1. На основании словаря данных, произвести реализацию родительских таблиц базы данных (Поле с типом данных, Varchar (max), не может быть с ограничением unique – пометить жёлтым цветом);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ключ | Наименование | Тип данных | Примечание | Скрипт объекта |
| Type\_Client | | | | |
| PK | ID\_Type\_Client | INT | Первичный ключ таблицы “Тип клиента” | create table [dbo].[Type\_Client]  (  [ID\_Type\_Client] [int] not null identity(1,1),  [Value] [varchar] (10) not null  constraint [PK\_Type\_Client] primary key clustered  ([ID\_Type\_Client] ASC) on [PRIMARY],  constraint [UQ\_Value\_Type\_Client] unique ([Value])  )  go |
|  | Value | VARCHAR (10) | Уникальное поле |
| Post | | | | |
| PK | ID\_Post | INT | Первичный ключ таблицы “Должность” | create table [dbo].[Post]  (  [ID\_Post] [int] not null identity(1,1),  [Title] [varchar] (32) not null  constraint [PK\_Post] primary key clustered  ([ID\_Post] ASC) on [PRIMARY],  constraint [UQ\_Title\_Post] unique ([Title])  )  go |
|  | Title | VARCHAR (32) | Уникальное поле |
| Menu | | | | |
| PK | ID\_Menu | INT | Первичный ключ таблицы “Меню” | create table [dbo].[Menu]  (  [ID\_Menu] [int] not null identity(1,1),  [Value] [varchar] (max) not null  constraint [PK\_Menu] primary key clustered  ([ID\_Menu] ASC) on [PRIMARY]  )  go |
|  | Value | VARCHAR (MAX) | Уникальное поле |
| Component | | | | |
| PK | ID\_Component | INT | Первичный ключ таблицы “Ингредиенты” | create table [dbo].[Component]  (  [ID\_Component] [int] not null identity(1,1),  [Structure] [varchar] (32) not null,  [Volume] [int] not null  constraint [PK\_Component] primary key clustered  ([ID\_Component] ASC) on [PRIMARY],  constraint [UQ\_Structure\_Component] unique ([Structure]),  constraint [CH\_Volume\_Component] check ([Volume] > 0)  )  go |
|  | Structure | VARCHAR (32) | Уникальное поле |
|  | Volume | INT | Проверка на отрицательность |
| Supply | | | | |
| PK | ID\_ Supply | INT | Первичный ключ таблицы “Поставка” | create table [dbo].[Supply]  (  [ID\_Supply] [int] not null identity(1,1),  [Adress] [varchar] (max) not null  constraint [PK\_Supply] primary key clustered  ([ID\_Supply] ASC) on [PRIMARY]  )  go |
|  | Adress | VARCHAR (MAX) | Уникальное поле |
| Raw | | | | |
| PK | ID\_Raw | INT | Первичный ключ таблицы “Сырьё” | create table [dbo].[Raw]  (  [ID\_Raw] [int] not null identity(1,1),  [Component] [varchar] (32) not null,  [Volume] [int] not null  constraint [PK\_Raw] primary key clustered  ([ID\_Raw] ASC) on [PRIMARY],  constraint [UQ\_Component\_Raw] unique ([Component]),  constraint [CH\_Volume\_Raw] check ([Volume] > 0)  )  go |
|  | Component | VARCHAR(32) | Уникальное поле |
|  | Volume | INT | Проверка на отрицательность |
| Material | | | | |
| PK | ID\_Material | INT | Первичный ключ таблицы “Материал” | create table [dbo].[Material]  (  [ID\_Material] [int] not null identity(1,1),  [Component] [varchar] (32) not null,  [Volume] [int] not null  constraint [PK\_Material] primary key clustered  ([ID\_Material] ASC) on [PRIMARY],  constraint [UQ\_Component\_Material] unique ([Component]),  constraint [CH\_Volume\_Material] check ([Volume] > 0)  )  go |
|  | Component | VARCHAR (32) | Уникальное поле |
|  | Volume | INT | Проверка на отрицательность |
| Application | | | | |
| PK | ID\_Application | INT | Первичный ключ таблицы “Заявка” | create table [dbo].[Application]  (  [ID\_Application] [int] not null identity(1,1),  [Title] [varchar] (25) not null  constraint [PK\_Application] primary key clustered  ([ID\_Application] ASC) on [PRIMARY],  constraint [UQ\_Title\_Application] unique ([Title])  )  go |
