9. Cursors: Write a PL/SQL block of code using Explicit Cursor College has decided to mark all those students detained (D) who are having attendance less than 75%. Whenever such update takes place, a record for the same is maintained in the d\_stud table. Stud (roll number (4), att number (4), status varchar (1)); d\_stud (roll number (4), att number (4))

-- Create the STUD table

CREATE TABLE stud (

roll\_number VARCHAR2(4) PRIMARY KEY,

att\_number NUMBER(4),

status VARCHAR2(1) -- 'A' for active, 'D' for detained, etc.

);

drop table d\_stud cascade CONSTRAINTS;

-- Create the D\_STUD table to log detained students' information

CREATE TABLE d\_stud (

roll\_number VARCHAR2(4),

att\_number NUMBER(4),

CONSTRAINT fk\_roll\_number FOREIGN KEY (roll\_number)

REFERENCES stud(roll\_number) ON DELETE CASCADE

);

-- Insert sample data into the STUD table

INSERT INTO stud (roll\_number, att\_number, status) VALUES ('1001', 70, 'A');

INSERT INTO stud (roll\_number, att\_number, status) VALUES ('1002', 80, 'A');

INSERT INTO stud (roll\_number, att\_number, status) VALUES ('1003', 60, 'A');

INSERT INTO stud (roll\_number, att\_number, status) VALUES ('1004', 85, 'A');

INSERT INTO stud (roll\_number, att\_number, status) VALUES ('1005', 72, 'A');

-- Commit the changes

COMMIT;

SELECT \* FROM stud;

SELECT \* FROM d\_stud;

DECLARE

-- Define an explicit cursor to fetch students with less than 75% attendance

CURSOR c\_students IS

SELECT roll\_number, att\_number

FROM stud

WHERE att\_number < 75;

-- Variables to hold the cursor data

v\_roll\_number stud.roll\_number%TYPE;

v\_att\_number stud.att\_number%TYPE;

BEGIN

-- Open the cursor to start fetching records

OPEN c\_students;

-- Loop through all the records fetched by the cursor

LOOP

-- Fetch the next record into the variables

FETCH c\_students INTO v\_roll\_number, v\_att\_number;

-- Exit the loop if no more records are found

EXIT WHEN c\_students%NOTFOUND;

-- Update the student's status to 'D' (detained) if attendance is less than 75%

UPDATE stud

SET status = 'D'

WHERE roll\_number = v\_roll\_number;

-- Insert a record into the d\_stud table to log the attendance of detained students

INSERT INTO d\_stud (roll\_number, att\_number)

VALUES (v\_roll\_number, v\_att\_number);

END LOOP;

-- Close the cursor after processing all records

CLOSE c\_students;

-- Commit the transaction to make the changes permanent

COMMIT;

EXCEPTION

-- Exception handling for any errors that might occur

WHEN OTHERS THEN

-- Rollback all changes in case of an error

ROLLBACK;

-- Output the error message to the console for debugging

DBMS\_OUTPUT.PUT\_LINE('Error: ' || SQLERRM);

END;

Alternate code

Declare

Cursor crsr\_att is select roll, att,status from stud21 where att<75;

mroll stud21.roll%type;

matt stud21.att%type;

mstatus stud21.status%type;

Begin

open crsr\_att;

if crsr\_att%isopen then

loop

fetch crsr\_att into mroll,matt,mstatus;

exit when crsr\_att%notfound;

if crsr\_att%found then

update stud21 set status='D' where roll=mroll;

insert into d\_stud values(mroll,matt);

end if;

end loop;

end if;

end;