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**Физико-математический факультет**

**Кафедра прикладной математики и информатики**

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**О Т Ч Ё Т**

ПО ЛАБОРАТОРНОЙ РАБОТЕ

СТУДЕНТА ВЕЛИЧКО АЛЕКСАНДРА АЛЕКСАНДРОВИЧА

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| Факультет: | *физико-математический* |
| Направление подготовки: | *Прикладная математика и информатика* |
| Профиль: | *Базы данных* |
| Тема: | *Даталогическое проектирование.* |
| Группа: | *303* |
| Номер лабораторной работы: | *3* |
| Номер варианта: | *1* |
|  |  |
|  |  |
|  |  |

Тирасполь, 2020 г.

**Вариант 1. База данных «Платный прием в поликлинике»**

Платный прием пациентов проводится врачами разных специальностей (хирург, терапевт, кардиолог, офтальмолог и т.д.). При оформлении приема должна быть сформирована квитанция об оплате приема, в которой указывается информация о пациенте, о враче, который консультирует пациента, о стоимости приема, о дате приема.

Пациент оплачивает за прием некоторую сумму, которая устанавливается персонально для каждого врача. За каждый прием врачу отчисляется фиксированный процент от стоимости приема. Процент отчисления от стоимости приема на зарплату врача также устанавливается персонально для каждого врача.

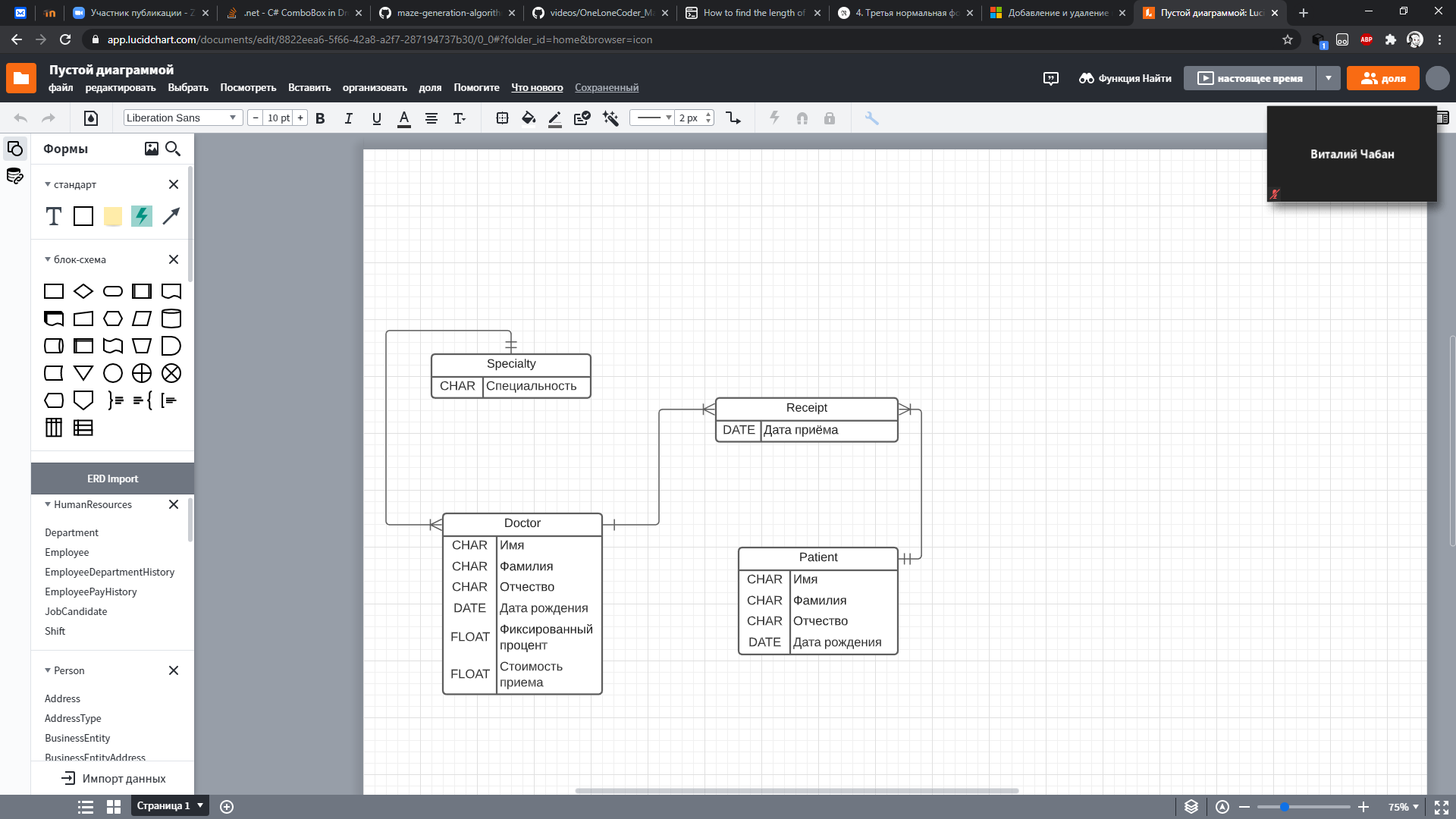
Размер начисляемой врачу заработной платы за каждый прием вычисляется по формуле:

**Зарплата = Стоимость приема \* Процент отчисления на зарплату.**

Из этой суммы вычитается подоходный налог, составляющий 13% от начисленной зарплаты.

