Mahindra Car Showroom Management System - README

# Overview

The Mahindra Car Showroom Management System is a relational database project developed using MySQL. It is designed to automate and streamline operations of a car dealership, including inventory management, customer handling, sales tracking, employee monitoring, service scheduling, and test drive bookings.

# Project Details

Program: BCA

Subject: Data Management System (23CAT-251 / 23CAP-252)

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# Features

* Vehicle Inventory Management
* Customer Record Maintenance
* Sales & Invoice Tracking
* Employee Management
* Service Scheduling
* Test Drive Booking
* SQL-based Reports & Analytics
* ER Diagram & Normalized Schema

# Technologies Used

* DBMS: MySQL
* Design Tool: MySQL Workbench
* Languages: SQL
* OS: Windows / Linux
* Optional: PHP/Java (for UI integration)

# Database Schema

Tables:  
1. Showrooms  
2. Cars  
3. Inventory  
4. Customers  
5. Employees  
6. Sales  
7. TestDrives  
8. Services  
  
Each table is designed with appropriate primary and foreign keys to ensure relational integrity and support complex JOIN operations.

# Sample SQL Queries

* View car models and prices
* Sales by each employee
* Test drive status by customer
* Inventory per showroom
* Average cost of services
* Top-performing employees

# ER Diagram

The system uses an ER model with entities like Car, Customer, Employee, and Service, connected via one-to-many and many-to-many relationships. Relationships are implemented using foreign keys and join tables.

# Limitations

* No login/authentication system
* No mapping of service center or technicians
* Lacks billing/invoice tracking
* No explicit car availability status
* Limited employee detail tracking

# Future Enhancements

* Add user roles (admin, staff, customer) with login
* Include billing & payment modules
* Assign technicians to services
* Track booking and availability status
* Implement front-end integration

# Conclusion

This project demonstrates strong database modeling and query-building skills using SQL. While functional and scalable, further enhancements can improve its real-world applicability for modern dealership operations.