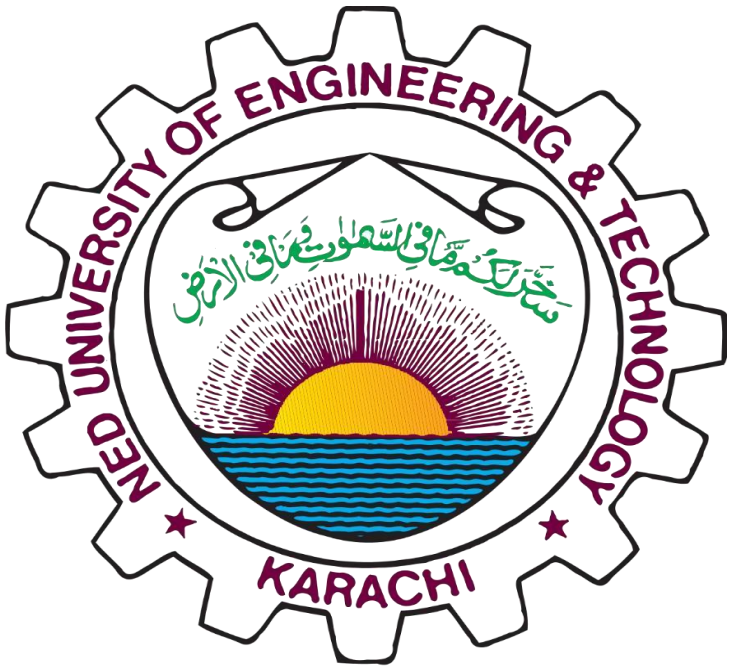

ONLINE CAR SHOWROOM MANAGEMENT SYSTEM

PROJECT REPORT

DATABASE MANAGEMENT SYSTEM

COURSE CODE CT-261

Group Members:

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Description:

Our system aims to streamline and automate car showroom management, addressing inefficiencies in manual processes. Traditional methods rely heavily on physical files, leading to redundant work, inefficient scheduling, and difficulty in handling multiple customers and users simultaneously.

The objectives of the **Online Car Showroom Management System** are:

1. Reduce manual work and track all information related to admin, customers, vehicles and transaction
2. To efficiently manage the inventory of cars, including details such as car brand, model, price, stock quantity, transmitter type, and air conditioning status.
3. To maintain comprehensive customer information, linking them to their respective login credentials for secure and personalized access.
4. To record and manage car sales details, ensuring accurate tracking of car registrations and customer purchases.
5. To handle transactions by recording payment details, including amounts, card numbers, customer, and admin involved, and transaction timestamps.
6. To provide easy access and management of data for administrators and users through a web-based interface, enhancing task organization and reducing complexity.
7. Create a user-friendly environment to simplify tasks.

Relational Schema:

Car

Car(CarID, CarBrand, CarPrice, CarModel, CarName, StockQuantity, Transmitter, AirConditioned)

Login

Login(UserName, Email, UserPassword, Last_LoginDate)

Customer

Customer(CustomerID, CustomerName, Gender, MobileNo, CustomerAddress, UserName)

SaleCarDetail

SaleCarDetail(RegistrationNo, CustomerID, CarID)

Administrator

Administrator(AdminID, AdminPassword, AdminName, Designation)

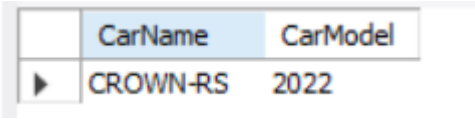
Transaction

Transaction(TransactionID, Amount, CardNumber, Trans_TimeStamp, CustomerID, AdminID)

Queries:

1. Basic Select

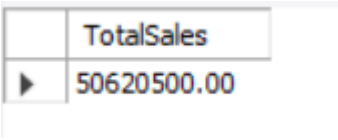
- SELECT CarName, CarModel
- FROM Car
- WHERE StockQuantity = 0;



	CarName	CarModel
▶	CROWN-RS	2022

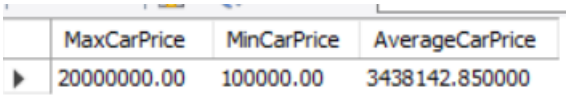
2. Aggregate Functions.

