

# DATABASE DESIGN FOR A VEHICLE INSURANCE COMPANY

CS301 , DBMS - V SEMESTER.

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**Project title :** A database for a Vehicle Insurance Company

## Project Queries

### Query 1 :

Retrieve customer and vehicle details who has been involved in an incident and claim status is pending.

**Query :** select distinct T1.T7\_Cust\_Id,concat(T1.T7\_Cust\_FName,T1.T7\_Cust\_LName) as T7\_Cust\_Name,T1.T7\_Cust\_MOB\_Number,T2.T7\_Vehicle\_Id,T2.T7\_Vehicle\_Registration\_Number,T2.T7\_Vehicle\_Manufacturer,T2.T7\_Vehicle\_Model\_Number from T7\_CUSTOMER as T1 INNER JOIN T7\_VEHICLE as T2 on T2.T7\_Cust\_id = T1.T7\_Cust\_Id where T2.T7\_Vehicle\_Id not in (select T7\_Vehicle\_Id from T7\_CLAIM\_SETTLEMENT) and T1.T7\_Cust\_Id = ANY (select T7\_Cust\_Id from T7\_CLAIM where T7\_Incident\_Id is not null);

### Result :

```
1  / CLAIM AS SETTLED ONLY WHICH IS AS APPROVED OR REJECTED BUT NOT PENDING /
2
3
4
5
6  • select distinct T1.T7_Cust_Id,concat(T1.T7_Cust_FName,T1.T7_Cust_LName) as T7_Cust_Name,T1.T7_Cust_MOB_Number,
7    T2.T7_Vehicle_Id,T2.T7_Vehicle_Registration_Number,T2.T7_Vehicle_Manufacturer,T2.T7_Vehicle_Model_Number from T7_CUSTOMER
8    as T1 INNER JOIN T7_VEHICLE as T2 on T2.T7_Cust_id = T1.T7_Cust_Id where T2.T7_Vehicle_Id not in
9    (select T7_Vehicle_Id from T7_CLAIM_SETTLEMENT) and T1.T7_Cust_Id = ANY (select T7_Cust_Id from T7_CLAIM
10   where T7_Incident_Id is not null);
11
```

	T7_Cust_Id	T7_Cust_Name	T7_Cust_MOB_Number	T7_Vehicle_Id	T7_Vehicle_Registration_Number	T7_Vehicle_Manufacturer	T7_Vehicle_Model_Number
▶	70101	ArunKumar	9000000001	70401	TN 01 AZ 9009	Skoda	RTX-500100
	70102	Varun Kumar	8000010001	70403	MH 11 CX 7227	Tata	CD5433100
	70102	Varun Kumar	8000010001	70405	MH 02 EV 5445	Maruti	GH848500
	70103	Nidhi Agarwal	9000000002	70406	TS 29 FU 4554	Honda	IJ430100
	70104	Sharukh Khan	8307468394	70408	TN 10 HS 2772	Activa	KL503452
	70105	ShilpaShetty	9000000003	70410	DL 41 JQ 0990	BMW	MN450100
	70111	Virat Kohli	9000000006	70418	TS 14 HI 7777	Skoda	UV430100

### Query 2 :

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

**Query :** select \* from T7\_CUSTOMER where T7\_CUSTOMER.T7\_Cust\_Id in ( select T7\_Cust\_Id from T7\_PREMIUM\_PAYMENT where T7\_PREMIUM\_PAYMENT.T7\_Premium\_Payment\_Amount > (select sum(T7\_Cust\_Id) from T7\_CUSTOMER));

### Result :

```
13 -- query2
14 /* retrieve customer details who has premium payment amount greater than the sum of all customer ids in the database */
15 select * from T7_CUSTOMER where T7_CUSTOMER.T7_Cust_Id in ( select T7_Cust_Id from T7_PREMIUM_PAYMENT where
16 T7_PREMIUM_PAYMENT.T7_Premium_Payment_Amount > (select sum(T7_Cust_Id) from T7_CUSTOMER));
17
18
19 -- query3
20 /*retrieve company details whose number of products is greater than the departments, where the departments are located
```

