**Employee Management System - Documentation**

**1. Project Overview** The Employee Management System (EMS) is designed to efficiently manage employee records, departments, and payroll processing. The system allows for seamless data entry, retrieval, and automation using SQL functionalities like triggers and stored procedures.

**2. Database Schema Design** The EMS consists of the following tables:

* **Departments**: Stores department details.
* **Employees**: Stores employee personal and job-related details.
* **Payroll**: Manages salary, bonuses, deductions, and pay dates.

**3. Key Functionalities**

* **Data Entry & Validation**: Supports INSERT, UPDATE, and DELETE operations with constraints and triggers.
* **Complex Queries & Reports**: Joins, aggregations, and payroll summaries.
* **Stored Procedures & Triggers**: Implements automation and business rules.
* **User Authentication & Security** (Future Scope): Implementing Role-Based Access Control (RBAC).

**4. SQL Features Used**

* **Normalization**: Ensured 3NF compliance to prevent redundancy.
* **Foreign Keys**: Maintain referential integrity.
* **Joins**: Enable complex queries across tables.
* **Triggers**: Automatically enforce salary constraints.

**5. Sample Queries**

* Fetch employee details along with department names.
* Generate payroll reports with net pay calculation.

**6. Future Enhancements**

* Adding attendance tracking.
* Role-based access control for security.
* Performance optimizations with indexing.

For further details, refer to the SQL script provided.