CREATE OR REPLACE TRIGGER secure\_emp\_0023

BEFORE INSERT ON EMP\_00023

BEGIN

IF (TO\_CHAR(sysdate, 'DY') IN ('SAT', 'SUN'))

OR (TO\_CHAR(sysdate, 'HH24') BETWEEN '08' AND '18')

THEN RAISE\_APPLICATION\_ERROR (-20000, 'You may only insert into EMP during normal hours.');

END IF;

END;

INSERT INTO EMP\_00023 VALUES

(0023, 'zubair', 'shahid', 7698,

TO\_DATE('20-FEB-1981', 'DD-MON-YYYY'), 1600, 300, 30);

create table AUDIT\_00023(

USER\_NAME VARCHAR2(10) NOT NULL,

TABLE\_NAME VARCHAR2(9),

COLUMN\_NAME VARCHAR2(9),

INS NUMBER(7),

UPD NUMBER(7) ,

DEL NUMBER(7),

MAX\_INS NUMBER(7),

MAX\_UPDATE NUMBER(7) ,

MAX\_DEL NUMBER(7)

);

INSERT INTO AUDIT\_00023 VALUES

('SCOTT', 'EMP', '', 1, 1, 1, 5, 5,5);

INSERT INTO AUDIT\_00023 VALUES

('SCOTT', 'EMP', 'SAL', NULL, 1,NULL, NULL, 5,NULL);

INSERT INTO AUDIT\_00023 VALUES

('SCOTT', 'EMP', '', 0, 0, 0, 5, 0,0);

select \* from audit\_00023;

CREATE OR REPLACE TRIGGER audit\_emp\_Z\_023

AFTER DELETE OR INSERT OR UPDATE ON EMP\_0023

FOR EACH ROW

BEGIN

IF DELETING THEN

UPDATE AUDIT\_00023 SET del = del + 1

WHERE user\_name = 'SCOTT' AND table\_name = 'EMP'

AND column\_name IS NULL;

ELSIF INSERTING THEN

UPDATE AUDIT\_00023 SET ins = ins + 1

WHERE user\_name = 'SCOTT' AND table\_name = 'EMP'

AND column\_name IS NULL;

END IF;

END;

DROP TRIGGER audit\_emp\_Z;

SELECT \* FROM EMP\_0023;

INSERT INTO EMP\_0023 VALUES

(0023, 'HUZAIL', 'LAMBI', NULL,

TO\_DATE('20-FEB-1981', 'DD-MON-YYYY'), 1600, 0, 30);

CREATE OR REPLACE TRIGGER audit\_emp\_values

AFTER DELETE OR INSERT OR UPDATE ON EMP\_0023

FOR EACH ROW

BEGIN

INSERT INTO audit\_emp\_values (user\_name, timestamp, id, old\_last\_name, old\_title,

New\_title, old\_salary, new\_salary)

VALUES (USER, SYSDATE, :old.empno, :old.ename, :new.ename, :old.job, :new.job, :old.sal, :new.sal);

END;

CREATE OR REPLACE TRIGGER derive\_commission\_pct

BEFORE INSERT OR UPDATE OF SAL ON emp

FOR EACH ROW

WHEN (new.job = ‘SALESMAN’)

BEGIN

IF INSERTING THEN :new.comm. := 0;

ELSE /\* UPDATE of salary \*/

IF :old.comm. IS NULL THEN

:new.comm. := 0;

ELSE

:new.comm. := :old.comm. + (:new.sal / :old.sal);

END IF;

END IF; END;