

# Practice Class 9

## Objectives

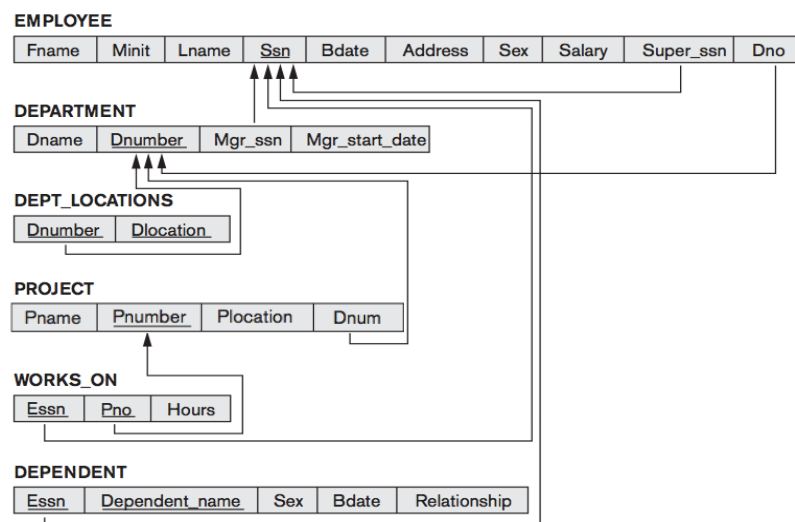
SQL Programming:

Stored Procedure (SP), User-Defined Function (UDF), Trigger e Cursor.

Note: You must follow the response template provided.

## Assignment 9.1

Refer to the Company's relational database used in previous practical class guides:



- Build a stored procedure that accepts an employee's ssn, removes it from the employee table, removes your entries from the works\_on table, and removes its dependents. What additional concerns should you have about the storage procedure besides those mentioned above?
- Create a stored procedure that returns a record-set with the employees managing departments, as well as the ssn and number of years (as manager) of the oldest employee on that list.
- Build a trigger that does not allow a particular employee to be defined as a manager for more than one department.
- Create a trigger that does not allow a certain employee to have a salary greater than the salary of your department manager. In these cases, the trigger should adjust the employee's salary to an amount equal to the manager's salary minus one unit.
- Create a UDF that, for a given employee (ssn), returns the name and location of the projections in which you work.
- Create a UDF that, for a given department (dno), returns employees with a salary higher than the average salary of that department.
- Create a UDF that, for a given department, returns a record-set with the projects and

department. For each project, we must have an attribute with its monthly labor budget and another column with the accumulated value of the budget.

Note: Assume that an employee works 40 hours a week to calculate the cost of its allocation to the project.

For example: `select * from dbo. employeeDeptHighAverage(3);`

pname	pnumber	plocation	dnum	budget	totalbudget
Aveiro Digital	1	Aveiro	3	2625,00	2625,00
Dicooogle	3	Aveiro	3	1337,50	3962,50
GOPACS	4	Aveiro	3	781,25	4743,75

{3 row(s) affected}

Recommendation: Use a cursor.

- h) It is required to create a trigger that, when you delete a department, passes to a department\_deleted with the same structure as the department. If this table does not exist, you must create a new one and enter the record. Implement the solution with a trigger of each type (*after* and *instead of*). Discuss the advantages and disadvantages of each implementation.

Use the following statement to verify that a particular table exists:

```
IF (EXISTS (SELECT * FROM INFORMATION_SCHEMA. TABLES
WHERE TABLE_SCHEMA = 'myschema' AND TABLE_NAME = 'mytable'))
```

- i) For stored procedures and UDFs, and number their added value and the characteristics that distinguishes them. Give examples of situations in which each of these tools should be used;