МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ
“ЛЬВІВСЬКА ПОЛІТЕХНІКА” ІНСТИТУТ КОМП’ЮТЕРНИХ НАУК ТА
ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ

Кафедра систем штучного інтелекту

Лабораторна робота №2

з дисципліни «Організація баз даних та знань»

на тему

“Створення таблиць бази даних засобами SQL”

Варіант №6

Виконав:

студент групи КН-207

Василик Р.І.

Прийняла:

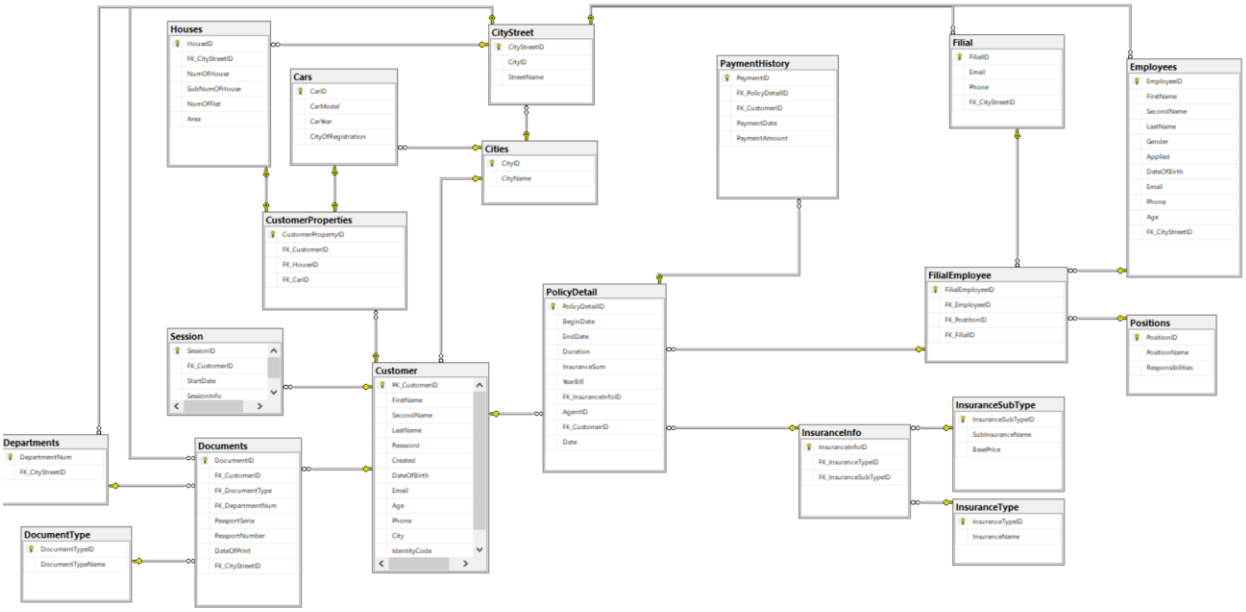
Мельникова Н. І.

Львів – 2019 р.

Мета роботи: Побудувати даталогічну модель бази даних; визначити типи, розмірності та обмеження полів; визначити обмеження таблиць; розробити SQL запити для створення спроектованих таблиць.

Завдання: Реалізувати фізичну модель бази даних на основі предметної області за допомогою засобів SQL.

Предметна область: Страхова компанія.



