

TEAM 10 DBMS PROJECT LDM REPORT

LOGICAL DATA MODEL

Entity Types:

All of the entity types that we feel are relevant in our LDM are illustrated in Table, below.
Entity types used in car insurance database system LDM model.

ENTITY TYPE	DESCRIPTION
CUSTOMER	Records all the personal details about the customer
APPLICATION	Records details of the insurance cover requested by Customer
QUOTE	Records details of customer potential cost of the insurance product
INSURANCE POLICY	Records details of Insurance agreement
PREMIUM	Records details of customer payments
VEHICLE	Records details of Vehicle model, cost and registration
CLAIMS	Records details of customer claims in case of an incident
SETTLEMENTS	Records details of settlement made on claims
DEPARTMENT	Records details of the various departments
MEMBERSHIP	Records details of customer membership
VEHICLE SERVICE	Records details of different car services offered
NOK	Records details of the next o kin
INSURANCE COMPANY	Details of the Insurance organization giving the insurance cover
COMPANY	Details of the Insurance organization giving the insurance cover
PRODUCT	Details of the Product available
INCIDENT	Records details of accidents,thefts,etc.

Relationships in LDM:

Applying Relationships to Entities

To apply relationships to our entity types we formed certain assumptions to simplify and determine connections between entity types. These assumptions and explanations are illustrated in Table below.

ENTITY TYPE	RELATED TO ENTITIES	RELATIONSHIP
T10_CUSTOMER	T10_MEMBERSHIP T10_PREMIUM PAYMENT T10_CLAIM T10_VEHICLE	MANY TO MANY ONE TO ONE ONE TO MANY ONE TO ONE
T10_APPLICATION	T10_INSUREANCE_POLICY T10_CUSTOMER	ONE TO MANY ONE TO MANY
T10_QUOTE	T10_APPLICATION	ONE TO ONE
T10_INSUREANCE_POLICY	T10_NOK	ONE TO MANY
T10_CLAIM	T10_CLAIM_SETTELEMENT	ONE TO ONE
T10_DEPARTMENT	T10_INSURANCE_COMPANY T10_VEHICLE_SERVICE	ONE TO MANY MANY TO MANY
T10_INSURANCE_COMPANY	T10_PRODUCT T10_COVERAGE	ONE TO ONE ONE TO MANY

Logical Data Model:

TABLE 1: T10_CUSTOMER

ATTRIBUTES	DATA TYPE	PRIMARY AND FOREIGN KEY	EXPLANATION
T10_1_Cust_Id	VARCHAR(20)	Primary Key	The T10_CUSTOMER attributes record all the essential personal details of the customer. The T10_1_Cust_Id is the unique primary key.
T10_1_Cust_FName	VARCHAR(10)		
T10_1_Cust_LName	VARCHAR(10)		
T10_1_Cust_DOB	DATE		
T10_1_Cust_Gender	VARCHAR(20)		
T10_1_Cust_Address	VARCHAR(20)		
T10_1_Cust_MOB_Number	VARCHAR(20)		
T10_1_Cust_Email	VARCHAR(20)		
T10_1_Cust_Passport_Number	VARCHAR(20)		
T10_1_Cust_Marital_Status	VARCHAR(20)		
T10_1_Cust_PPS_Number	VARCHAR(20)		

TABLE 2: T10_APPLICATION

ATTRIBUTES	DATA TYPE	PRIMARY AND FOREIGN KEY	EXPLANATION
T10_2_Application_Id	VARCHAR(20)	PK	The T10_APPLICATION attributes record all the essential application details of the customer. The T10_2_Application_Id is the unique primary key and the T10_1_Cust_Id is a foreign key linking the table back to the entity type T10_CUSTOMER
T10_2_Vehicle_Id	VARCHAR(20)		
T10_2_Application_Status	VARCHAR(20)		
T10_2_Coverage	VARCHAR(50)		
T10_1_Cust_Id	VARCHAR(20)	FK	

TABLE 3: T10_QUOTE

ATTRIBUTES	DATA TYPE	PRIMARY AND FOREIGN KEY	EXPLANATION
T01_3_Quote_Id	VARCHAR(20)	PK	The T10_QUOTE attributes record all the essential quotation details of the customer. The T01_3_Quote_Id is the unique primary key and T10_2_Application_Id and T10_1_Cust_Id is a foreign key linking the table back to the respective entities
T10_3_Issue_Date	DATE		
T10_3_Valid_From_Date	DATE		
T10_3_Valid_Till_Date	DATE		
T10_3_Description	VARCHAR(100)		
T10_3_Product_Id	VARCHAR(20)		
T10_3_Coverage_Level	VARCHAR(50)		
T10_2_Application_Id	VARCHAR(20)	FK	
T10_1_Cust_Id	VARCHAR(20)	FK	