T7_CUST_Id	T7_CUST_FName	T7_CUST_LName	T7_CUST_DOB	T7_CUST_Gender	T7_CUST_Address	T7_CUST_MOB_Number	T7_CUST_Email	T7_CUST_Passport_Number	T7_CUST_Marital_Status
70101	Arun	Kumar	1999-10-24	M	Chennai	9000000001	1@gmail.com	7X101	Single
70106	Rhea	Chakraborty	1998-05-07	F	Banglore	8005010001	6@gmail.com	7X106	Divorced
70107	Aamir	Khan	1997-06-08	M	Mumbai	9000000004	7@gmail.com	7X107	Single
70110	Anushka	Sharma	1994-09-27	F	Mumbai	8009010001	10@gmail.com	7X110	Married
70111	Virat	Kohli	1993-10-09	M	Hyderabad	9000000006	11@gmail.com	7X111	Single
70115	Nagarjuna	Akkineni	1991-03-30	M	Banglore	9000001008	15@gmail.com	7X115	Divorced

### Query 3 :

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

**Query :** select \* from T7\_INSURANCE\_COMPANY where T7\_Company\_Name in (select T7\_Company\_Name from T7\_OFFICE group by T7\_Company\_Name having T7\_Company\_Name in (select T7\_OFFICE.T7\_Company\_Name from T7\_PRODUCT inner join T7\_OFFICE on T7\_OFFICE.T7\_Company\_Name=T7\_PRODUCT.T7\_Company\_Name group by T7\_OFFICE.T7\_Company\_Name having Count(distinct(T7\_Product\_Number))>Count(distinct(T7\_Department\_Name))) and count(distinct T7\_Address)>1 );

### Result :

```
32
33
34
35 -- query3
36 /*retrieve company details whose number of products is greater than the departments, where the departments are located
37 in more than one location */
38 select * from T7_INSURANCE_COMPANY where T7_Company_Name in (select T7_Company_Name from T7_OFFICE group by T7_Company_Name
39 having T7_Company_Name in (select T7_OFFICE.T7_Company_Name from T7_PRODUCT inner join T7_OFFICE on
40 T7_OFFICE.T7_Company_Name=T7_PRODUCT.T7_Company_Name group by T7_OFFICE.T7_Company_Name having
41 Count(distinct(T7_Product_Number))>Count(distinct(T7_Department_Name))) and count(distinct T7_Address)>1 );
42
43 select * from T7_OFFICE;
```

T7_Company_Name	T7_Company_Address	T7_Company_Contact_Number	T7_Company_Fax	T7_Company_Email	T7_Company_Website	T7_Company_Location
ABC Ltd	HNo 17, LB Nagar, Hyderabad	1100272272	206026789	abc@gmail.com	https://www.abc.com	Hyderabad
CDE Ltd	Hno 02, Patel Nagar, Delhi	1100264977	810823774664	cde@gmail.com	https://www.cde.com	Delhi
DEF Ltd	Hno 12, Shivaji Road, Mumbai	1160267766	8872456139	def@gmail.com	https://www.def.com	Mumbai

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.

**Result :**

[illegible]

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

**Result :**

Limit to 1000 rows

```

37
38 -- query5
39 /* select all vehicles which have premium more than its vehicle number */
40 select * from T7_VEHICLE where T7_VEHICLE.T7_Vehicle_Number < (select T7_Premium_Payment_Amount from T7_PREMIUM_PAYMENT
41     where T7_Vehicle.T7_Policy_number=T7_Premium_Payment.T7_Policy_number);
42

```

**Result Grid**

T7_Vehide_Id	T7_Policy_Number	T7_Vehide_Registration_Number	T7_Vehide_Value	T7_Vehide_Type	T7_Vehide_Size	T7_Vehide_Number_Of_Seat	T7_Vehide_Manufacturer	T7_Vehide
70401	700001	TN 01 AZ 9009	200000	4 wheeler	14	4	Skoda	51701
70402	700002	TN 09 BY 8118	500000	4 wheeler	15	8	Suzuki	70425
70411	700011	KA 35 KP 0000	2500000	4 wheeler	26	8	Audi	70434
70412	700012	MH 27 LO 1111	1600000	4 wheeler	19	6	Audi	70435
70416	700016	MH 07 EF 5555	700000	4 wheeler	19	5	Ford	70439
70417	700017	MH 34 GH 6666	810000	4 wheeler	12	4	Volkswagon	70440
70418	700018	TS 14 HI 7777	920000	4 wheeler	15	6	Skoda	70441
70421	700021	MH 02 LM 9998	75000	2 wheeler	19	4	Maestro	70444
NUL	NUL	NUL	NUL	NUL	NUL	NUL	NUL	NUL

