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INDIAN INSTITUTE OF INFORMATION TECHNOLOGY DHARWAD

DATABASE MANAGEMENT SYSTEM (CS310)

Report on
Database design on Car vehicle insurance
company

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PROJECT TITLE :

A database for a Vehicle Insurance Company.

PURPOSE:

This module provides a comprehensive discussion of, and practical experience in, advanced entity modelling; normalisation; transactional relational database design; SQL coding; and generation of data backed management reports.

PROJECT BENEFITS :

To make a good DB, that could be used with analytical tools and faster in delivering the right data at the right time for better decision making.

ASSUMPTION:

- The Foreign Key of office table (table 18) has been changed to (Department_Name,Department_ID,Company_Name) Referencing the Primary Key of the Department Table(table 5).
- The Foreign Key of Department Table (table 5) has been changed to (Company_Name) referencing the Primary Key of Insurance_Company Table

QUERY 1

Retrieve Customer and Vehicle details who has been involved in an incident and claim status is pending

SELECT

*

FROM

T5_Customer,

T5_Vehicle

WHERE

T5_Customer.cust_id = T5_Vehicle.cust_id

AND T5_Customer.cust_id IN (SELECT DISTINCT
C.Cust_Id

FROM

T5_CLAIM C,

T5_INCIDENT_REPORT IR

WHERE

C.Claim_Status = 'pending'
AND C.Cust_Id = IR.Cust_Id);

```

22  -- query 1
23  •  SELECT
24      *
25  FROM
26      T5_Customer,
27      T5_Vehicle
28  WHERE
29      T5_Customer.cust_id = T5_Vehicle.cust_id
30      AND T5_Customer.cust_id IN (SELECT DISTINCT
31          C.Cust_Id
32      FROM
33          T5_CLAIM C,
34          T5_INCIDENT_REPORT IR
35      WHERE
36          C.Claim_Status = 'pending'
37          AND C.Cust_Id = IR.Cust_Id);

```

CUST_Id	CUST_FName	CUST_LName	CUST_DOB	CUST_Gender	CUST_Address	CUST_MOB_Number	CUST_Email	CUST_Passport_Number	CUST_Marital_Status	CUST_PPS_Number	Vehicle_Id	Policy
50212	Ronita	Chatterjee	1997-10-23	F	Kolkata	6607568394	18bcs0843@itdwd.ac.in	6696758364	Divorced	23	50708	55545
50217	Jayakanat	Kamble	2000-07-23	M	Pune	1107568394	18bcs0342182@itdwd.ac.in	7126758364	Divorced	20	50716	97961
50205	Ashish	Chancha	1999-04-23	M	Banglore	4007568394	18bcs081@itdwd.ac.in	7666658364	Divorced	21	50703	29898
50216	Jayakanat	Kamble	1999-10-23	M	Lucknow	2207568394	18bcs08s423@itdwd.ac.in	7196758364	Single	21	50709	54851

Continued..

Policy_Id	Vehicle_Registration_Number	Vehicle_Value	Vehicle_Type	Vehicle_Size	Vehicle_Number_Of_Seat	Vehicle_Manufacturer	Vehicle_Engine_Number	Vehicle_Chassis_Number	Vehicle_Number	Vehicle_Model_Number	C
5554515	KA 10 HS 2772	759999	4 wheeler	15	4	Skoda	51708	52708	991171	RTX-503452	50
9796133	MH 07 EF 5555	1700000	4 wheeler	19	5	Ford	51716	52716	999901	RTX-2340100	50
2989893	MH 11 CX 7227	750000	4 wheeler	13	4	TATA	51703	52703	320901	RTX-589900	50
5485110	MH 17 IR 1881	920000	4 wheeler	15	4	Tata	51709	52709	2990101	RTX-340100	50

QUERY 2

Retrieve customer details who has premium payment amount greater than the sum of all the customerIds in the database

SELECT

FROM

T5_Customer

WHERE

cust_id IN (SELECT

Cust_id

FROM

T5_Premium_Payment

WHERE

```

Premium_Payment_Amount > (SELECT
    SUM(cust_id)
FROM
    T5_Customer));

```

```

39  -- query 2
40  •  SELECT
41      *
42  FROM
43      T5_Customer
44  WHERE
45      cust_id IN (SELECT
46          Cust_id
47      FROM
48          T5_Premium_Payment
49      WHERE
50          Premium_Payment_Amount > (SELECT
51              SUM(cust_id)
52          FROM
53              T5_Customer));

