

1. Write a update, delete trigger on clientmstr table. The System should keep track of the records that ARE BEING updated or deleted. The old value of updated or deleted records should be added in audit\_trade table. (separate implementation using both row and statement triggers)

Ans:-

Create or replace trigger emp\_info after update or delete on emp45

for each row

Declare

oper varchar(10);

Begin

if updating then

oper:='updated';

end if;

if deleting then

oper:='Deleted';

end if;

insert into audit\_trade values(:old.emp\_no,oper);

End;

OUTPUT:

SQL> select \* from emp45;

EMP\_NO TRADE

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1 Electrical

293 Computer

142 Civil

13 Chemical

```
SQL> select * from audit_trade;
```

no rows selected

Trigger created.

```
SQL> update emp45 set emp_no=999,trade='Change_Trde' where emp_no=1;
```

1 row updated.

```
SQL> select * from emp45;
```

EMP_NO	TRADE
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999	Change_Trde
293	Computer
142	Civil
13	Chemical

SQL> select \* from audit\_trade;

EMP\_NO STATUS

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1 updated

SQL> delete from emp45 where emp\_no=293;

1 row deleted.

SQL> select \* from emp45;

EMP\_NO TRADE

-----

999 Change\_Trd

142 Civil

13 Chemical

SQL> select \* from audit\_trade;

EMP\_NO STATUS

-----

1 updated

293 Deleted

SQL>

2. Write a before trigger for Insert, update event considering following requirement:

Emp(e\_no, e\_name, salary)

I) Trigger action should be initiated when salary is tried to be inserted is less than Rs. 50,000/-

II) Trigger action should be initiated when salary is tried to be updated for value less than Rs. 50,000/-

Action should be rejection of update or Insert operation by displaying appropriate error message. Also the new values expected to be inserted will be stored in new table Tracking(e\_no, salary).

CODE:

Create or replace trigger emp\_salary before insert or update on emp7  
for each row

Begin

if :new.salary>=50000 then

insert into traking values(:new.emp\_no,:new.salary);

elsif :new.salary<50000 then

raise\_application\_error(-20003,'Salary should not be  
less than 50000');

end if;

End;

OUTPUT:

SQL> select \* from emp7;

EMP_NO	SALARY
1	80000
11	88000
111	87800

1111 86708

SQL> select \* from traking;

no rows selected

SQL> Create or replace trigger emp\_salary before insert or update on emp7

2 for each row

3

4 Begin

5 if :new.salary>=50000 then

6 insert into traking values(:new.emp\_no,:new.salary);

7

8 elsif :new.salary<50000 then

9 raise\_application\_error(-20003,'Salary should not be

10 less than 50000');

11 end if;

12 End;

13 /

Trigger created.

SQL> insert into emp7 values(11111,45000);

insert into emp7 values(11111,45000)

\*

ERROR at line 1:

ORA-20003: Salary should not be

less than 50000

ORA-06512: at "SYSTEM.EMP\_SALARY", line 6

ORA-04088: error during execution of trigger 'SYSTEM.EMP\_SALARY'

SQL> select \* from emp7;

EMP_NO	SALARY
1	80000
11	88000
111	87800
1111	86708

SQL> select \* from traking;

no rows selected

SQL> insert into emp7 values(11111,95000);

1 row created.

SQL> select \* from emp7;

EMP_NO	SALARY
1	80000
11	88000
111	87800
1111	86708
11111	95000

SQL> select \* from traking;

EMP_NO	SALARY
11111	95000

3. Write a Database trigger for following requirements:

Employee salary of last three month is stored in the emp\_sal table.

emp\_sal(emp\_no, sal1,sal2,sal3)

before inserting salary into emp\_sal table, if salary of employee in any of the last three month

is greater than Rs. 50,000/- then entry of average salary along with emp\_no needs to be inserted into new table emp\_new(emp\_no, avg\_sal).

Ans:-

Create or replace trigger emp\_salary2 before insert or update on emp77

for each row

Declare

total\_sal DECIMAL(10, 2);

avg1\_sal DECIMAL(10, 2);

Begin

total\_sal := :NEW.sal1 + :NEW.sal2 + :NEW.sal3;

avg1\_sal := total\_sal / 3;

if (:new.sal1<=50000 or :new.sal2<=50000 or :new.sal3<=50000) then

insert into emp\_new values(:new.emp\_no,avg1\_sal);

end if;

End;

OUTPUT:

SQL> select \* from emp77;

EMP_NO	SAL1	SAL2	SAL3
1	34000	34000	34500
11	45000	45000	44500

SQL> select \* from emp\_new;

no rows selected

Trigger created.

SQL> insert into emp77 values(111,65000,45000,56000);

1 row created.

SQL> select \* from emp77;

EMP_NO	SAL1	SAL2	SAL3
1	34000	34000	34500
11	45000	45000	44500
111	65000	45000	56000

SQL> select \* from emp\_new;

EMP_NO	AVG_SAL
111	55333.33



