Unnamed PL/SQL code block: Use of Control structure and Exception handling is mandatory.

Suggested Problem statement: Consider Tables:

1. Borrower(Roll\_no, Name, DateofIssue, NameofBook, Status)

2. Fine(Roll\_no,Date,Amt)

 Accept Roll\_no and NameofBook from user.

 Check the number of days (from date of issue).

 If days are between 15 to 30 then fine amount will be Rs 5per day.

 If no. of days&gt;30, per day fine will be Rs 50 per day and for days less than 30, Rs. 5 per day.

 After submitting the book, status will change from I to R.

 If condition of fine is true, then details will be stored into fine table.

 Also handles the exception by named exception handler or user define exception handler

ANS

DECLARE

-- Input variables for Roll\_no and NameofBook

v\_roll\_no Borrower.Roll\_no%TYPE;

v\_nameof\_book Borrower.NameofBook%TYPE;

-- Variables for Date calculation and fine amount

v\_date\_of\_issue Borrower.DateofIssue%TYPE;

v\_current\_date DATE := SYSDATE; -- Current system date

v\_days\_diff INT;

v\_fine\_amount INT := 0;

-- Exception handling variables

invalid\_roll\_no EXCEPTION; -- Named exception for invalid Roll\_no

no\_book\_found EXCEPTION; -- Named exception for when book is not found

BEGIN

-- Accepting input for Roll\_no and NameofBook from the user

v\_roll\_no := &roll\_no; -- User input for Roll\_no

v\_nameof\_book := '&nameof\_book'; -- User input for NameofBook

-- Retrieve the DateofIssue for the given Roll\_no and NameofBook

SELECT DateofIssue INTO v\_date\_of\_issue

FROM Borrower

WHERE Roll\_no = v\_roll\_no AND NameofBook = v\_nameof\_book;

-- Calculate the difference in days between current date and DateofIssue

v\_days\_diff := v\_current\_date - v\_date\_of\_issue;

-- Check if the Roll\_no and NameofBook exist in the Borrower table

IF SQL%NOTFOUND THEN

RAISE no\_book\_found;

END IF;

-- Control structure to calculate fine based on days

IF v\_days\_diff BETWEEN 15 AND 30 THEN

v\_fine\_amount := v\_days\_diff \* 5; -- Fine Rs 5 per day

ELSIF v\_days\_diff > 30 THEN

v\_fine\_amount := (30 \* 5) + ((v\_days\_diff - 30) \* 50); -- Fine Rs 5 per day for <=30 days, Rs 50 per day for >30 days

ELSE

v\_fine\_amount := 0; -- No fine if returned before 15 days

END IF;

-- If fine amount is greater than 0, insert into Fine table

IF v\_fine\_amount > 0 THEN

INSERT INTO Fine (Roll\_no, Date, Amt)

VALUES (v\_roll\_no, v\_current\_date, v\_fine\_amount);

END IF;

-- Update the Borrower table to change the status from 'I' to 'R' (Returned)

UPDATE Borrower

SET Status = 'R'

WHERE Roll\_no = v\_roll\_no AND NameofBook = v\_nameof\_book;

-- Commit the transaction to save changes

COMMIT;

EXCEPTION

-- Exception for invalid Roll\_no or NameofBook not found

WHEN no\_book\_found THEN

DBMS\_OUTPUT.PUT\_LINE('No book found for the given Roll\_no or NameofBook.');

-- Exception handling for other unexpected errors

WHEN OTHERS THEN

DBMS\_OUTPUT.PUT\_LINE('An error occurred: ' || SQLERRM);

ROLLBACK; -- Rollback the transaction in case of an error

END;

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