|  | Title | VARCHAR (25) | Уникальное поле |
| Employee | | | | |
| PK | ID\_Employee | INT | Первичный ключ таблицы “Сотрудник” | create table [dbo].[Employee]  (  [ID\_Employee] [int] not null identity(1,1),  [Login] [varchar] (32) not null,  [Password] [varchar] (32) not null  constraint [PK\_Employee] primary key clustered  ([ID\_Employee] ASC) on [PRIMARY],  constraint [UQ\_Login\_Employee] unique ([Login]),  constraint [CH\_Login\_Employee] check (len([Login])>=8),  constraint [CH\_Password\_Employee\_Upper] check ([Password] like ('%[A-Z]%')),  constraint [CH\_Password\_Employee\_Letter\_Lower] check ([Password] like ('%[a-z]%')),  constraint [CH\_Password\_Employee\_Symbols] check ([Password] like ('%[!@#$%^&\*()]%'))  )  go |
|  | Login | VARCHAR (32) | Не менее 8 символов, уникальное поле |
|  | Password | VARCHAR (32) | Спец символы, минимум одна заглавная одна прописная латинская буквы |
| Staff | | | | |
| PK | ID\_Staff | INT | Первичный ключ таблицы “Персонал” | create table [dbo].[Staff]  (  [ID\_Staff] [int] not null identity(1,1),  [Name\_Staff] [varchar] (30) not null,  [Surname\_Staff] [varchar] (30) not null,  [Middle\_Name\_Staff] [varchar] (30) not null  constraint [PK\_Staff] primary key clustered  ([ID\_Staff] ASC) on [PRIMARY]  )  go |
|  | Name\_Staff | VARCHAR (30) |  |
|  | Surname\_Staff | VARCHAR (30) |  |
|  | Middle\_Name\_Staff | VARCHAR (30) |  |
| Rest\_Area | | | | |
| PK | ID\_Rest\_Area | INT | Первичный ключ таблицы “Зона отдыха” | create table [dbo].[Rest\_Area]  (  [ID\_Rest\_Area] [int] not null identity(1,1),  [Area] [varchar] (30) not null  constraint [PK\_Rest\_Area] primary key clustered  ([ID\_Rest\_Area] ASC) on [PRIMARY],  constraint [UQ\_Area\_Rest\_Area] unique ([Area])  )  go |
|  | Area | VARCHAR (25) | Уникальное поле |
| Supplier\_Company | | | | |
| PK | ID\_Supplier\_Company | INT | Первичный ключ таблицы “Фирма поставщика” | create table [dbo].[Supplier\_Company]  (  [ID\_Supplier\_Company] [int] not null identity(1,1),  [Full\_Organization] [varchar] (32) not null,  [Short\_Organization] [varchar] (32) not null,  [Legal\_Address] [varchar] (max) not null,  [Physical\_Address] [varchar] (max) not null,  [ITN] [varchar] (10) not null,  [OKPO] [varchar] (8) not null,  [BIC] [varchar] (9) not null  constraint [PK\_Supplier\_Company] primary key clustered  ([ID\_Supplier\_Company] ASC) on [PRIMARY],  constraint [UQ\_Full\_Organization\_Supplier\_Company] unique ([Full\_Organization]),  constraint [CH\_ITN\_Supplier\_Company] check ([ITN] = 10),  constraint [CH\_OKPO\_Supplier\_Company] check ([OKPO] = 8),  constraint [CH\_BIC\_Supplier\_Company] check ([BIC] = 9)  )  go |
|  | Full\_Organization | VARCHAR (32) | Уникальное поле |
|  | Short\_Organization | VARCHAR (32) |  |
|  | Legal\_Address | VARCHAR (MAX) | Уникальное поле |
|  | Physical\_Address | VARCHAR (MAX) | Уникальное поле |
|  | ITN | VARCHAR (10) | 10 цифр, Уникальное поле, Проверка на отрицательность |
|  | OKPO | VARCHAR (8) | 8 цифр, Уникальное поле, Проверка на отрицательность |
|  | BIC | VARCHAR (9) | 9 цифр, Уникальное поле, Проверка на отрицательность |

1. На основании словаря данных, произвести реализацию дочерних таблиц с одной связью 1:М;

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| --- | --- | --- | --- | --- |
| Ключ | Наименование | Тип данных | Примечание | Скрипт объекта |
| Client | | | | |