Описание процесса построения инфологической модели предметной области первым способом:

**Инфологической модели предметной области:**



**SQL запросы для создания БД и таблиц вместе со всеми ограничениями и индексами**

USE [master]

GO

/\*\*\*\*\*\* Object: Database [ReceptionClinicDB] Script Date: 9/22/2020 4:44:48 PM \*\*\*\*\*\*/

CREATE DATABASE [ReceptionClinicDB]

CONTAINMENT = NONE

ON PRIMARY

( NAME = N'ReceptionClinicDB', FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER\MSSQL\DATA\ReceptionClinicDB.mdf' , SIZE = 8192KB , MAXSIZE = UNLIMITED, FILEGROWTH = 65536KB )

LOG ON

( NAME = N'ReceptionClinicDB\_log', FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER\MSSQL\DATA\ReceptionClinicDB\_log.ldf' , SIZE = 8192KB , MAXSIZE = 2048GB , FILEGROWTH = 65536KB )

WITH CATALOG\_COLLATION = DATABASE\_DEFAULT

GO

ALTER DATABASE [ReceptionClinicDB] SET COMPATIBILITY\_LEVEL = 150

GO

IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))

begin

EXEC [ReceptionClinicDB].[dbo].[sp\_fulltext\_database] @action = 'enable'

end

GO

ALTER DATABASE [ReceptionClinicDB] SET ANSI\_NULL\_DEFAULT OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET ANSI\_NULLS OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET ANSI\_PADDING OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET ANSI\_WARNINGS OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET ARITHABORT OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET AUTO\_CLOSE OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET AUTO\_SHRINK OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET AUTO\_UPDATE\_STATISTICS ON

GO

ALTER DATABASE [ReceptionClinicDB] SET CURSOR\_CLOSE\_ON\_COMMIT OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET CURSOR\_DEFAULT GLOBAL

GO

ALTER DATABASE [ReceptionClinicDB] SET CONCAT\_NULL\_YIELDS\_NULL OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET NUMERIC\_ROUNDABORT OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET QUOTED\_IDENTIFIER OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET RECURSIVE\_TRIGGERS OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET DISABLE\_BROKER

GO

ALTER DATABASE [ReceptionClinicDB] SET AUTO\_UPDATE\_STATISTICS\_ASYNC OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET DATE\_CORRELATION\_OPTIMIZATION OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET TRUSTWORTHY OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET ALLOW\_SNAPSHOT\_ISOLATION OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET PARAMETERIZATION SIMPLE

GO

ALTER DATABASE [ReceptionClinicDB] SET READ\_COMMITTED\_SNAPSHOT OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET HONOR\_BROKER\_PRIORITY OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET RECOVERY SIMPLE

GO

ALTER DATABASE [ReceptionClinicDB] SET MULTI\_USER

GO

ALTER DATABASE [ReceptionClinicDB] SET PAGE\_VERIFY CHECKSUM

GO

ALTER DATABASE [ReceptionClinicDB] SET DB\_CHAINING OFF

GO

ALTER DATABASE [ReceptionClinicDB] SET FILESTREAM( NON\_TRANSACTED\_ACCESS = OFF )

GO

ALTER DATABASE [ReceptionClinicDB] SET TARGET\_RECOVERY\_TIME = 60 SECONDS

GO

ALTER DATABASE [ReceptionClinicDB] SET DELAYED\_DURABILITY = DISABLED

GO

EXEC sys.sp\_db\_vardecimal\_storage\_format N'ReceptionClinicDB', N'ON'

GO

ALTER DATABASE [ReceptionClinicDB] SET QUERY\_STORE = OFF

GO

USE [ReceptionClinicDB]

GO

/\*\*\*\*\*\* Object: Table [dbo].[Specialty] Script Date: 9/22/2020 4:44:48 PM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

CREATE TABLE [dbo].[Specialty](

[id] [int] IDENTITY(1,1) NOT NULL,

[Specialty] [nvarchar](50) NOT NULL,

CONSTRAINT [PK\_Specialty] PRIMARY KEY CLUSTERED

(

[id] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

) ON [PRIMARY]

