

Project: Employee Management System Database

Tables:

Employees:

- EmployeeID (Primary Key)
- FirstName
- LastName
- DepartmentID (Foreign Key referencing Departments)
- HireDate

Departments:

- DepartmentID (Primary Key)
- DepartmentName

Projects:

- ProjectID (Primary Key)
- ProjectName
- DepartmentID (Foreign Key referencing Departments)
- StartDate
- EndDate

EmployeeProjects (Junction Table for Many-to-Many Relationship):

- EmployeeID (Foreign Key referencing Employees)
- ProjectID (Foreign Key referencing Projects)

- 1) Create the above tables in your SQL database.
- 2) Insert at least five departments into the Departments table.
- 3) Insert at least five employees into the Employee's table, distributing them across different departments.
- 4) Insert at least five projects into the Projects table, associating them with different departments.
- 5) Assign employees to projects using the EmployeeProjects table. Make sure each project has at least two employees assigned.
- 6) Update the salary of all employees in the HR department by 8%.
- 7) Find the average salary of all employees.

- 8) List all employees along with the projects they are working on.
- 9) Find the project with the longest duration.
- 10) Count the number of employees in each department.
- 11) Retrieve the names of employees who have worked on more than one project.
- 12) Find the department with the highest total salary expense.
- 13) Rank employees within each department based on their salary.
- 14) Update the end date of the project with the shortest duration to '2022-12-31'.
- 15) Calculate the total salary expense for each department.
- 16) Identify employees who have not been assigned to any project.
- 17) Determine the department with the highest average project duration.
- 18) Classify employees into salary ranges (e.g., Low, Medium, High) based on their salary.
- 19) Find the employee with the highest salary.
- 20) Calculate the minimum salary and maximum salary of the particular department.

- 1) Retrieve all columns from the Employees table.
- 2) Retrieve employees along with their department names.
- 3) Retrieve employees hired after '2020-01-01'.
- 4) Calculate the average salary of employees.
- 5) Count the number of employees in each department.
- 6) Retrieve employees sorted by hire date in descending order.
- 7) Retrieve employees in the Finance or HR department.
- 8) Retrieve employees whose last name starts with 'S'.
- 9) Retrieve employees working on ProjectA.
- 10) Retrieve employees and their project details.
- 11) Retrieve all departments and their employees (including those with no employees).
- 12) Retrieve departments with average salary greater than 70000.
- 13) Increase the salary of all employees in the IT department by 10%.
- 14) Remove employees hired before '2019-01-01'.
- 15) Find the employee with the highest salary.
- 16) Classify employees into salary ranges.
- 17) Retrieve employees and their projects in the IT department.
- 18) Find the department with the highest average salary.
- 19) Rank employees by salary within each department.
- 20) Find the average project duration for each department.
- 21) Retrieve the earliest hire date among all employees.
- 22) List the projects that have employees assigned to them.
- 23) Find the employees who have the same last name and are in the same department.
- 24) Calculate the total salary expense for the company.
- 25) Identify the employees with a salary above the average salary.
- 26) List the projects that are active and have employees assigned to them.
- 27) Retrieve the employees who have not been assigned to any project.
- 28) Find the department with the highest total project duration.
- 29) Update the end date of ProjectA to '2022-11-30'.
- 30) Determine the employee with the lowest salary in the IT department.