- SELECT SUM(Amount) AS TotalSales FROM Transaction;



	TotalSales
▶	50620500.00

- SELECT MAX(CarPrice) AS MaxCarPrice, MIN(CarPrice) AS MinCarPrice , AVG(CarPrice)
- AS AverageCarPrice FROM Car;



	MaxCarPrice	MinCarPrice	AverageCarPrice
▶	20000000.00	100000.00	3438142.850000

3. Joins

- SELECT c.CustomerID, c.CustomerName, c.Gender, c.MobileNo, l.Email
- FROM Customer c
- JOIN Login l ON c.UserName = l.UserName;

CustomerID	CustomerName	Gender	MobileNo	Email
1	Ayaan	Male	0301-1234567	ayaan123@example.com
2	Bilal	Male	0302-2345678	bilal456@example.com
3	Hamza	Male	0303-3456789	hamza789@example.com
4	Ayesha	Female	0304-4567890	ayesha303@example.com
5	Noor	Female	0305-5678901	noor404@example.com
6	Zara	Female	0306-6789012	zara707@example.com
7	Sana	Female	0307-7890123	sana808@example.com
8	Zain	Male	0308-8901234	zain909@example.com
9	Shahbaz	Male	0309-9012345	shahbaz111@example.com
10	Asad	Male	0310-0123456	asad222@example.com
11	Michael	Male	0310-0123456	michael@example.com
12	Ali	Male	0301-2345678	ali@example.com

- SELECT s.RegistrationNo, c.CustomerName, cr.CarName, cr.CarModel, cr.CarPrice
- FROM SaleCarDetail s
- JOIN Customer c ON s.CustomerID = c.CustomerID
- JOIN Car cr ON s.CarID = cr.CarID;

RegistrationNo	CustomerName	CarName	CarModel	CarPrice
AKB-292	Ayaan	Prado-TX	2022	100000.00
AKB-298	Hamza	Prado-TX	2022	100000.00
AXZ-563	Zain	Range Rover	2020	14000000.00
AXZ-569	Noor	Range Rover	2020	14000000.00
AZX-112	Asad	Lexus-570	2022	700000.00
BEC-359	Bilal	BMW M5 SERIES	2020	2000000.00
BXC-987	Michael	Lexus-580	2023	500000.00
BXC-999	Zara	Lexus-580	2023	500000.00
CAA-109	Ayesha	CROWN-RS	2021	400000.00
CFA-420	Noor	MARK X	2022	800500.00
FCD-112	Hamza	G-WAGON	2021	15000000.00
FKB-112	Zara	CIVIC-X	2022	120000.00
FKK-103	Shahbaz	Patrol	2022	600000.00
FKK-119	Noor	Patrol	2022	600000.00
KBB-109	Sana	GTR	2022	350000.00
KBB-119	Asad	GTR	2022	350000.00

- SELECT c.CarName, c.CarModel, s.RegistrationNo, s.CustomerID
- FROM Car c
- LEFT JOIN SaleCarDetail s ON c.CarID = s.CarID;

CarName	CarModel	RegistrationNo	CustomerID
Prado-TX	2022	AKB-292	1
Prado-TX	2022	AKB-298	3
Prado-TX	2024	NULL	NULL
BMW M5 SERIES	2019	NULL	NULL
BMW M5 SERIES	2020	BEC-359	2
G-WAGON	2023	NULL	NULL
G-WAGON	2021	FCD-112	3
CROWN-RS	2021	CAA-109	4
CROWN-RS	2022	NULL	NULL
MARK X	2022	CFA-420	5
CIVIC-X	2022	FKB-112	6
Range Rover	2020	AXZ-563	8
Range Rover	2020	AXZ-569	5
Lexus-570	2021	NULL	NULL
Lexus-570	2022	AZX-112	10

- SELECT c.CarName, c.CarModel, s.RegistrationNo, s.CustomerID
- FROM Car c
- LEFT JOIN SaleCarDetail s ON c.CarID = s.CarID
- UNION
- SELECT c.CarName, c.CarModel, s.RegistrationNo, s.CustomerID
- FROM SaleCarDetail s
- RIGHT JOIN Car c ON s.CarID = c.CarID;

