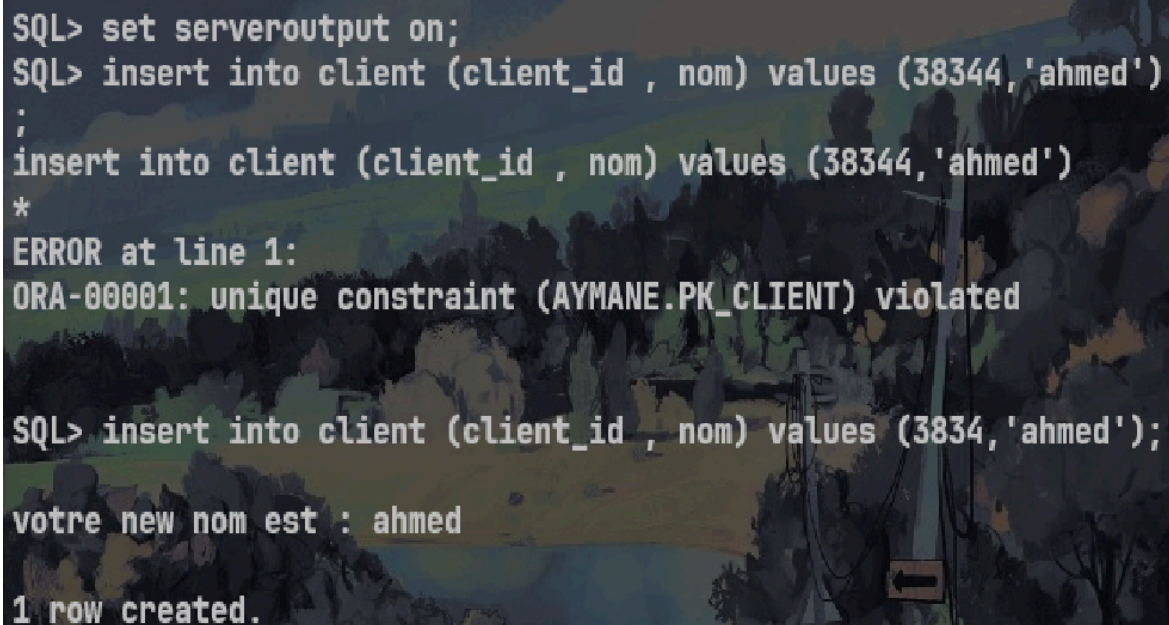


--A1

```
create or replace trigger
after_client_insert
after
insert on client
for each row
begin
dbms_output.put_line('votre new nom est : '|| :new.nom );
end;
/
```

A screenshot of a SQL command window with a dark background and light-colored text. The text shows a series of SQL commands and their outputs. First, 'SQL> set serveroutput on;' is followed by 'SQL> insert into client (client_id , nom) values (38344,'ahmed') ;'. The next line is 'insert into client (client_id , nom) values (38344,'ahmed') *', which results in an error: 'ERROR at line 1: ORA-00001: unique constraint (AYMANE.PK_CLIENT) violated'. After this, the command 'SQL> insert into client (client_id , nom) values (3834,'ahmed');' is executed, followed by the output 'votre new nom est : ahmed' and '1 row created.'.

```
SQL> set serveroutput on;
SQL> insert into client (client_id , nom) values (38344,'ahmed')
;
insert into client (client_id , nom) values (38344,'ahmed')
*
ERROR at line 1:
ORA-00001: unique constraint (AYMANE.PK_CLIENT) violated

SQL> insert into client (client_id , nom) values (3834,'ahmed');

votre new nom est : ahmed

1 row created.
```

--A2

```
create or replace trigger before_produit_update
before update on produit
for each row
begin
dbms_output.put_line('votre old prix est : '|| :old.prix
|| ' et votre new prix est : '|| :new.prix);
end;
/
```

```
SQL> --A2
SQL> create or replace trigger after_produit_update
  2 before update on produit
  3 for each row
  4 begin
  5 dbms_output.put_line('votre old prix est : ' || :old.prix
  6 || ' et votre new prix est : ' || :new.prix);
  7 end;
  8 /
```

Trigger created.

```
SQL> update produit set prix = 3020 where produit_id = 201;
votre old prix est : 300 et votre new prix est : 3020
```

1 row updated.

```
SQL> █
```

--B1

```
create or replace trigger after_produit_update
after update on produit
for each row
begin
if :New.prix < 0 then
raise_Application_error(-20001, 'the number should be positive');
end if;
end;
/
```

```

SQL> --B1
SQL> create or replace trigger after_produit_update
2 after update on produit
3 for each row
4 begin
5 if :New.prix < 0 then
6 raise_Application_error(-20001, 'the number should be positive');
7 end if;
8 end;
9 /

Trigger created.

SQL> ALTER TABLE produit DISABLE CONSTRAINT verific_prix;
Table altered.

SQL> ALTER TABLE produit DISABLE CONSTRAINT PK_PRODUIT;
ALTER TABLE produit DISABLE CONSTRAINT PK_PRODUIT
*
ERROR at line 1:
ORA-02297: cannot disable constraint (AYMANE.PK_PRODUIT) - dependencies exist

SQL> ALTER TABLE produit DISABLE CONSTRAINT NN_PRODUIT_NOM;
Table altered.

SQL> update produit set prix = -1123 where produit_id=123;
update produit set prix = -1123 where produit_id=123
ERROR at line 1:
ORA-20001: the number should be positive
ORA-06512: at "AYMANE.AFTER_PRODUIT_UPDATE", line 3
ORA-04088: error during execution of trigger 'AYMANE.AFTER_PRODUIT_UPDATE'

SQL>

