193

Program 1

Write a code in PL/SQL to develop a trigger that enforces referential integrity by preventing the deletion of a parent record if child records exist.

```
CREATE OR REPLACE TRIGGER trg_prevent
 BEFORE DELETE ON department
  FOR EACH ROW
   DECLARE
      v_count NUMBER;

 IF
   v_count > 0 THEN
  EMPLOYEE table);
  END IF;
 END;
```

Program 2

Write a code in PL/SQL to create a trigger that checks for duplicate values in a specific column and raises an exception if found.

```
CREATE OR REPLACE TRIGGER trg_limit_total
BEFORE INSERT ON employee
 FOR EACH ROW
  DECLARE
     v_total  NUMBER ;
     v_threshold CONSTANT NUMBER := 100000
 BEGIN
       SELECT  NUL

 END IF;

END;
```

1a5

Program 3

Write a code in PL/SQL to create a trigger that restricts the insertion of new rows if the total of a column's values exceeds a certain threshold.

```
CREATE OR REPLACE TRIGGER trg_limit_total
 BEFORE INSERT ON employee
  FOR EACH ROW
   DECLARE
    v_count NUMBER;
  IF v-count >0 THEN
   RAISE_APP_ERROR(-20002, 'Each email mus
                           be unique')
  END IF ;
END;
```

Program 4

Write a code in PL/SQL to design a trigger that captures changes made to specific columns and logs them in an audit table.

```
CREATE  TABLE  employee_ audit (
   emp_id  NUMBER,
   old_salary NUMBER,
   new_ salary NUMBER,
   change _data DATE ,
   );
BEGIN
  INSERT INTO employee -audit( emp-id, old-sal
                         change-date )
VALUES ( SYSDATE , USER );
END;
```

Program 5

Write a code in PL/SQL to implement a trigger that records user activity (inserts, updates, deletes) in an audit log for a given set of tables.

```
CREATE TABLE activity_log (
   table_name VARCHAR2 (50) ,
   operation_type VARCHAR2(20) ,
   user_name VARCHAR2 (30) ,
 );

 CREATE OR REPLACE TRIGGER trg_user_activity
 AFTER INSERT

  BEGIN

  INSERT INTO activity_log ( table_name , activity_d
                                         user_name)

  VALUES ('EMPLOYEE , ORA_SYSEVENT );

END;
```

Program 7

Write a code in PL/SQL to implement a trigger that automatically calculates and updates a running total column for a table whenever new rows are inserted.

```
CREATE TABLE sales (
    sale_id NUMBER,
    amount  NUMBER,
    running_total NUMBER
  );

CREATE OR REPLACE TRIGGER trg_update_total
AFTER INSERT ON sales
 FOR EACH ROW

 DECLARE
     v_total NUMBER;

UPDATE sales
 SET running_total = v_total
 WHERE
        sale_id = :NEW.sale_id ;

END;
```

Program 8

Write a code in PL/SQL to create a trigger that validates the availability of items before allowing an order to be placed, considering stock levels and pending orders.

```
CREATE  OR REPLACE TRIGGER trg-check- stock
BEFORE INSERT  ON orders
FOR  EACH  ROW
 DECLARE
 V- stock  NUMBER ;

BEGIN
  SELECT quantity - stock  INTO  V_stock
 FROM  inventory  WHERE  item-id
IF  V- stock  < : NEW order-quantity  THEN
RAISE- App -Error (-20004 , 'Insufficient stock');

   END IF;

END;
```

Evaluation Procedure	Marks awarded
PL/SQL Procedure(5)	5
Program/Execution (5)	5
Viva(5)	5
Total (15)	15
Faculty Signature	