DATABASE DESIGN FOR A VEHICLE INSURANCE COMPANY

CS301 , DBMS - V SEMESTER.

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PART B : LOGICAL DATA MODEL

Introduction :

This report includes design of logical data model (LDM) for vehicle insurance company XYZ Ltd.

We identified all the attributes in entities and assigned them the primary (PK) and foreign keys (FK) and made relationships with them to make a full LDM. We identified each variable and the data types that this LDM could be used to design the database.

Introduction of terms used for constructing LDM

Elements

Elements in the data model are named entities. This is any distinguishable object that presents part of the database. It can be related to any object in the real world such as: a car, a customer (person), a policy, a company, etc. with respective attributes .

Relations

Relationship : Designates logical association between entities, with cardinality of the participant entities Ex: one-to-one, one-to-many, or many-to-many relationships.

Constraints

The database normalization technique is used to impose restrictions on data model that is based on dependencies between entities and their attributes. Normalization is used to avoid duplication of information in order to safe guard the consistency and integrity of the data.

Table 1 : T7_CUSTOMER

Attributes	Data Type	Keys	Explanation
T7_Cust_Id	varchar	PK	The CUSTOMER attributes record all the essential personal details of the customer.
T7_Cust_FName	varchar		
T7_Cust_LName	varchar		
T7_Cust_DOB	date		
T7_Cust_Gender	varchar		
T7_Cust_Address	varchar		
T7_Cust_MOB_Number	bigint		
T7_Cust_Email	varchar		
T7_Cust_Passport_Number	varchar		
T7_Cust_Marital_Status	char		
T7_Cust_PPS_Number	int		

Table 2 : T7_APPLICATION

Attributes	Data Type	Keys	Explanation
T7_ Application_Id	varchar	**PK**	The APPLICATION attributes record all the essential application details of the customer.
T7_ Vehicle_Id	varchar		
T7_ Application_Status	char		
T7_ Coverage	varchar		
T7_ Cust_Id	varchar	**FK**	

Table 3 : T7_QUOTE

Attributes	Data Type	Keys	Explanation
T7_ Quote_Id	varchar	**PK**	The QUOTE attributes record all the essential quotation details of the customer.
T7_ Issue_Date	date		
T7_ Valid_From_Date	date		
T7_ Valid_Till_Date	date		
T7_ Description	varchar		

T7_ Product_Id	varchar		
T7_ Coverage_Level	varchar		
T7_ Application_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**FK**	

Table 4 : T7_INSURANCE_POLICY

Attributes	Data Type	Keys	Explanation
T7_ Agreement_id	varchar	**PK**	The INSURANCE POLICY attributes record all the essential policy details of the customer
T7_ Department_Name	varchar		
T7_ Policy_Number	varchar		
T7_ Start_Date	date		
T7_ Expiry_Date	date		
T7_ Term_Condition_Description	varchar		
T7_ Application_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**FK**	

Table 5 : T7_PREMIUM_PAYMENT

Attributes	Data Type	Keys	Explanation
T7_ Premium_Payment_Id	varchar	**PK**	The PREMIUM_PAYMENT attributes record all the essential policy premium payments details of the customer.
T7_ Policy_Number	varchar		
T7_ Premium_Payment_Amount	int		
T7_ Premium_Payment_Schedule	date		
T7_ Receipt_Id	varchar		
T7_ Cust_Id	varchar	**FK**	

Table 6 : T7_VEHICLE

Attributes	Data Type	Keys	Explanation
T7_ Vehicle_Id	varchar	**PK**	The VEHICLE attributes record all the essential VEHICLE details belonging to the customer.
T7_ Policy_Id	varchar		
T7_ Vehicle_Registration_Number	varchar		
T7_ Vehicle_Value	bigint		
T7_ Vehicle_Type	varchar		
T7_ Vehicle_Size	int		
T7_ Vehicle_Number_Of_Seat	int		
T7_ Vehicle_Manufacturer	varchar		
T7_ Vehicle_Engine_Number	int		

Attributes	Data Type	Keys	
T7_ Vehicle_Chasis_Number	int		
T7_ Vehicle_Number	int		
T7_ Vehicle_Model_Number	varchar		
T7_ Cust_Id	varchar	**FK**	

Table 7 : T7_CLAIM

Attributes	Data Type	Keys	Explanation
T7_ Claim_Id	varchar	**PK**	The CLAIM attributes record all the essential CLAIM details of the customer in case of an incident
T7_ Agreement_Id	varchar		
T7_ Claim_Amount	int		
T7_ Incident_id	varchar		
T7_ Damage_Type	varchar		
T7_ Date_Of_Claim	date		
T7_ Claim_Status	char		
T7_ Cust_Id	varchar	**FK**	

Table 8 : T7_CLAIM_SETTLEMENT

Attributes	Data Type	Keys	Explanation
T7_ Claim_Settlement_Id	varchar	**PK**	The CLAIM_SETTLEMENT attributes record all the essential claim settlement details of the customer after an incident.
T7_ Vehicle_Id	varchar		
T7_ Date_Settled	date		
T7_ Amount_Paid	int		
T7_ Coverage_Id	varchar		
T7_ Claim_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**Fk**	

Table 9 : T7_STAFF

Attributes	Data Type	Keys	Explanation
T7_ Staff_Id	varchar	**PK**	The STAFF attributes record all the essential staff details working in the insurance company.
T7_ Staff_Fname	varchar		
T7_ Staff_LName	varchar		
T7_ Staff_Adress	varchar		
T7_ Staff_Contact	bigint		
T7_ Staff_Gender	char		
T7_ Staff_Marital_Status	char		
T7_ Staff_Nationality	char		
T7_ Staff_Qualification	varchar		

T7_ Staff_Allowance	bigint		
T7_ Staff_PPS_Number	bigint		
T7_ Company_Name	varchar	**FK**	

Table 10 : T7_DEPARTMENT

Attributes	Data Type	Keys	Explanation
T7_ Department_Name	varchar	**PK**	The DEPARTMENT attributes record all the essential company department details within the insurance company.
T7_ Department_ID	varchar	**PK**	
T7_ Department_Staff	varchar		
T7_ Company_Name	varchar	**Fk**	

Table 11 : T7_OFFICE

Attributes	Data Type	Keys	Explanation
T7_ Office_Name	varchar	**PK**	The OFFICE attributes record all the essential office details within the insurance company.
T7_ Office_Leader	varchar		
T7_ Contact_Information	varchar		
T7_ Address	varchar		
T7_ Admin_Cost	int		
T7_ Staff	varchar		
T7_ Department_Name	varchar	**PK, FK**	
T7_ Department_ID	varchar	**FK**	
T7_ Company_Name	varchar	**PK, FK**	

Table 12 : T7_MEMBERSHIP

Attributes	Data Type	Keys	Explanation
T7_ Membership_Id	varchar	**PK**	The MEMBERSHIP attributes record all the essential membership details available for insured customer.
T7_ Membership_Type	char		
T7_ Organisation_Contact	varchar		
T7_ Cust_Id	varchar	**FK**	

Table 13 : T7_NOK

Attributes	Data Type	Keys	Explanation
T7_ Nok_Id	varchar	**PK**	The NOK attributes record information on the next of kin details.
T7_ Nok_Name	varchar		
T7_ Nok_Address	varchar		
T7_ Nok_Phone_Number	bigint		

Attributes	Data Type	Keys	Explanation
T7_ Nok_Gender	char		
T7_ Nok_Marital_Status	char		
T7_ Agreement_id	varchar	**FK**	
T7_ Application_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**FK**	

Table 14 : T7_INSURANCE_COMPANY

Attributes	Data Type	Keys	Explanation
T7_ Company_Name	varchar	**PK**	The INSURANCE COMPANY attributes record all the essential company details of the customer.
T7_ Company_Address	varchar		
T7_ Company_Contact_Number	bigint		
T7_ Company_Fax	bigint		
T7_ Company_Email	varchar		
T7_ Company_Website	varchar		
T7_ Company_Location	varchar		

Table 15 : T7_POLICY_RENEWABLE

Attributes	Data Type	Keys	Explanation
T7_ Policy_Renewable_Id	varchar	**PK**	The POLICY RENEWABLE attributes record all the essential policy renewal details of the insured customer
T7_ Date_Of_Renewal	date		
T7_ Type_Of_Renewal	char		
T7_ Agreement_id	varchar	**FK**	
T7_ Application_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**FK**	

Table 16 : T7_INCIDENT

Attributes	Data Type	Keys	Explanation
T7_ Incident_Id	varchar	**PK**	The INCIDENT attributes record all the essential incident details such as Accident and theft on the insured customer vehicle.
T7_ Incident_Type	varchar		
T7_ Incident_Date	date		
T7_ Incident_Description	varchar		

Table 17 : T7_INCIDENT_REPORT

Attributes	Data Type	Keys	Explanation
T7_ Incident_Report_Id	varchar	**PK**	The INCIDENT_REPORT_ID attributes record all the essential incident occurrences on the customer vehicle.

T7_ Incident_Type	char		
T7_ Incident_Inspector	varchar		
T7_ Incident_Cost	int		
T7_ Incident_Report_Description	varchar		
T7_ Incident_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**FK**	

Table 18 : T7_COVERAGE

Attributes	Data Type	Keys	Explanation
T7_ Coverage_Id	varchar	**PK**	The COVERAGE attributes record all the essential coverage details of the insurance policy to the customer.
T7_ Coverage_Amount	int		
T7_ Coverage_Type	char		
T7_ Coverage_Level	char		
T7_ Product_Id	varchar		
T7_ Coverage_Description	varchar		
T7_ Coverage_Terms	varchar		
T7_ Company_Name	varchar	**FK**	

Table 19 : T7_PRODUCT

Attributes	Data Type	Keys	Explanation
T7_ Product_Number	varchar	**PK**	The PRODUCT attributes record all the essential company products details offered by the Insurance company.
T7_ Product_Price	int		
T7_ Product_Type	char		
T7_ Company_Name	varchar	**FK**	

Table 20 : T7_RECEIPT

Attributes	Data Type	Keys	Explanation
T7_ Receipt_Id	varchar	**PK**	The RECEIPT attributes record all the essential payments done by CUSTOMERS to Insurance company.
T7_ Gen_Time	date		
T7_ Cost	int		
T7_ Premium_Payment_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**FK**	

Table 21 : T7_INSURANCE_POLICY_COVERAGE

Attributes	Data Type	Keys	Explanation
T7_ Agreement_id	varchar	**PK,FK**	The INSURANCE_POLICY_COVERAGE records details of the Vehicle policy that entails Terms Conditions of the Contract.

T7_ Application_Id	varchar	**FK**	
T7_ Cust_Id	varchar	**FK**	
T7_ Coverage_Id	varchar	**FK**	
T7_ Company_Name	varchar	**FK**	

LDM of VIC_LTD2 :