Form Editor  
Field Types  
Query Stats

### 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 .

### Query :

```
select distinct
T7_Customer.T7_Cust_Id,T7_CUST_FNAME,T7_CUST_LNAME,T7_CUST_GENDER,T7_CUST
_DOB,T7_CUST_MOB_NUMBER from T7_CUSTOMER inner join T7_Claim_Settlement on
T7_CUSTOMER.T7_Cust_Id = T7_Claim_Settlement.T7_Cust_Id where
T7_CUSTOMER.T7_Cust_Id in (select T7_Cust_Id from T7_CLAIM where

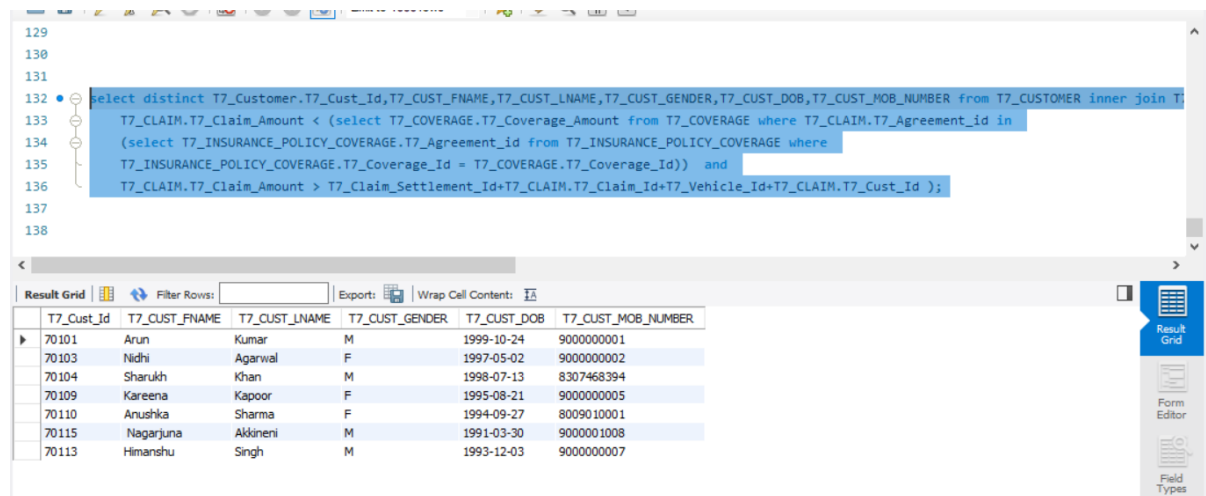
T7_CLAIM.T7_Claim_Amount < (select T7_COVERAGE.T7_Coverage_Amount from
T7_COVERAGE where T7_CLAIM.T7_Agreement_id in

(select T7_INSURANCE_POLICY_COVERAGE.T7_Agreement_id from
T7_INSURANCE_POLICY_COVERAGE where

T7_INSURANCE_POLICY_COVERAGE.T7_Coverage_Id =
T7_COVERAGE.T7_Coverage_Id)) and

T7_CLAIM.T7_Claim_Amount >
T7_Claim_Settlement_Id+T7_CLAIM.T7_Claim_Id+T7_Vehicle_Id+T7_CLAIM.T7_Cust_Id );
```

### Result :



The screenshot shows a database query editor with a SQL query in the top pane and a 'Result Grid' in the bottom pane. The query is the same as the one provided in the previous block. The 'Result Grid' displays the following data:

T7_Cust_Id	T7_CUST_FNAME	T7_CUST_LNAME	T7_CUST_GENDER	T7_CUST_DOB	T7_CUST_MOB_NUMBER
70101	Arun	Kumar	M	1999-10-24	9000000001
70103	Nidhi	Agarwal	F	1997-05-02	9000000002
70104	Sharukh	Khan	M	1998-07-13	8307468394
70109	Kareena	Kapoor	F	1995-08-21	9000000005
70110	Anushka	Sharma	F	1994-09-27	8009010001
70115	Nagarjuna	Akkineni	M	1991-03-30	9000001008
70113	Himanshu	Singh	M	1993-12-03	9000000007

### Extra Queries

#### 1.Case Statements :

Order Male Customers by Customer\_Id and Female Customers by Date of Birth.