```

CUST_Id	CUST_FName	CUST_LName	CUST_DOB	CUST_Gender	CUST_Address	CUST_MOB_Number	CUST_Email	CUST_Passport_Number	CUST_Marital_Status	CUST_PPS_Number
50202	Yashdeep	Shetty	1999-12-04	M	Mumbai	9696969696	18bcs092@itdwd.ac.in	6583947362	Married	21
50210	Rutuja	shah	1998-09-23	F	Banglore	9907568394	18bcs074@itdwd.ac.in	7496658364	Divorced	22
50214	Jayesh	Patel	1999-12-23	M	Banglore	4407568394	18bcs041@itdwd.ac.in	7496765364	Divorced	21
50219	Ronit	jay	1967-07-23	M	Lucknow	1107568394	18bcs084322@itdwd.ac.in	7496458364	Married	53

QUERY 3

Retrieve Company details whose number of products is greater than departments, where the departments are located in more than one location.

```

SELECT *
FROM
    T5_Insurance_Company
WHERE
    Company_Name IN (SELECT
        T5_Office.Company_Name
    FROM
        T5_Office
    GROUP BY Company_Name
    HAVING COUNT(DISTINCT (address)) > 1
    AND Company_Name IN (SELECT
        T5_Department.Company_Name
    FROM
        T5_Product

```

INNER JOIN
T5_Department ON T5_Department.Company_Name =
T5_Product.Company_Name
GROUP BY T5_Department.Company_Name
HAVING COUNT(DISTINCT (Product_Type)) > COUNT(DISTINCT
(Department_Name))));

```

15  -- query 3 |
16  •      SELECT *
17  FROM
18      T5_Insurance_Company
19  WHERE
20      Company_Name IN (SELECT
21          T5_Office.Company_Name
22      FROM
23          T5_Office
24      GROUP BY Company_Name
25      HAVING COUNT(DISTINCT (address)) > 1
26      AND Company_Name IN (SELECT
27          T5_Department.Company_Name
28      FROM
29          T5_Product
30      INNER JOIN
31          T5_Department ON T5_Department.Company_Name = T5_Product.Company_Name
32      GROUP BY T5_Department.Company_Name
33      HAVING COUNT(DISTINCT (Product_Type)) > COUNT(DISTINCT (Department_Name))));

```

Company_Name	Company_Address	Company_Contact_Number	Company_Fax	Company_Email	Company_Website	Company_Location	Company_Department_Name	Company_...
SBI Vehicle Insurance Company Limited	SBI Vehicle Corporate Solutions, 7th ...	180571584020	5565871687	sbVehicle@help.com	sbVehicle.com	Mumbai	sbVehicleoffice	sbVehicleof

QUERY 4

Select Customers who have more than one Vehicle, where the premium for one of the Vehicles is not paid and it is involved in accident

SELECT

FROM

T5_Customer

WHERE

cust_id IN (SELECT

cust_id

FROM

T5_incident_report

WHERE

```

cust_id IN (SELECT
    cust_id
FROM
    T5_Vehicle
GROUP BY cust_id
HAVING COUNT(*) > 1));

```

112

```

95  -- query 4
96  * SELECT
97
98  FROM
99  T5_Customer
100 WHERE
101     cust_id IN (SELECT
102                 cust_id
103             FROM
104                 T5_incident_report
105             WHERE
106                 cust_id IN (SELECT
107                             cust_id
108                         FROM
109                             T5_Vehicle
110                         GROUP BY cust_id
111                     HAVING COUNT(*) > 1));

```

Result Grid

	CUST_Id	CUST_FName	CUST_LName	CUST_DOB	CUST_Gender	CUST_Address	CUST_MOB_Number	CUST_Email	CUST_Passport_Number	CUST_Marital_Status	CUST_PPS_Number
▶	50208	Ramesh	Athe	1999-07-23	M	Banglore	9007568394	18bcs072@itdwd.ac.in	7496756564	Divorced	21
	50210	Rutuja	shah	1998-09-23	F	Banglore	9907568394	18bcs074@itdwd.ac.in	7496658364	Divorced	22
	50211	Rukhsana	khan	1999-07-23	F	Hyderabad	7707568394	18bcs045@itdwd.ac.in	6696658364	Single	21
	50215	Jayakanat	Kamble	1999-07-23	M	Banglore	3307568394	18bcs0843@itdwd.ac.in	7396758364	Divorced	21

QUERY 5

Select all vehicles which have a premium more than its vehicle number.

```

(SELECT

```

```

    *

```

```

FROM

```

```

    T5_Vehicle AS V,

```

```

    T5_Premium_Payment AS PP

```

```

WHERE

```

```

    V.cust_id = PP.cust_id

```

```

    AND PP.Premium_Payment_Amount > V.Vehicle_Number);
```

```

112  -- query 5
113  (SELECT
114      *
115  FROM
116      T5_Vehicle AS V,
117      T5_Premium_Payment AS PP
118  WHERE
119      V.cust_id = PP.cust_id
120      AND PP.Premium_Payment_Amount > V.Vehicle_Number);
121

