

ASSIGNMENT- 5
(DATABASE / INSTEAD-OF / SYSTEM TRIGGERS)

1. For the following tables:

STUDENT (SEATNO, NAME, MARKS1, MARKS2, MARKS3)
RESULT (SEATNO, AVERAGE)

- a. Write a database trigger which is fired every time a record is inserted in the student table. In the trigger the average of the best two of the three marks is calculated and inserted in the result table.
- b. Write a database trigger which adds an 'I' before every SEATNO value when a new record is being inserted if an 'I' is not already present. The SEATNO should not be more than five characters in length and the last character should not be numeric. Also see that if the student is 'Tom', 'Dick' or 'Harry' then no DML is to be allowed against this table.

2. For the following tables:

MASTER (MACCNO, NAME, BALANCE)
TRANS (TACCNO, TNAME, TYPE, AMOUNT)
AUDIT (ACCNO, TYPE, USER_ID, SYS_DATE, AMOUNT)

TYPE column contains information regarding withdrawal or deposit.

Write a database trigger that is fired against every DML on the TRANS table and will do the following:

- a. If corresponding record exists in the MASTER table, update it.
- b. If corresponding record does not exist, insert it as a new record in MASTER.
- c. For every action taken, note the necessary details in the AUDIT table.

3. For the following tables and view in the database:

STUDENT (SEATNO, NAME, MARKS1, MARKS2, MARKS3)
RESULT (SEATNO, AVERAGE)
VTEMP (SEATNO, VDATE, ACTION)
V1 (SEATNO, NAME, AVERAGE)

For every DML against the view V1, write an instead-of trigger that will insert the details regarding the SEATNO, the date on which the view is being modified as well as the action (Insert / Update / Delete) in the table VTEMP.

4. Write system triggers that store details about the timings of login and logout on your account as well as details about every DDL that is executed once you are logged in. Create the necessary audit tables to store the required information.