### Query :

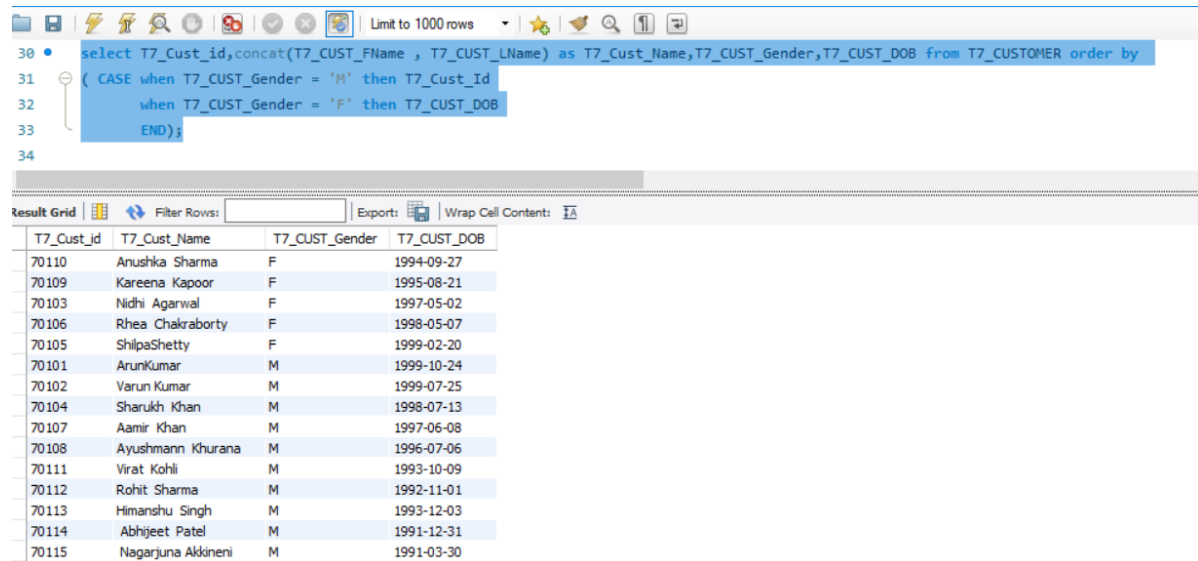
```
select T7_Cust_id,concat(T7_CUST_FName , T7_CUST_LName) as
T7_Cust_Name,T7_CUST_Gender,T7_CUST_DOB from T7_CUSTOMER order by

( CASE when T7_CUST_Gender = 'M' then T7_Cust_Id

when T7_CUST_Gender = 'F' then T7_CUST_DOB
```

END);

## Result :



The screenshot shows a SQL IDE with a query editor and a result grid. The query is as follows:

```
30 select T7_Cust_id,concat(T7_CUST_FName , T7_CUST_LName) as T7_Cust_Name,T7_CUST_Gender,T7_CUST_DOB from T7_CUSTOMER order by
31 ( CASE when T7_CUST_Gender = 'M' then T7_Cust_Id
32      when T7_CUST_Gender = 'F' then T7_CUST_DOB
33      END);
34
```

The result grid displays the following data:

T7_Cust_Id	T7_Cust_Name	T7_CUST_Gender	T7_CUST_DOB
70110	Anushka Sharma	F	1994-09-27
70109	Kareena Kapoor	F	1995-08-21
70103	Nidhi Agarwal	F	1997-05-02
70106	Rhea Chakraborty	F	1998-05-07
70105	ShilpaShetty	F	1999-02-20
70101	ArunKumar	M	1999-10-24
70102	Varun Kumar	M	1999-07-25
70104	Sharukh Khan	M	1998-07-13
70107	Aamir Khan	M	1997-06-08
70108	Ayushmann Khurana	M	1996-07-06
70111	Virat Kohli	M	1993-10-09
70112	Rohit Sharma	M	1992-11-01
70113	Himanshu Singh	M	1993-12-03
70114	Abhijeet Patel	M	1991-12-31
70115	Nagarjuna Akkineni	M	1991-03-30

## 2.Stored Procedures :

A stored procedure to select data from customers based on their Marital Status.