| PK | ID\_Client | INT | Первичный ключ таблицы “Клиент” | create table [dbo].[Client]  (  [ID\_Client] [int] not null identity(1,1),  [Type\_Client\_ID] [INT] not null,  [Name] [VARCHAR] (30) not null,  [Surname] [VARCHAR] (30) not null,  [Middle\_Name] [VARCHAR] (30) not null,  [Seria] [VARCHAR] (4) not null,  [Nomber] [VARCHAR] (6) not null,  [Date\_Of\_Receipt] [DATE] null default(getdate()),  [Division\_Code] [VARCHAR] (7) not null,  [Birthday] [DATE] null default(getdate()),  [Issued] [VARCHAR] (MAX) not null,  [Address\_Registrion] [VARCHAR] (MAX) not null,  [Number\_Bank] [VARCHAR] (16) not null,  [Payment] [VARCHAR] (30) not null,  [Valid\_Until] [DATE] null default(getdate()),  [Owner] [VARCHAR] (MAX) not null,  [CVC] [VARCHAR] (3) not null,  [Login] [VARCHAR] (32) not null,  [Password] [VARCHAR] (32) not null  constraint [PK\_Client] primary key clustered  ([ID\_Client] ASC) on [PRIMARY],  constraint [UQ\_Login\_Client] unique ([Login]),  constraint [UQ\_Number\_Bank\_Client] unique ([Number\_Bank]),  constraint [CH\_Login\_Client] check (len([Login])>=8),  constraint [CH\_Password\_Client\_Upper] check ([Password] like ('%[A-Z]%')),  constraint [CH\_Password\_Client\_Letter\_Lower] check ([Password] like ('%[a-z]%')),  constraint [CH\_Password\_Client\_Symbols] check ([Password] like ('%[!@#$%^&\*()]%')),  constraint [CH\_CVC\_Client] check ([CVC] = 3),  constraint [CH\_CVC\_Client\_INT] check ([CVC] like '[0-9][0-9][0-9]'),  constraint [CH\_Number\_Bank\_Client] check ([Number\_Bank] = 16),  constraint [CH\_Number\_Bank\_Client\_INT] check ([Number\_Bank] like '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]'),  constraint [CH\_Seria\_Client] check ([Seria] = 4),  constraint [CH\_Seria\_Client\_INT] check ([Seria] like '[0-9][0-9][0-9][0-9]'),  constraint [CH\_Division\_Code\_Client] check ([Division\_Code] like '[0-9][0-9][0-9][-][0-9][0-9][0-9]'),  constraint [CH\_Nomber\_Client] check ([Nomber] = 5),  constraint [CH\_Nomber\_Client\_INT] check ([Nomber] like '[0-9][0-9][0-9][0-9][0-9][0-9]'),  constraint [FK\_Type\_Client] foreign key ([Type\_Client\_ID]) references [dbo].[Type\_Client] ([ID\_Type\_Client]),  constraint [UQ\_Seria\_Nomber\_Client] unique ([Nomber], [Seria]),  constraint [CH\_Birthday\_Client] check ([Birthday] < getdate()),  constraint [CH\_Date\_Of\_Receipt\_Client] check ([Date\_Of\_Receipt] > getdate())  )  go |
| FK | Type\_Client\_ID | INT |  |
|  | Name | VARCHAR (30) |  |
|  | Surname | VARCHAR (30) |  |
|  | Middle\_Name | VARCHAR (30) |  |
|  | Seria | VARCHAR (4) | 4 цифры, Проверка на отрецательность |
|  | Nomber | VARCHAR (6) | 6 цифр, Проверка на отрецательность |
|  | Date\_Of\_Receipt | DATE | 31-12-2000, Дата>дня рождения |
|  | Division\_Code | VARCHAR (7) | ###-### |
|  | Birthday | DATE | 31-12-2000, Дата<Текущей даты |
|  | Issued | VARCHAR (MAX) |  |
|  | Address\_Registrion | VARCHAR (MAX) |  |
|  | Number\_Bank | VARCHAR (16) | 16 цифр, Уникальное поле, Проверка на отрецательность |
|  | Payment | VARCHAR (30) |  |
|  | Valid\_Until | DATE | 31-12-2000, Дата<=Текущей даты |
|  | Owner | VARCHAR (MAX) |  |
|  | CVC | VARCHAR (3) | 3 цифры, Проверка на отрицательность |
|  | Login | VARCHAR (32) | Не менее 8 символов, уникальное поле |
|  | Password | VARCHAR (32) | Спец символы, минимум одна заглавная одна прописная латинская буквы |
| Dish | | | | |
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1. На основании словаря данных, произвести реализацию, дочерних таблиц со связями М:М;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ключ | Наименование | Тип данных | Примечание | Скрипт объекта |
|  | | | | |
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1. Продемонстрировать результат разработанной базы данных, приложив иллюстрации обозревателя объектов, среды разработки базы данных;