TABLE 4: T10_INSUREANCE_POLICY

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_4_Agreement_id	VARCHAR(20)	PK	The T10_INSURANCE POLICY attributes record all the essential policy details of the customer. The T10_4_Agreement_id is the unique primary key and the T10_1_Cust_Id , and T10_2_Application_Id are linked to the other corresponding entities through their foreign keys.
T10_4_Department_Name	VARCHAR(20)		
T10_4_Policy_Number	VARCHAR(20)		
T10_4_Start_Date	DATE		
T10_4_Expiry_Date	DATE		
T10_4_Term_Condition_Description	VARCHAR(100)		
T10_2_Application_Id	VARCHAR(20)	FK	
T10_1_Cust_Id	VARCHAR(20)	FK	

TABLE 5: T10_PREMIUM PAYMENT

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_5_Premium_Payment_Id	VARCHAR(20)	PK	The T10_PREMIUM_PAYME NT attributes record all the essential policy premium payments details of the customer. The T10_5_Premium_Payment_Id is the unique primary key and the T10_1_Cust_Id is the Foreign key linking table to T10_CUSTOMER entity.
T10_4_Policy_Number	VARCHAR(20)	FK	
T10_5_Premium_Payment_Amount	INTEGER		
T10_5_Premium_Payment_Schedule	DATE		
T10_5_Receipt_Id	VARCHAR(20)		
T10_1_Cust_Id	VARCHAR(20)		

TABLE 6: T10_VEHICLE

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_6_Vehicle_Id	VARCHAR(20)	PK	The T10_VEHICLE attributes record all the essential VEHICLE details belonging to the customer. The T10_6_Vehicle_Id is the unique primary key and the T10_6_Cust_Id is the foreign key linking table to T10_CUSTOMER entity.
T10_6_Policy_Id	VARCHAR(20)		
T10_6_Dependent_NOK_Id	VARCHAR(20)		
T10_6_Vehicle_Registration_Number	VARCHAR(20)		
T10_6_Vehicle_Value	INTEGER		
T10_6_Vehicle_Type	VARCHAR(20)		
T10_6_Vehicle_Size	INTEGER		
T10_6_Vehicle_Number_Of_Seat	INTEGER		
T10_6_Vehicle_Manufacturer	VARCHAR(20)		
T10_6_Vehicle_Engine_Number	INTEGER		
T10_6_Vehicle_Chassis_Number	INTEGER		
T10_6_Vehicle_Number	VARCHAR(20)		

T10_6_Vehicle_Model_Number	VARCHAR(20)		
T10_6_Cust_Id	VARCHAR(20)	FK	

TABLE 7: T10_CLAIM

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_7_Claim_Id	VARCHAR(20)	PK	The T10_CLAIM attributes record all the essential T10_CLAIM details of the customer in case of an incident. The T10_7_Claim_Id is the unique primary key and the T10_7_Cust_Id is foreign key linking table to T10_CUSTOMER entity.
T10_7_Agreement_Id	VARCHAR(20)	FK	
T10_7_Claim_Amount	INTEGER		
T10_7_Incident_Id	VARCHAR(20)		
T10_7_Damage_Type	VARCHAR(20)		
T10_7_Date_Of_Claim	DATE		
T10_7_Claim_Status	CHAR(10)		
T10_7_Cust_Id	VARCHAR(20)		

TABLE 8: T10_CLAIM_SETTLEMENT

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_8_Claim_Settlement_Id	VARCHAR(20)	PK	The T10_8_Claim_Settlement_Id attributes record all the essential claim settlement details of the customer after an incident. The T10_8_Claim_Settlement_Id is the unique primary key and the T10_1_Cust_Id and T10_7_Claim_Id are the foreign keys that link the table to the corresponding entity.
T10_6_Vehicle_Id	VARCHAR(20)		
T10_8_Date_Settled	DATE		
T10_8_Amount_Paid	INTEGER		
T10_8_Coverage_Id	VARCHAR(20)		
T10_7_Claim_Id	VARCHAR(20)	FK	
T10_1_Cust_Id	VARCHAR(20)	FK	

TABLE 9: T10_MEMBERSHIP

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_9_Membership_Id	VARCHAR(20)	PK	The T10_MEMBERSHIP attributes record all the essential membership details available for insured customers. The T10_9_Membership_Id is the unique primary key and the T10_1_Cust_Id is a foreign key linking the table back to the entity type T10_CUSTOMER.
T10_9_Membership_Type	CHAR(25)		
T10_9_Organisation_Contact	VARCHAR(20)		
T10_1_Cust_Id	VARCHAR(20)	FK	

TABLE 10: T10_INSURANCE_COMPANY

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_10_Company_Name	VARCHAR(50)	PK	The T10_INSURANCE_COMPANY attributes record all the essential company details of the customer. The T10_10_Company_Name is the unique primary key
T10_10_Company_Address	VARCHAR(150)		
T10_10_Company_Contact_Number	VARCHAR(50)		
T10_10_Company_Fax	VARCHAR(50)		
T10_10_Company_Email	VARCHAR(50)		
T10_10_Company_Website	VARCHAR(50)		
T10_10_Company_Location	VARCHAR(20)		
T10_10_Company_Department_Name	VARCHAR(20)		
T10_10_Company_Office_Name	VARCHAR(50)		