### Code :

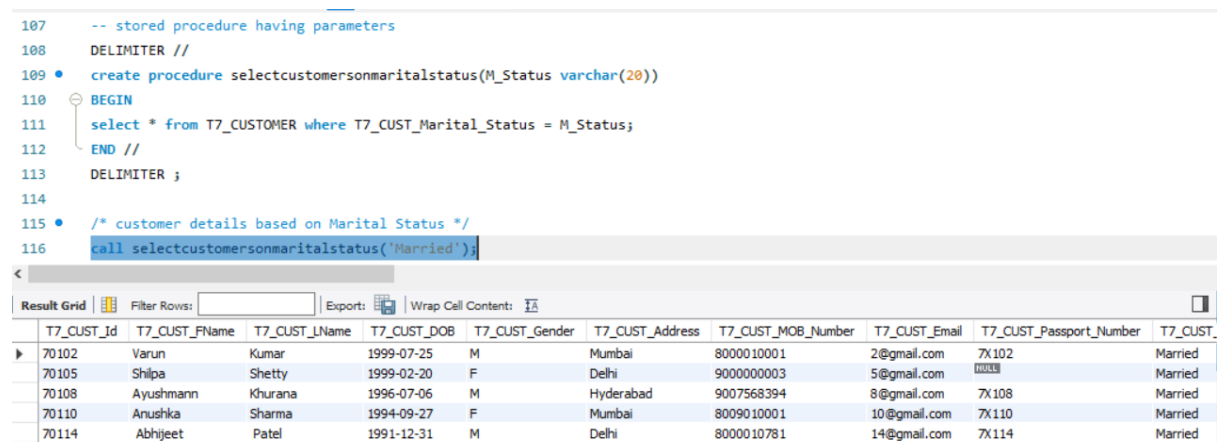
```
create procedure selectcustomersonmaritalstatus(M_Status varchar(20))
```

```
BEGIN
```

```
select * from T7_CUSTOMER where T7_CUST_Marital_Status = M_Status;
```

```
END //
```

**Result :** call selectcustomersonmaritalstatus('Married');



The screenshot shows a SQL IDE with a stored procedure definition and its execution result. The stored procedure is as follows:

```
107 -- stored procedure having parameters
108 DELIMITER //
109 create procedure selectcustomersonmaritalstatus(M_Status varchar(20))
110 BEGIN
111     select * from T7_CUSTOMER where T7_CUST_Marital_Status = M_Status;
112 END //
113 DELIMITER ;
114
115 /* customer details based on Marital Status */
116 call selectcustomersonmaritalstatus('Married');
```

The result grid displays the following data:

T7_CUST_Id	T7_CUST_FName	T7_CUST_LName	T7_CUST_DOB	T7_CUST_Gender	T7_CUST_Address	T7_CUST_MOB_Number	T7_CUST_Email	T7_CUST_Passport_Number	T7_CUST_Marital_Status
70102	Varun	Kumar	1999-07-25	M	Mumbai	8000010001	2@gmail.com	7X102	Married
70105	Shilpa	Shetty	1999-02-20	F	Delhi	9000000003	5@gmail.com	7X105	Married
70108	Ayushmann	Khurana	1996-07-06	M	Hyderabad	9007568394	8@gmail.com	7X108	Married
70110	Anushka	Sharma	1994-09-27	F	Mumbai	8009010001	10@gmail.com	7X110	Married
70114	Abhijeet	Patel	1991-12-31	M	Delhi	8000010781	14@gmail.com	7X114	Married

### 3. Functions :

A function to calculate sum of 4 integers.