```

Vehicle_Id	Policy_Id	Vehicle_Registration_Number	Vehicle_Value	Vehicle_Type	Vehicle_Size	Vehicle_Number_Of_Seat	Vehicle_Manufacturer	Vehicle_Engine_Number	Vehicle_Chassis_Number	Vehicle_Number	Vehicle_Model_Nu
50703	2989893	MH 11 CX 7227	750000	4 wheeler	13	4	TATA	51703	52703	320901	RTX-589900
50704	3203290	MH 35 DW 6336	1200000	4 wheeler	19	6	Mercedes	51704	52704	549101	RTX-487100
50705	7609208	GA 02 EV 5445	1690000	4 wheeler	25	8	Mahindra	51705	52705	994100	RTX-848500
50712	1787318	MP 27 LO 1111	1699990	4 wheeler	19	6	Skoda	51712	52712	998641	RTX-3450100
50715	3547518	KA 11 CD 4444	1100000	4 wheeler	15	4	Ford	51715	52715	978101	RTX-5002300
50717	5454545	MH 34 GH 6666	800000	4 wheeler	12	4	Volkswagon	51717	52717	279101	RTX-000100
50718	3434329	HP 14 HI 7777	900000	4 wheeler	15	4	Skoda	51718	52718	191877	RTX-430100
50720	7846844	MH 12 LM 9999	1200000	4 wheeler	19	6	BMW	51720	52720	485631	RTX-940100

Continued..

Manufacturer	Vehicle_Engine_Number	Vehicle_Chassis_Number	Vehicle_Number	Vehicle_Model_Number	Cust_Id	Premium_Payment_Id	Policy_Number	Premium_Payment_Amount	Premium_Payment_Schedule	Receipt_Id	Cust_Id
	51703	52703	320901	RTX-589900	50205	50805	3434235	520000	2018-04-13	50905	50205
	51704	52704	549101	RTX-487100	50202	50802	34423423	5200000	2019-11-20	50902	50202
	51705	52705	994100	RTX-848500	50210	50810	534324	2800000	2019-01-23	50910	50210
	51712	52712	998641	RTX-3450100	50219	50819	8547546	3800000	2019-02-19	50919	50219
	51715	52715	978101	RTX-5002300	50214	50814	6547554	4000000	2019-10-09	50914	50214
	51717	52717	279101	RTX-000100	50215	50815	84567546	350000	2018-05-02	50915	50215
	51718	52718	191877	RTX-430100	50203	50803	342355325	520000	2018-02-25	50903	50203
	51720	52720	485631	RTX-940100	50210	50810	534324	2800000	2019-01-23	50910	50210

QUERY 6

Retrieve Customer details whose Claim Amount is less than Coverage Amount and Claim Amount is greater than Sum of (CLAIM_SETTLEMENT_ID, VEHICLE_ID, CLAIM_ID, CUST_ID)

```

SELECT
*
FROM
T5_Customer
WHERE
cust_id IN (SELECT DISTINCT
(T5_Claim.cust_id)
FROM
T5_Claim,
T5_Claim_Settlement,
T5_Coverage
WHERE

```

claim_amount > claim_settlement_id + vehicle_id + T5_Claim.claim_id
+ T5_Claim.cust_id
AND claim_amount < coverage_amount);

```

123  -- query 6
124  •   SELECT
125      *
126  FROM
127      T5_Customer
128  WHERE
129      cust_id IN (SELECT DISTINCT
130                  (T5_Claim.cust_id)
131                FROM
132                  T5_Claim,
133                  T5_Claim_Settlement,
134                  T5_Coverage
135                WHERE
136                  claim_amount > claim_settlement_id + vehicle_id + T5_Claim.claim_id + T5_Claim.cust_id
137                AND claim_amount < coverage_amount);

```

CUST_Id	CUST_FName	CUST_LName	CUST_DOB	CUST_Gender	CUST_Address	CUST_MOB_Number	CUST_Email	CUST_Passport_Number	CUST_Marital_Status	CUST_PPS_Number
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50214	Jayesh	Patel	1999-12-23	M	Banglore	4407568394	18bcs041@itdwd.ac.in	7496765364	Divorced	21
50216	Jayakanat	Kamble	1999-10-23	M	Lucknow	2207568394	18bcs08s423@itdwd.ac.in	7196758364	Single	21
50217	Jayakanat	Kamble	2000-07-23	M	Pune	1107568394	18bcs0342182@itdwd.ac.in	7126758364	Divorced	20
50219	Ronit	jay	1967-07-23	M	Lucknow	1107568394	18bcs084322@itdwd.ac.in	7496458364	Married	53