

PROGRAM TITLE:

- a) Create a program in PL/SQL to automatically store the changes made to the table ba in another table named log_ba.
 b) Create a program in PL/SQL to automatically stop the user from making any changes to the table ba if it is a Sunday.

PROGRAM CODE:Table Creation:**ba:**

```
create table ba(aid number(4),dop date,dol date,balance
number(8),primary key aid);
```

log_ba:

```
create table log_ba(aid number(4),dop date,dol date, balance
number(8),oper varchar2(10),doper date, opertime varchar2(10));
```

Final Tables Created:**ba:**

	AID	DOP	DOL	BALANCE
-----	-----	-----	-----	-----
	2651	01-01-14	01-01-14	6000
	2561	02-01-15	02-01-15	6000
	1	05-11-15	05-11-15	1200
	2	05-10-15	16-11-16	1100
	3	01-06-16	01-07-16	4500

log_ba:

no rows selected

(The Table is empty in the beginning.)

Table Insertion(example):

```
SQL> insert into ba values(&aid, to_date('&dop','dd/MM/yyyy'),
to_date('&dol','dd/MM/yyyy'), &balance);
Enter value for aid: 2
Enter value for dop: 5/10/15
Enter value for dol: 4/11/16
Enter value for balance: 1250
old 1: insert into ba values(&aid, to_date('&dop','dd/MM/yyyy'),
to_date('&dol','dd/MM/yyyy'), &balance)
new 1: insert into ba values(2, to_date('5/10/15','dd/MM/yyyy'),
to_date('4/11/16','dd/MM/yyyy'), 1250)
```

1 row created.

PL/SQL Code:

- a)
 create or replace trigger audit_ba after delete or update or insert
 on ba for each row

```

declare
oper varchar2(10);
naid ba.aid%TYPE := :old.aid;
ndop ba.dop%TYPE := :old.dop;
ndol ba.dol%TYPE := :old.dol;
nbal ba.balance%TYPE := :old.balance;

begin

    if deleting then
        oper:='delete';
    elsif updating then
        oper:='update';
    elsif inserting then
        oper:='insert';
        naid:= :new.aid;
        ndop:= :new.dop;
        ndol:= :new.dol;
        nbal:= :new.balance;
    else
        oper:='misc';
    end if;
    insert into log_ba(aid,dop,dol,balance,oper,doper,opertime)
values(naid,ndop,ndol,nbal,oper,sysdate,to_char(sysdate,'hh24:mi'))
;

end;
/

```

b)
create or replace trigger day_holiday before delete or update or
insert on ba for each row

```

begin

    dbms_output.put_line('Today is: '||to_char(sysdate,'Day'));
    --For showing system date to identify difference
    if trim(to_char(sysdate,'Day'))='Sunday' then
        RAISE_APPLICATION_ERROR(-20343,'Enjoy Weekend');
    end if;

end;
/

```

OUTPUT:

a)
SQL> @trigg1;
Trigger created.
SQL> insert into ba values(4,'1/5/14','17/11/16',8006);
1 row created.
SQL> update ba set balance=8600 where aid=4;
1 row updated.

SQL> delete from ba where aid=4;

1 row deleted.

SQL> select * from log_ba;

AID	DOP	DOL	BALANCE	OPER	DOPER	OPERTIME
4	01-05-14	17-11-16	8006	insert	18-11-16	14:06
4	01-05-14	17-11-16	8006	update	18-11-16	14:07
4	01-05-14	17-11-16	8600	delete	18-11-16	14:07

b)

SQL> @trigg2;

Trigger created.

SQL> update ba set balance = 4500 where aid=2;

Today is: Friday

1 row updated.

SQL> select * from ba;

AID	DOP	DOL	BALANCE
2651	01-01-14	01-01-14	6000
2561	02-01-15	02-01-15	6000
1	05-11-15	05-11-15	1200
2	05-10-15	16-11-16	4500
3	01-06-16	01-07-16	4500