
students=# update debit_card set token='sbi8095' where id=4508935;
UPDATE 1
```

Delete function

```
students=# create function delete_history() returns trigger as $$
begin
insert into debit_card_history(id,token,date_of_expiry,status,message,captured_date)
values(old.id,old.token,old.date_of_expiry,old.status,'deleted',current_timestamp);
return new;
end; $$ language plpgsql;
CREATE FUNCTION

students=# create trigger delete_history_trigger after delete on debit_card for each row
execute function delete_history();
CREATE TRIGGER

students=# delete from debit_card where id='4508935';
DELETE 1
students=# select*from debit_card;
   id    | token  | date_of_expiry |  status
---------+---------+----------------+----------
 3076452 | ab3076 | 2022-10-20     | Active
 3076421 | ab3045 | 2022-06-10     | Inactive
 4507032 | sbi7098 | 2022-01-01    | Inactive
(3 rows)

students=# select*from debit_card_history;
   id    | token  | date_of_expiry | status | message |        captured_date
---------+---------+----------------+--------+---------+--------------------------------
 4508935 | sbi8093 | 2024-10-01     | Active | updated | 2022-08-22
12:14:37.319918+05:30
 4508935 | sbi8095 | 2024-10-01     | Active | deleted | 2022-08-22
12:15:29.280481+05:30
(2 rows)

postgres=# select*from debit_card_history;
   id    | token  | date_of_expiry |  status  |        captured_date
---------+---------+----------------+----------+--------------------------------
 4578326 | AB1063 | 2022-06-21     | INACTIVE | 2022-08-22 12:14:37.319918+05:30
 3456746 | AB2010 | 2022-07-15     | Inactive | 2022-08-22 12:15:29.280481+05:30
(2 rows)
```

4.Add a trigger to verify the token. Convert the incoming token in upper case before saving it to table

```
students=# create or replace function upper_token() returns trigger as $$
students$# begin
students$# if new.token<>upper(new.token) then new.token=upper(new.token);
students$# end if;
students$# return new;
students$# end; $$ language plpgsql;
CREATE FUNCTION

students=# create trigger upp_name_trigg before insert on debit_card for each row
execute function upper_token();
CREATE TRIGGER
```

students=# insert into debit_card values(5908765,'un3078','2020-01-01'),
(5908800,'un4063','2022-10-01');
INSERT 0 2

students=# select*from debit_card;
   id | token | date_of_expiry | status
---------+---------+----------------+----------
 3076452 | ab3076 | 2022-10-20 | Active
 3076421 | ab3045 | 2022-06-10 | Inactive
 4507032 | sbi7098 | 2022-01-01 | Inactive
 5908765 | UN3078 | 2020-01-01 | Inactive
 5908800 | UN4063 | 2022-10-01 | Active
(5 rows)

students=# select*from debit_card_history;
   id | token | date_of_expiry | status | message | captured_date
---------+---------+----------------+--------+---------+-------------------------------
 4508935 | sbi8093 | 2024-10-01 | Active | updated | 2022-08-22
12:14:37.319918+05:30
 4508935 | sbi8095 | 2024-10-01 | Active | deleted | 2022-08-22
12:15:29.280481+05:30
 5908765 | UN3078 | 2020-01-01 | Inactive | updated | 2022-08-22
14:46:24.974021+05:30
 5908800 | UN4063 | 2022-10-01 | Active | updated | 2022-08-22
14:47:59.213523+05:30
(4 rows)

5.Trigger to save complete data of current table to another history table before apply truncate

students=# create Or replace function trunc_debit() returns trigger language plpgsql as $$
students$# begin
students$# create table new_history_table as table debit_card;return new;
students$# end $$;
CREATE FUNCTION

students=# create trigger new_debit_table before truncate on debit_card for each
statement execute procedure trunc_debit();
CREATE TRIGGER

students=# truncate debit_card;
TRUNCATE TABLE
students=# select*from new_history_table;
   id | token | date_of_expiry | status
---------+---------+----------------+----------
 3076452 | ab3076 | 2022-10-20 | Active
 3076421 | ab3045 | 2022-06-10 | Inactive
 4507032 | sbi7098 | 2022-01-01 | Inactive
 5908765 | UN3078 | 2020-01-01 | Inactive
 5908800 | UN4063 | 2022-10-01 | Active
(5 rows)

6.Write a query to drop a trigger

students=# drop trigger upp_name_trigg on debit_card;
DROP TRIGGER