TABLE 11:T10_VEHICLE_SERVICE

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_11_Department_Name	VARCHAR(30)	PK	The10_VEHICLE_SERVICEattributes record all the essential vehicle services offered to insured customer details. The T10_11_Department_Name is the unique primary key and the T10_10_Company_Name and T10_11_Department_Id are linked to the other corresponding entities.
T10_11_Vehicle_Service_Company_Name	VARCHAR(30)		
T10_11_Vehicle_Service_Address	VARCHAR(50)		
T10_11_Vehicle_Service_Contact	VARCHAR(20)		
T10_11_Vehicle_Service_Incharge	VARCHAR(30)		
T10_11_Vehicle_Service_Type	VARCHAR(20)		
T10_11_Department_Id	VARCHAR(20)	FK	
T10_10_Company_Name	VARCHAR(50)	FK	

TABLE 12: T10_NOK

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_12_Nok_Id	VARCHAR(20)	PK	The T10_NOK attributes record information on the next of kin details. T10_12_Nok_Id is the unique primary key here. T10_4_Agreement_id, T10_2_Application_Id, and T10_1_Cust_Id are foreign keys linking back information to their respective entities.
T10_12_Nok_Name	VARCHAR(20)		
T10_12_Nok_Address	VARCHAR(20)		
T10_12_Nok_Phone_Number	INTEGER		
T10_12_Nok_Gender	CHAR(2)		
T10_12_Nok_Marital_Status	CHAR(10)		
T10_4_Agreement_id	VARCHAR(20)	FK	
T10_2_Application_Id	VARCHAR(20)	FK	
T10_1_Cust_Id	VARCHAR(20)	FK	

TABLE 13: T10_DEPARTMENT

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_13_Department_Name	VARCHAR(25)	PK	The T10_DEPARTMENT attributes record all the essential company department details within the insurance company. The T10_13_Department_Name is the unique primary key and the T10_10_Company_Name is a foreign key linking the table back to the entity type T10_INSURANCE_COMPANY.
T10_13_Department_ID	CHAR(25)		
T10_13_Department_Staff	CHAR(25)		
T10_13_Department_Offices	CHAR(25)		
T10_10_Company_Name	VARCHAR(50)	FK	

TABLE 14: T10_INCIDENT

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_14_Incident_Id	VARCHAR(20)	PK	The T10_INCIDENT attributes record all the essential incident details such as Accident and theft on the insured customer vehicle. The T10_14_Incident_Id is the unique primary key.
T10_14_Incident_Type	VARCHAR(30)		
T10_14_Incident_Date	DATE		
T10_14_Description	VARCHAR(100)		

TABLE 15: T10_PRODUCT

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_15_Product_Price	INTEGER		The T10_PRODUCT attributes record all the essential company products details offered by the Insurance company. The T10_15_Product_Number is the unique primary key and T10_10_Company_Name is the foreign key linking table to COMPANY entity.
T10_15_Product_Type	CHAR(100)		
T10_15_Product_Number	VARCHAR(50)	PK	
T10_10_Company_Name	VARCHAR(50)	FK	

TABLE 16: T10_COVERAGE

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_8_Coverage_Id	VARCHAR(20)	PK	The T10_COVERAGE attributes record all the essential coverage details of the insurance policy to the customer. The T10_8_Coverage_Id is the unique primary key and the T10_10_Company_Name is a foreign key linking the table back to the entity type T10_INSURANCE_COMPANY.
T10_16_Coverage_Amount	INTEGER		
T10_16_Coverage_Type	CHAR(50)		
T10_3_Coverage_Level	CHAR(50)		
T10_16_Product_Id	VARCHAR(20)		
T10_16_Coverage_Description	VARCHAR(200)		
T10_16_Covearge_Terms	VARCHAR(500)		
T10_10_Company_Name	VARCHAR(50)	FK	

TABLE 17: T10_INCIDENT_REPORT

ATTRIBUTES	DATA TYPE	PRIMARY OR FOREIGN KEY	EXPLANATION
T10_17_Incident_Report_Id	VARCHAR(20)	PK	The T10_INCIDENT_REPORT_ID attributes record all the essential incident occurrences on the customer vehicle. The T10_17_Incident_Report_Id is the unique primary key and the T10_1_Cust_Id AND T10_14_Incident_Id are foreign keys linking the table back to their respective entity types.
T10_14_Incident_Type	VARCHAR(50)		
T10_17_Incident_Inspector	VARCHAR(20)		
T10_17_Incident_Cost	INTEGER		
T10_17_Incident_Report_Description	VARCHAR(100)		
T10_14_Incident_Id	VARCHAR(20)	PK	
T10_1_Cust_Id	VARCHAR(20)	FK	

ER DIAGRAM:

