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Date: 11/10/2022

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Total in points: Professor's Comments:

Project 1

Affirmation of my Independent Effort: Yuchen Zhao, Xin Peng

WalMart, Columbus Company as an Account, uses three Billing_accounts which are used for different insurance invoices and cover persons include salaried/hourly employees. One of the three Billing_accounts is for the FSA(Flexible Spending Account) insurance. Another one is for Life insurance. The third one is for A&H(Accident & Health) insurance. All the three accounts are PO boxes. Keith's Garage Company, however, uses only one Billing_account for all its company's business. Billing_accounts are not only for insurance invoices but can also be used to get the money paid from another Account. Such as Keith's Garage uses the its Billing_account to get paid by Cliff's Garage and Scott's Dry Cleaners(**regarding case Account (n...n) BillingAccount**)

WalMart, Columbus, for example, can use another Account HuaRun Company as its master with the master type of GroupMaster. WalMart, Columbus can also use HuaWei Company as its master with the master type of Flex Master. (**regarding case Account (n...n) Account**)

WalMart, Columbus can have three persons as Account_admin. Each Account_admin has an AdminRole for an area. For WalMart, Columbus, there is one Account_admin for FSA insurance invoice, one Account_admin for Life insurance invoice, and one Account_admin for A&H insurance. Each Account_admin can have an AdminSuffix such as an FSA expert. And each Account_admin can be in charge of multiple Accounts at the same time. (**regarding case Account(n..n)AccountAdmin**)

An Account uses AccountName, CompanyCode and AccountAddress together as the logical primary key. A CompanyCode is defined as where the Account is based. Therefore, the WalMart based on Columbus and the WalMart based on Boston will have different CompanyCode. So even WalMart based on Columbus and WalMart based on Boston have the same AccountAddress and AccountName, they will still be different Accounts as they have different CompanyCode. (**regarding case Account(CompanyCode as part of the logical primary key**))

An Account can have many Account_Aliases. For example, Account HuaWei Company as an Account, has one Account_Alias as the Flex Master of WalMart, another Account_Alias as the Group Master of HuaWei Mini. (**regarding case AccountAlias**)

An Account can employ many Account_members. An Account_member is a person employed by the Account. An Account_member has a unique Ssn. An employ relationship can have different EmployTypes such as salaried or hourly employment. An employ relationship can also have different EmployPeriods such as day or moonlight. An employ relationship also has the attributes of an Account_member's Role and Salary so that once an Account_member returns to an Account, the Account_member can resume the original Role and Salary. For

this purpose, the Account_member will have the attribute of PreviousEmployment to save previous employ relationship attributes. (**regarding case AccountAlias**)

An Associate is an insurance salesperson who sells insurance services both to Accounts which are companies and Customers which are people.

A Contract is created when an insurance bought by an Account or a Customer from an Associate with its SitCode.

An Account can buy insurance from an Associate thereby creating a Manager_contract which is a subclass of contract. A Manager_contract has a SitCode which indicates the associate who sells the contract. (**regarding case Account (n..n) ManagerContract**)

An Account can relate to many Associates, each with a different AssoRole such as Original Servicing Associate, Servicing Associate, Assisting Associate and Broker. (**regarding additional case Account (n..n) Associate**)

An Associate was authorized through an Insurance license with many Writing_numbers. Each Writing_number can have many SitCodes. The SitCode0 shows the Associate's ReportingChain in the insurance company. The Sitcode0 also defines an Associate's SellingArea. All other Sitcodes are used to write business outside the Associate's SitCode0's jurisdiction. (**regarding case Associate (1..n) ManagerContract**)

An Associate can have two kinds of ways to get commissions from Contracts they have sold or maintained. One way is certain proportions of the Contract_premiums which is the CommissionRate attribute. For CommissionRate, the way to determine whether a Contract is maintained by an Associate is to check the Sitcode Chain. Another way is production credit which is the ProductionCredit attribute. It is the score that an Associate gets for each Contract they have sold or maintained. For ProductionCredit, the way to determine whether a Contract is maintained by an Associate is to check the Associate's SellingArea hierarchy. (**regarding case Associate Commissions vs. Production Credit**)

An Associate can have relationships with other Associates which are represented as ASSO_RELATION. The relationships include, Associate Broker, Associate Recruiter and so on. (**regarding case Associate (n..n) Associate**)