Реалізація:

```
-------------------------FIRST BATCH--------------------------


--date odd func--
CREATE FUNCTION FullMonthsSeparation
(
    @DateA DATE,
    @DateB DATE
)
RETURNS INT
AS
BEGIN
    DECLARE @Result INT

    DECLARE @DateX DATE
    DECLARE @DateY DATE
```

```
    IF(@DateA < @DateB)
    BEGIN
        SET @DateX = @DateA
        SET @DateY = @DateB
    END
    ELSE
    BEGIN
        SET @DateX = @DateB
        SET @DateY = @DateA
    END

    SET @Result = (
                    SELECT
                    CASE
                        WHEN DATEPART(DAY, @DateX) > DATEPART(DAY, @DateY)
                        THEN DATEDIFF(MONTH, @DateX, @DateY) - 1
                        ELSE DATEDIFF(MONTH, @DateX, @DateY)
                    END
                    )

    RETURN @Result
END
GO

--------------------------SECOND BATCH--------------------------


---Location---

create table dbo.Cities(
              [CityID] int identity primary key not null,
              [CityName] varchar(20) not null)

create table dbo.CityStreet(
              [CityStreetID] int identity primary key not null,
              [CityID] int foreign key references dbo.Cities([CityID]) on delete set
              null,
              [StreetName] varchar(40) not null)

---Customer---

create table dbo.Customer(
              [PK_CustomerID] int identity primary key not null,
              [FirstName] varchar(255) not null,
              [SecondName] varchar(255) not null,
              [LastName] varchar(255) not null,
              [Password] varchar(32) not null,
              [Created] bit not null,
              [IdentityCode] int not null unique,
              [DateOfBirth] date not null,
              [Email] varchar(255) not null,
              [Phone] varchar(20) not null,
              [City] int foreign key references dbo.Cities([CityID]) on delete set null,
              [Age] as (DATEDIFF(YEAR,[DateOfBirth],getdate())-1))

create table dbo.Cars(
              [CarID] int identity primary key not null,
```

```
            [CarModel] varchar(255) not null,
            [CarYear] int not null,
            [CityOfRegistration] int foreign key references dbo.Cities([CityID]) on
            delete set null)

create table dbo.Houses(
            [HouseID] int identity primary key not null,
            [FK_CityStreetID] int foreign key references dbo.CityStreet([CityStreetID])
            on delete set null,
            [NumOfHouse] int not null,
            [SubNumOfHouse] nchar(1) null,
            [NumOfFlat] int null,
            [Area] float not null)

create table dbo.CustomerProperties(
            [CustomerPropertyID] int identity primary key not null,
            [FK_CustomerID] int foreign key references dbo.Customer(PK_CustomerID) on
            delete cascade not null,
            [FK_HouseID] int unique foreign key references dbo.Houses(HouseID) on
            delete cascade null,
            [FK_CarID] int unique foreign key references dbo.Cars(CarID) on delete
            cascade null)

create table dbo.Departments(
            [DepartmentNum] int primary key not null,
            [FK_CityStreetID] int foreign key references dbo.CityStreet([CityStreetID])
            on delete set null
            )

create table dbo.DocumentType(
            [DocumentTypeID] int identity primary key not null,
            [DocumentTypeName] varchar(20))

create table dbo.Documents(
            [DocumentID] int identity primary key not null,
            [FK_CustomerID] int foreign key references dbo.Customer(PK_CustomerID) on
            delete cascade not null,
            [FK_DocumentType] int foreign key references
            dbo.DocumentType([DocumentTypeID]) on delete set null,
            [FK_DepartmentNum] int foreign key references
            dbo.Departments([DepartmentNum]) on delete set null,
            [PassportSeria] nchar(2) null,
            [PassportNumber] int not null,
            [DateOfPrint] date not null,
            [FK_CityStreetID] int foreign key references dbo.CityStreet([CityStreetID])
            on delete set null,
            )

create table dbo.Session(
            [SessionID] int identity primary key not null,
            [FK_CustomerID] int foreign key references dbo.Customer(PK_CustomerID) on
            delete cascade not null,
            [StartDate] as getdate(),
            [SessionInfo] varchar(255) null)
```

```
--Employer--

create table dbo.Filial(
              [FilialID] int identity primary key not null,
              [FK_CityStreetID] int foreign key references dbo.CityStreet([CityStreetID])
              on delete set null,
              [Email] varchar(255) not null,
              [Phone] varchar(20) not null)

create table dbo.Positions(
              [PositionID] int identity primary key not null,
              [PositionName] varchar(255) not null,
              [Responsibilities] varchar(255) not null)

create table dbo.Employees(
              [EmployeeID] int identity primary key not null,
              [FK_CityStreetID] int foreign key references dbo.CityStreet([CityStreetID])
              on delete set null,
              [FirstName] varchar(255) not null,
              [SecondName] varchar(255) not null,
              [LastName] varchar(255) not null,
              [Gender] varchar(6) not null,
              [Applied] bit not null,
              [DateOfBirth] date not null,
              [Email] varchar(255) not null,
              [Phone] varchar(20) not null,
              [Age] as (DATEDIFF(YEAR,[DateOfBirth],getdate())-1))


create table dbo.FilialEmployee(
              [FilialEmployeeID] int identity primary key not null,
              [FK_EmployeeID] int foreign key references dbo.Employees([EmployeeID]) on
              delete set null,
              [FK_PostitonID] int foreign key references dbo.Positions([PositionID]) on
              delete set null,
              [FK_FilialID] int foreign key references dbo.Filial([FilialID]) on delete
              set null)


--admin side--
create table dbo.InsuranceType(
              [InsuranceTypeID] int identity primary key not null,
              [InsuranceName] varchar(255) not null)

create table dbo.InsuranceSubType(
              [InsuranceSubTypeID] int identity primary key not null,
              [SubInsurance Name] varchar(255) not null,
              [Price] money not null)

create table dbo.InsuranceInfo(
              [InsuranceInfoID] int identity primary key not null,
              [FK_InsuranceTypeID] int foreign key references
              dbo.InsuranceType(InsuranceTypeID) on delete set null,
              [FK_InsuranceSubTypeID] int foreign key references
              dbo.InsuranceSubType(InsuranceSubTypeID) on delete set null)
```

```
--Policy--

create table dbo.PolicyDetail(
              [FK_CustomerID] int foreign key references dbo.Customer(PK_CustomerID) on
              delete cascade not null,
              [PolicyDetailID] int identity primary key not null,
              [FK_InsuranceInfoID] int foreign key references
              dbo.InsuranceInfo(InsuranceInfoID) on delete set null,
              [AgentID] int foreign key references dbo.FilialEmployee(FilialEmployeeID)
              on delete set null,
              [BeginDate] date not null,
              [EndDate] date not null,
              [Duration] as dbo.FullMonthsSeparation([BeginDate],[EndDate]),
              [InsuranceSum] money null,
              [YearBill] money not null,
              [Date] as getdate())

create table dbo.PaymentHistory(
              [PaymentID]  int identity primary key not null,
              [FK_PolicyDetailID] int foreign key references
              dbo.PolicyDetail(PolicyDetailID) on delete cascade not null,
              [PaymentDate] as getdate(),
              [PaymentAmount] money not null)
```

Висновок: На цій лабораторній роботі було реалізовано базу даних для страхової компанії засобами SQL.