```

```

ALTER TABLE produit DISABLE CONSTRAINT verific_prix;
ALTER TABLE produit DISABLE CONSTRAINT PK_PRODUIT;
ALTER TABLE produit DISABLE CONSTRAINT NN_PRODUIT_NOM;

```

--B2

```

create or replace trigger insert_after_Client
after insert on client
for each row
begin
if :new.nom in ('TEST','CLIENT') then
raise_Application_error(-20002, 'd'ont enter Test or CLIENT');
end if;
end;
/

```

```
SQL> create or replace trigger insert_after_Client
  2  after insert on client
  3  for each row
  4  begin
  5  if :new.nom in ('TEST','CLIENT') then
  6  raise_Application_error(-20002, 'd'ont enter Test or CLIENT');
  7  end if;
  8  end;
  9  /

Trigger created.

SQL> insert into client (client_id,nom) values (1234,'TEST');
insert into client (client_id,nom) values (1234,'TEST')
*
ERROR at line 1:
ORA-20002: d'ont enter Test or CLIENT
ORA-06512: at "AYMANE.INSERT_AFTER_CLIENT", line 3
ORA-04088: error during execution of trigger 'AYMANE.INSERT_AFTER_CLIENT'

SQL>
```

--C1

```
create or replace trigger insert_update_after_Client
after insert or update on client
for each row
begin
if :new.nom = 'inconnu' then
:new.nom := 'produit_nom_defini';
end if;
end;
/
-- i d'ont know how to solve this ?
```

--C2

```
create or replace trigger update_after_ligne_com
after update on ligne_com
for each row
begin
if updating('produit_id') then
raise_application_error(-20003,'you can''t update the proudit_id');
end if;
end;
/
```

```

SQL> --C2
SQL> create or replace trigger update_after_ligne_com
2  after update on ligne_com
3  for each row
4  begin
5  if updating('produit_id') then
6  raise_application_error(-20003,'you can''t update the prouduit_id');
7  end if;
8  end;
9  /

Trigger created.

SQL> update ligne_com set produit_id = 23879237 where produit_id = 201;
update ligne_com set produit_id = 23879237 where produit_id = 201
*
ERROR at line 1:
ORA-01438: value larger than specified precision allowed for this column

SQL> update ligne_com set produit_id = 237 where produit_id = 201;
update ligne_com set produit_id = 237 where produit_id = 201
*
ERROR at line 1:
ORA-20003: you can't update the prouduit_id
ORA-06512: at "AYMANE.UPDATE_AFTER_LIGNE_COM", line 3
ORA-04088: error during execution of trigger 'AYMANE.UPDATE_AFTER_LIGNE_COM'

SQL>

```

--D1

```

create or replace trigger after_IUD_Ligne_com
after update or insert or delete on ligne_com
for each row
begin
if inserting and :new.quantite <0 then
raise_application_error(-20004,'quantite est negative');
end if;
if updating('commande_id') or updating('produit_id') then
raise_application_error(-20005,'you c''ant update the id');
end if;
if deleting then
dbms_output.put_line('row deleted');
end if;
end;
/

```

```
Trigger created.
SQL> delete ligne_com where commande_id = 311 and produit_id = 201;
row deleted
1 row deleted.
SQL> insert into ligne_com (commande_id,produit_id,quantite) value(311,201,-4);
insert into ligne_com (commande_id,produit_id,quantite) value(311,201,-4)
*
ERROR at line 1:
ORA-00926: missing VALUES keyword

SQL> insert into ligne_com (commande_id,produit_id,quantite) values(311,201,-4);
insert into ligne_com (commande_id,produit_id,quantite) values(311,201,-4)
*
ERROR at line 1:
ORA-20004: quantite est negative
ORA-06512: at "AYMANE.AFTER_IUD_LIGNE_COM", line 3
ORA-04088: error during execution of trigger 'AYMANE.AFTER_IUD_LIGNE_COM'

SQL> update ligne_com where produit_id = 209 set produit_id = 33;
update ligne_com where produit_id = 209 set produit_id = 33
*
ERROR at line 1:
ORA-00971: missing SET keyword

SQL> update ligne_com set produit_id = 33 where produit_id = 209;
update ligne_com set produit_id = 33 where produit_id = 209
*
ERROR at line 1:
ORA-20005: you c'ant update the id
ORA-06512: at "AYMANE.AFTER_IUD_LIGNE_COM", line 6
ORA-04088: error during execution of trigger 'AYMANE.AFTER_IUD_LIGNE_COM'

SQL>
```