**Database Systems & Web Lab (15B11CI312)**

**Week 11 & 12**

**(**07-11-2022 to 19-11-2022**)**

**(PL/SQL – Procedures, Functions, Cursors, and Triggers)**

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| **Read all these instructions very carefully:**  1. Submit all your weekly lab assignments to the concerned faculty for D2D Lab evaluation.  2. Lab Test 2 and Final project evaluation is scheduled as follows in your respective lab timings.   |  |  |  | | --- | --- | --- | | **Date** |  | **Syllabus** | | 21-11-2022 to 26-11-2022 | Lab Test T2 (20 Marks) | PHP, PLSQL | | 28-11-2022 to 03-12-2022 | Project evaluation  (20 Marks) |  |   3. In case anyone **misses Lab test 2, student will be awarded “F”** Grade irrespective of attending labs for the whole semester.  4**. Project Instructions:**   1. You have to demonstrate working project along with report.  * Implementation : 12 marks (Creativity: use of html and css, form validation using JavaScript, Database connectivity using PHP, MySQL and PL/SQL queries) * Report / demonstration: 8 marks (ER diagram, normalization of database, presentation/Viva)  1. Students have to submit project code and report to assigned faculty in Zip format. Only one member will submit zip file and all other members will turn in. |

PL/SQL Fundamentals (Procedures and Functions)

1. Write a program to take four numbers as input from user. Display the largest number among them.
2. Create a program that accepts a single number X. Display the message “Hello World” X times, where X is the number entered.
3. Try running the above program and entering a negative number, what happens? Change the code to print a message if a number less than 1 is entered that informs the user they must enter a number greater than or equal to 1.

SQL within PL/SQL

1. Create a table AREA(RADIUS NUMBER(5), AREA DECIMAL(14,2))

Write a program to calculate area of circle for radius [1, 10] and insert into the table AREA.

1. Create a table named POWER. A record in POWER must contain a number, its square, and its cube. Insert record using PL/SQL for numbers [20-30].
2. Write a program to reverse a user input string using loop.
3. Consider the EMPLOYEE table, having salary as one of the attributes. Write a program to increase the salary by 15% of an employee, whose SSN is entered by the user (Assume table attributes).
4. Create a PL/SQL block that accepts a **new** job title and an **old** job title. Find all employees in the old job and give them the new job. Ensure a valid message is given back to the user even if no employees changed job.

Cursors

1. Create a cursor that displays the name and salary of each employee in the EMPLOYEES table whose salary is less than that specified by a passed-in parameter value (Assume table attributes).

Triggers

1. Consider a table MEMBERS (MID, NAME, EMAIL, DOB).

Consider another table REMINDERS (ID, MID, MESSAGE) that stores reminder messages to update DOB.  
Create an AFTER INSERT trigger that inserts a reminder message into the REMINDERS table if the birth date of the member is inserted as NULL.

**Explanation:**

If we insert two rows into the MEMBERS table as:

INSERT INTO members (mid, name, email, DOB)

VALUES

(‘MID2’, 'John Doe', 'john.doe@example.com', NULL),

(‘MID3’'KimKole', 'kim.kole@example.com','2000-01-01');

And then, query data from the REMINDERStable:

SELECT \* FROM reminders;

It should display a record as

**ID MID MESSAGE**

1 MID2 Your DOB is NULL. Please update.

We inserted two rows into the members table. However, only the first row has a birth date value NULL, therefore, the trigger inserted only one row into the reminders table.