A Contract can have multiple Benefits. Each Benefit can have multiple Premiums. For a Benefit, it has a unique BenefitNum and several Beneficiaries. For a Premium, it has a unique PremiumNumber. (**regarding case Contract (1..n, 1..n) Contract**)

A Customer can create new contract to his family with his existing contract's policy. He will be the new contract's PolicyFunder and PolicyOwner. But his family will be the PolicyProtecters and beneficiaries. He can also add more benefits to a specific PolicyProtecter or set a benefit only works for a specific PolicyProtecter in an existing contract. This makes Customers have Relations with each other. (**regarding case Customer (n..n) Customer**)

A Customer can create many Contracts such as for himself or his family. A Contract can relate to multiple Customers. (**regarding case Customer (n..n) Contract**)

A Customer can set his family to be the Beneficiaries of his existing Contracts. Or add new ContractBenefit to existing Contract. (**regarding case Customer (n..n) ContractBenefit**)

A Customer can be an Account_member or not. If a Customer is an Account_member, then he is employed by an Account. A Customer can be employed by many Accounts. An Account can employ many Customers. (**regarding case Customer (n..n) Account**)

An Associate, as a long-standing sales associate, when passed away, can bequeath his commissions to his family or his friend's family, which allows a Customer Get_heritage from an Associate. (**regarding case Customer (n..n) Associate**)

Here is a story related to cases in the supporting materials and the ER diagram:

New York Health Insurance (NYHI) is a local health insurance company providing insurance service for millions of local customers and companies. They have over a thousand products which have various benefits and premiums for different types of customers.

Daddy Warbucks is one of millions of fathers and husbands in New York who deeply loved his family. He got a health insurance policy from John, an associate from NYHI, using John's Sitcode. The policy was only for Daddy Warbucks himself, so he was the policy owner, protector, funder and beneficiary.

After he married and got his son, he got a new contract for his son and wife. He used his trust fund to fund the new contract. The contract had the same policy as his old contract except for that he added a dread disease benefit only for his son. So, for the new contract, the policy funder and owner is Warbucks, the protectors and beneficiaries are his son and wife. He also added his son and wife into his old contract's beneficiaries. In this case, we will save Daddy Warbucks' and his family members' information as customers. The name, Ssn, and customers' basic information will also be saved. Daddy Warbucks thereby creates two contracts. In

each contract, there are several benefits with their unique benefit numbers and several Beneficiaries. To add the dread disease rider for the son, since one can have different benefits in one contract, we simply add a new benefit to the contract as well as its premium.

Daddy Warbucks' son also carried the company's accident insurance for him and his family, so we add Daddy Warbucks' son and his family's Ssn to his accident insurance contract beneficiaries.

One year later, a new baby was born in the Warbucks' family. Warbucks immediately found his associate John. But John moved away to a new area, so Warbucks contacted the new associate Luis in this area and added his newborn baby on his existing policy as new beneficiary. It is possible, because we can change the associate's SitCode in the contract as well as add new beneficiaries in an existing contract.

Daddy Warbucks was employed by Dana's Dry Cleaning Company, which has many other employees. Daddy Warbucks is also a moonlight employee of Scott's Garage, because he wants to save more money for his children. When Dana's Dry Cleaning buys insurance for its employees from an insurance associate, there is a new account for the company and saves its address, account name and so on. The company will assign an account administrator to manage the account. There will be a manager contract with this company with the associate's Sitcode, and all employees including Daddy Warbucks, will be the protectors and beneficiaries of benefits of this manager contract. If Scott's Garage also buys insurance from NYHI, we repeat the steps above and add Daddy Warbucks to their protectors and beneficiaries.

NYHI also has policies for its employees, including John, a long-standing sales associate of the company who sold a contract to Daddy Warbucks. However, John passed away in a fatal car accident, leaving his wife and son. Luckily, NYHI returned all his unpaid commissions to his wife and son, making their lives a bit easier. Actually, every long-standing employee of the insurance company and its family and close friends are automatically added to the customer list, so we can store their information and more importantly, relations in our database. The only difference between an associate and a common customer is the associate related customer's associate status will be marked as true. If something bad happens, like this, we can easily find someone to inherit his commissions. It will help associates work with confidence.

Diagram website
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