# Lab 08: Intro to PL/SQL

## Objective

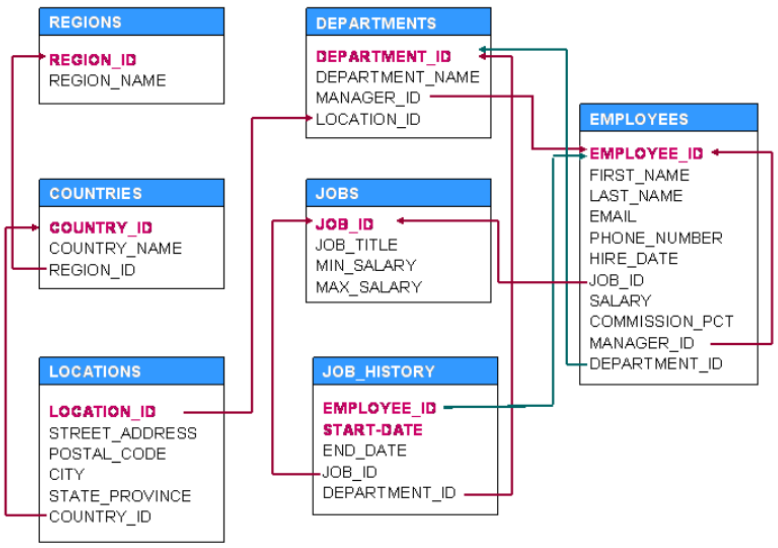
The students should be able to understand the usage of:

- Procedures
- Conditionals
- Loops
- Cursors

## Submission Requirements

Save your script file and upload it to LMS.

## HR Database Schema




## New User

To execute this lab, create a new user and execute the HR_schema script to set up a fresh instance of the HR database.

```
SQL> create user c##lab08user identified by 123;

User created.

SQL> grant connect, resource, dba to c##lab08user;

Grant succeeded.

SQL> grant unlimited tablespace to c##lab08user;

Grant succeeded.
```

## SQL queries

### Simple procedures

1. Write a PL/SQL code to print multiples of 2 (e.g 2,4,6…12) using for loop.
2. Write a PL/SQL code to print 20 to 10 in decreasing order (e.g 20,19,18…10).
3. Write a PL/SQL program to check if a *user entered* number is a multiple of 2 then output 'Even' else 'Odd'. *Hint: Lookup MOD function.*
4. Write a PL/SQL program using a while loop which takes input from the user and returns the multiplication table.

### Select in PL/SQL

5. Write a program to print the first_name of employee with ID = 100. Your output should be in the format "The first name of the employee with ID=100 is (name)".
6. Write a procedure named get_email which takes empID as input parameter and prints the email in a suitable format. Example: "EmpID 101: [emailaddress]". Execute the procedure to test.
7. Write a procedure named get_emp_city which takes empID as input paramter and prints the city where the employee is working. If there is no data for empID, then print a suitable error. Execute the procedure to test. Try out an employee ID which does not exist.

### Cursors in PL/SQL

8. Write a procedure using cursors to print Job Title and Name of the Employee working in the IT department using open-fetch-close.
9. Write a procedure named get_job_history using cursors to print employeeName, Job_id, start_date for all employees in department ID =50 using cursors and for loop.

### Update/Delete in PL/SQL

10. Write a program to interchange the salaries of employee 120 and 122.
11. Write a program to increase the salary of employee id 115 based on the following conditions using case expression:

| Experience | Increase salary by |
|---|---|
| > 10 years | 20% |
| > 5 years | 10% |
| Otherwise | 5% |

    Use the rowcount attribute to print the number of rows modified.
    Test your program by executing it.
12. Write a procedure named update_emp_commission using IF statements, to change commission percentage as follows for employee with ID = 152. If salary is more than 10000 then commission is 40%, if Salary is less than 10000 but experience is more than 10 years then 35%, if salary is less than 3000 then commission is 25%. In the remaining cases commission is 15%.
13. Create a procedure named delete_employee to perform the delete operation for any employee id taken as an input to the procedure. The employees or departments the employee was managing will now be managed by their manager. Remember to modify all the referenced tables before deleting from the employees table. Finally, test out your procedure.