DBS Labsheet-9

(for CMS)

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PL-SQL Triggers

A *trigger* is a procedural SQL code that is automatically invoked by the RDBMS upon the occurrence of a data manipulation event.

1.A trigger is invoked before or after a data row is inserted, deleted or updated.

2.A trigger is associated with a database table.

3.Each table may have one or more triggers.

4.Triggers can be used to enforce constraints

5.Triggers can be used to insert/update records and to call stored procedures.

6.Used for auditing purpose (creating logs)

7.Generation of derived values.

Example-1

```
SQL>create trigger T1 after insert on book
 begin
dbms_output.put_line('Inserted a new record into Book table');
end;
/
```

Trigger created.

SQL> insert into book values(201,'ECONOMICS',345);

Inserted a new record into Book table

1 row created.

Example:2

```
SQL>create trigger T2 after insert on Book
declare
totalbooks number;
begin
select count(*) into totalbooks from book;
dbms_output.put_line('Inserted a new record');
dbms_output.put_line('   After new Entry Total number of books is
:'||totalbooks);
end;
 /
```

Trigger created.

Some more examples on Triggers.

Discuss what are Row-level and Table-level Triggers

We also discuss and write triggers to understand the use of :old and :new

Exercise.

We already have following Tables with data.
DEPT: dnum int(pk), dname vc(20),dloc vc(10)
EMP: eno int (pk), ename vc(15), job vc(10), mgr int(fk), hiredate date, sal int, comm int, deptno int(FK)
// mgr is FK indicating the manager managing the emp, and refer to eno of same table

Now, write a function *compute_bonus* that takes the *eno* of an Employee as argument and returns the bonus for that employee, based on the following formula.

Bonus= (2XSalary) + (5X Comm) + Incentive.

Incentive is based on the JOB and is as follows.

For CLERK 1000; SALESMAN 1500; MANAGER 2000; ANALYST 2000; PRESIDENT 3000.