CarName	CarModel	RegistrationNo	CustomerID
Prado-TX	2022	AKB-292	1
Prado-TX	2022	AKB-298	3
Prado-TX	2024	NULL	NULL
BMW M5 SERIES	2019	NULL	NULL
BMW M5 SERIES	2020	BEC-359	2
G-WAGON	2023	NULL	NULL
G-WAGON	2021	FCD-112	3
CROWN-RS	2021	CAA-109	4
CROWN-RS	2022	NULL	NULL
MARK X	2022	CFA-420	5
CIVIC-X	2022	FKB-112	6
Range Rover	2020	AXZ-563	8
Range Rover	2020	AXZ-569	5

4. Sub queries

- SELECT c.CustomerName
- FROM Customer c
- WHERE c.CustomerID IN (
- SELECT sc.CustomerID
- FROM SaleCarDetail sc
- JOIN Car cr ON sc.CarID = cr.CarID
- WHERE cr.CarPrice > (SELECT AVG(CarPrice) FROM Car)
-);

CustomerName
Hamza
Noor
Zain

5. Group By

- SELECT c.CustomerName, SUM(t.Amount) AS TotalSpent
- FROM Customer c
- JOIN Transaction t ON c.CustomerID = t.CustomerID
- GROUP BY c.CustomerName;

CustomerName	TotalSpent
Ayaan	100000.00
Bilal	2000000.00
Hamza	15000000.00
Ayesha	400000.00
Noor	15400500.00
Zara	620000.00
Sana	600000.00
Zain	14000000.00
Shahbaz	600000.00
Asad	1400000.00
Michael	500000.00

- SELECT CarBrand, COUNT(*) AS TotalSold
- FROM Car c
- JOIN SaleCarDetail s ON c.CarID = s.CarID
- GROUP BY CarBrand;

CarBrand	TotalSold
Toyota	4
BMW	1
Mercedes	1
Honda	1
Range Rover	2
Lexus	3
Nissan Patrol	2
Nissan	2

6. Having Clause

- SELECT CarBrand, COUNT(*) AS TotalSold
- FROM Car c
- JOIN SaleCarDetail s ON c.CarID = s.CarID
- GROUP BY CarBrand
- HAVING COUNT(*) > 2;

CarBrand	TotalSold
Toyota	4
Lexus	3

7. String Functions

- SELECT CarName, UPPER(CarBrand) AS CarBrandUpperCase FROM Car;

CarName	CarBrandUpperCase
Prado-TX	TOYOTA
Prado-TX	TOYOTA
BMW M5 SERIES	BMW
BMW M5 SERIES	BMW
G-WAGON	MERCEDES
G-WAGON	MERCEDES
CROWN-RS	TOYOTA
CROWN-RS	TOYOTA
MARK X	TOYOTA
CIVIC-X	HONDA
Range Rover	RANGE ROVER
Lexus-570	LEXUS
Lexus-570	LEXUS

- SELECT CarName, CONCAT(CarBrand, '-', CarModel) AS CarIdentifier FROM Car;

CarName	CarIdentifier
Prado-TX	Toyota-2022
Prado-TX	Toyota-2024
BMW M5 SERIES	BMW-2019
BMW M5 SERIES	BMW-2020
G-WAGON	Mercedes-2023
G-WAGON	Mercedes-2021
CROWN-RS	Toyota-2021
CROWN-RS	Toyota-2022
MARK X	Toyota-2022
CIVIC-X	Honda-2022
Range Rover	Range Rover-...
Lexus-570	Lexus-2021
Lexus-570	Lexus-2022

- SELECT Email FROM Login WHERE Email REGEXP '^[A-Za-z0-9._%+-]+@example\.com$';

Email
ali@example.com
ammar606@example.com
arham505@example.com
asad222@example.com
ayaan123@example.com
ayesha303@example.com
bilal456@example.com
hamza789@example.com
john.doe@example.com
michael@example.com
neha202@example.com
noor404@example.com
sana808@example.com
shahbaz111@example.com
tehreem101@example.com