31118

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DBSL Lab
Assignment 04

Title: Unnamed PL/SQL code blocks: Use of control structure & Exception handling.

Problem Statement:

Consider Tables:

Borrower(roll_no, date_of_issue, name_of_book, status)
fine (roll_no, date, amt)

- Accept roll_no, name of book from user.
- check the number of days (from date of issue)
- If days are between 15 to 30 then fine amount will be Rs 5/day.
- If no. of days > 30, per day fine will be Rs 50 & for days less than 30, Rs 5 per day.
- After submitting the book, status will change from I to R.
- If condition on fine is true, then details will be stored in fine table.
- Also handle the exception by named exception handler or user defined exception handler.

Outcome & objectives

i) Understand the control structure
ii) Understand exception handling in PL/SQL.

Theory related concepts:

Unnamed PL/SQL code blocks:

> The basic unit of code in PL/SQL program is block.
ii) syntax

```
DECLARE
        declaration_section
BEGIN
        executable_section
EXCEPTION
        exception_handling_section
END;
```

where

i> declaration section: PL/SQL variables, types, cursors, and local subprograms are defined here.

2> Executable section: Procedural & SQL statements are written here.

3> Exception handling section: error handling codes are written here

Conditional statements in PL/SQL:

i> If THEN

```
syntax    If condition THEN
          statement list
          END IF;
```

11> IF THEN ELSE

syntax

```
          If condition THEN statement_list1
          ELSE statement_list-2
          END IF
```

111> IF THEN ELSEIF

syntax.

```
          If condition THEN statement_list
          ELSE IF condition THEN statement_list
          ELSE statement_list;
          END If;
```

iv) CASE expression: used to control branching logic

syntax:

```
CASE
WHEN expression THEN statements
WHEN expression THEN statements
...
ELSE statements.
END CASE;
```

Exception handling in PL/SQL:

1) exceptions are errors/warnings in PL/SQL program
2) There are two types of exceptions
   i) Predefined exceptions
   ii) User-defined exceptions
3) predefined exceptions: these are defined by ORACLE. They correspond to common SQL errors.
4) User defined exceptions: these are defined in program by user.

syntax.

```
DECLARE.
    exception.name EXCEPTION;
BEGIN
    RAISE exception.name
    ..
EXCEPTION
    WHEN exception name THEN
    action
END;
```

Testcases & Outputs

Attached separate pdf file for testcases & output screenshots.

Conclusion:

We ~~have~~ studied about unnamed code-blocks & conditional statements in PL/SQL in this assignment. Also used exception handling.