GO

/\*\*\*\*\*\* Object: Table [dbo].[Doctor] Script Date: 9/22/2020 4:44:48 PM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

CREATE TABLE [dbo].[Doctor](

[Id] [int] IDENTITY(1,1) NOT NULL,

[FirstName] [nvarchar](50) NOT NULL,

[FastName] [nvarchar](50) NOT NULL,

[Patronymic] [nvarchar](50) NOT NULL,

[DateOfBirthday] [date] NOT NULL,

[Specialty\_id] [int] NOT NULL,

[FixedPercentage] [float] NOT NULL,

[AdmissionСost] [money] NOT NULL,

CONSTRAINT [PK\_Doctor] PRIMARY KEY CLUSTERED

(

[Id] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

) ON [PRIMARY]

GO

/\*\*\*\*\*\* Object: View [dbo].[ViewDoctor] Script Date: 9/22/2020 4:44:48 PM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

CREATE VIEW [dbo].[ViewDoctor] AS

SELECT FirstName, FastName, Patronymic, Specialty

FROM dbo.Doctor AS doct

INNER JOIN dbo.Specialty AS spec ON doct.Specialty\_id = spec.id

GO

/\*\*\*\*\*\* Object: Table [dbo].[Patient] Script Date: 9/22/2020 4:44:48 PM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

CREATE TABLE [dbo].[Patient](

[id] [int] IDENTITY(1,1) NOT NULL,

[FirstName] [varchar](50) NOT NULL,

[FastName] [varchar](50) NOT NULL,

[Patronymic] [nvarchar](50) NOT NULL,

[DateOfBirthday] [date] NOT NULL,

CONSTRAINT [PK\_Patient] PRIMARY KEY CLUSTERED

(

[id] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

) ON [PRIMARY]

GO

/\*\*\*\*\*\* Object: Table [dbo].[Receipt] Script Date: 9/22/2020 4:44:48 PM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

CREATE TABLE [dbo].[Receipt](

[Patient\_id] [int] NOT NULL,

[Doctor\_id] [int] NOT NULL,

[DateOfReceipt] [date] NOT NULL,

CONSTRAINT [IX\_PatientDoctor] PRIMARY KEY CLUSTERED

(

[Patient\_id] ASC,

[Doctor\_id] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

) ON [PRIMARY]

GO

ALTER TABLE [dbo].[Doctor] WITH CHECK ADD CONSTRAINT [FK\_Doctor\_Specialty] FOREIGN KEY([Specialty\_id])

REFERENCES [dbo].[Specialty] ([id])

GO

ALTER TABLE [dbo].[Doctor] CHECK CONSTRAINT [FK\_Doctor\_Specialty]

GO

ALTER TABLE [dbo].[Receipt] WITH CHECK ADD CONSTRAINT [FK\_Receipt\_Doctor] FOREIGN KEY([Doctor\_id])

REFERENCES [dbo].[Doctor] ([Id])

ON DELETE CASCADE

GO

ALTER TABLE [dbo].[Receipt] CHECK CONSTRAINT [FK\_Receipt\_Doctor]

GO

ALTER TABLE [dbo].[Receipt] WITH CHECK ADD CONSTRAINT [FK\_Receipt\_Patient1] FOREIGN KEY([Patient\_id])

REFERENCES [dbo].[Patient] ([id])

ON DELETE CASCADE

GO

ALTER TABLE [dbo].[Receipt] CHECK CONSTRAINT [FK\_Receipt\_Patient1]

GO

ALTER TABLE [dbo].[Doctor] WITH CHECK ADD CONSTRAINT [CK\_Doctor\_DateOfBirthday] CHECK (([DateOfBirthday]<getdate() AND datediff(year,[DateOfBirthday],getdate())<=(100)))

GO

ALTER TABLE [dbo].[Doctor] CHECK CONSTRAINT [CK\_Doctor\_DateOfBirthday]

GO

ALTER TABLE [dbo].[Patient] WITH CHECK ADD CONSTRAINT [CK\_DateOfBirthday] CHECK (([DateOfBirthday]<getdate() AND datediff(year,[DateOfBirthday],getdate())<=(100)))

GO

ALTER TABLE [dbo].[Patient] CHECK CONSTRAINT [CK\_DateOfBirthday]

GO

USE [master]

GO

ALTER DATABASE [ReceptionClinicDB] SET READ\_WRITE

GO

**SQL запросы для создания представлений**

CREATE VIEW [dbo].ViewDoctor AS

SELECT FirstName, FastName, Patronymic, Specialty

FROM dbo.Doctor AS doct

INNER JOIN dbo.Specialty AS spec ON doct.Specialty\_id = spec.id

«\_\_» \_\_\_\_\_\_\_\_ 20\_\_\_г. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/ Величко А.А./