#### Code :

```
create function CalcSum(v1 int,v2 int,v3 int,v4 int)
```

```
RETURNS int
```

```
BEGIN
```

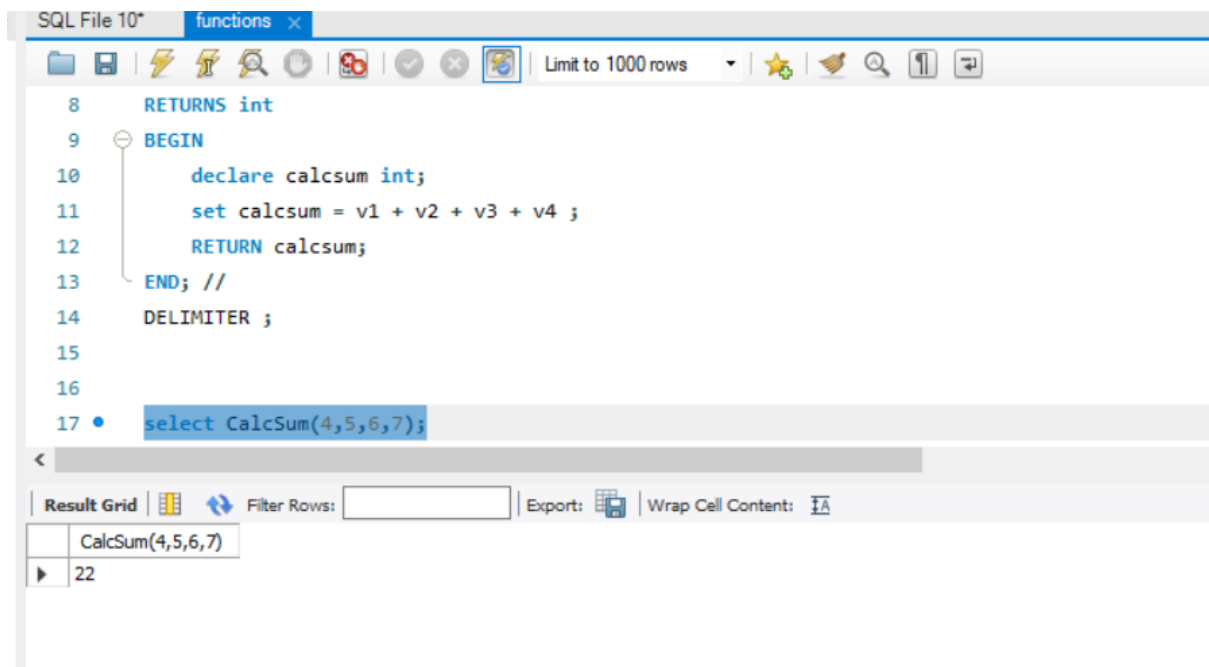
```
    declare calcsun int;
```

```
    set calcsun = v1 + v2 + v3 + v4 ;
```

```
    RETURN calcsun;
```

```
END;
```

**Result :** CalcSum(4,5,6,7)



### 4. Views :

A view that selects all the vehicles from a state using regex.(Ex :Maharashtra)

#### Code :

```
create view Maharashtra_Vehicles as select
```

```
T7_Vehicle_Id,T7_Vehicle_Registration_Number,T7_Vehicle_Type,T7_Vehicle_Manufacturer,T7_Vehicle_Engine_Number,T7_Cust_Id from T7_VEHICLE where T7_Vehicle_Registration_Number like 'MH%';
```

Result :

33

--

34

35

/\* a view that selects all the vehicles from Maharashtra using regex\*/

36

• create view Maharashtra\_Vehicles as select T7\_Vehicle\_Id,T7\_Vehicle\_Registration\_Number,T7\_Vehicle\_Type,

37

T7\_Vehicle\_Manufacturer,T7\_Vehicle\_Engine\_Number,T7\_Cust\_Id from T7\_VEHICLE where T7\_Vehicle\_Registration\_Number like 'MH%';

38

39

• select \* from T7\_VEHICLE;

40

• select \* from Maharashtra\_Vehicles;

41

<

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	T7_Vehide_Id	T7_Vehide_Registration_Number	T7_Vehide_Type	T7_Vehide_Manufacturer	T7_Vehide_Engine_Number	T7_Cust_Id
▶	70405	MH 02 EV 5445	4 wheeler	Maruti	70428	70102
	70421	MH 02 LM 9998	2 wheeler	Maestro	70444	70115
	70422	MH 03 LM 9998	4 wheeler	Innova	70445	70113
	70416	MH 07 EF 5555	4 wheeler	Ford	70439	70110
	70403	MH 11 CX 7227	4 wheeler	Tata	70426	70102
	70420	MH 12 LM 9999	4 wheeler	BMW	70443	70115
	70412	MH 27 LO 1111	4 wheeler	Audi	70435	70107
	70417	MH 34 GH 6666	4 wheeler	Volkswagon	70440	70110
	70404	MH 35 DW 6336	4 wheeler	Benz	70427	70102
