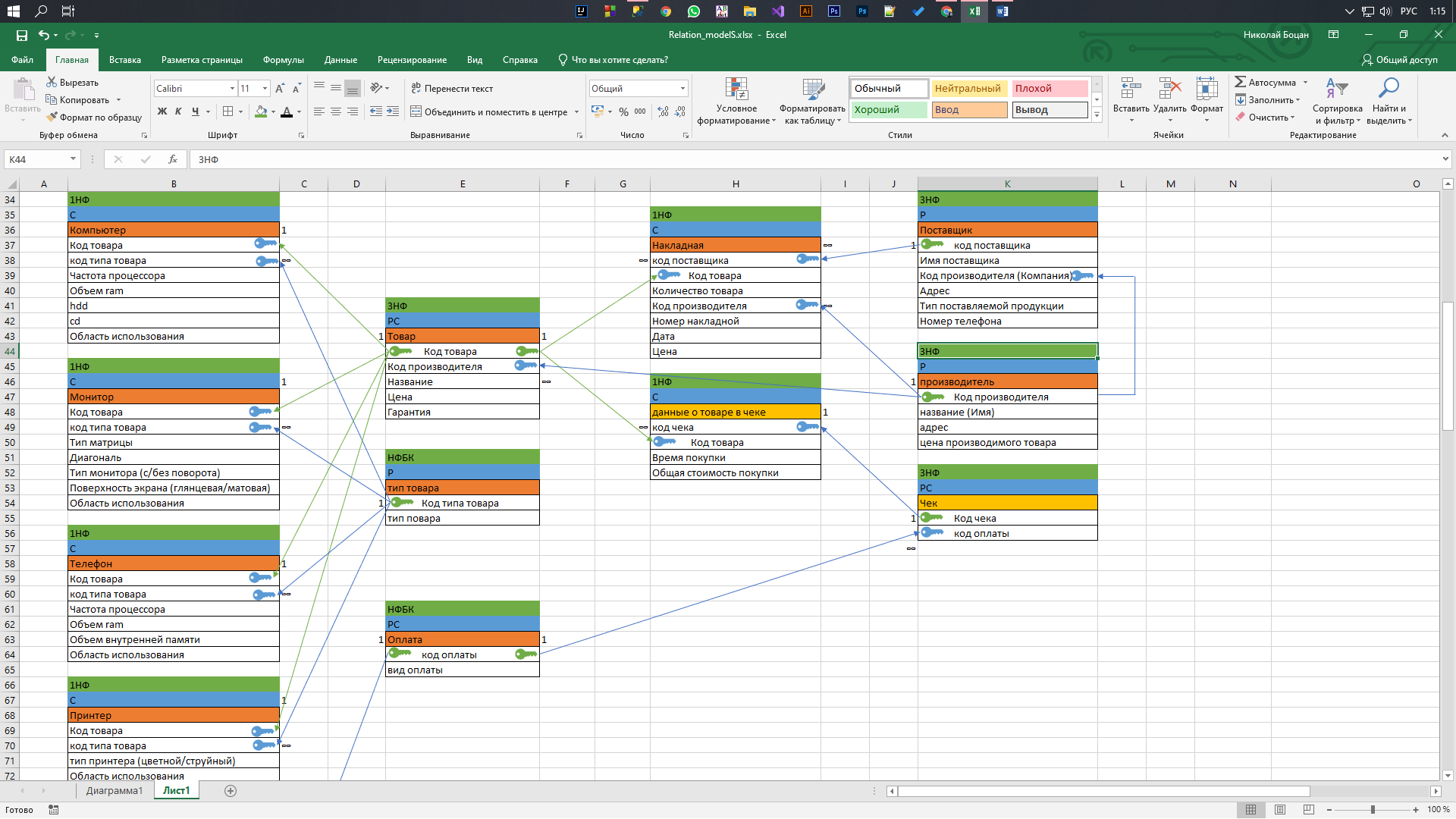
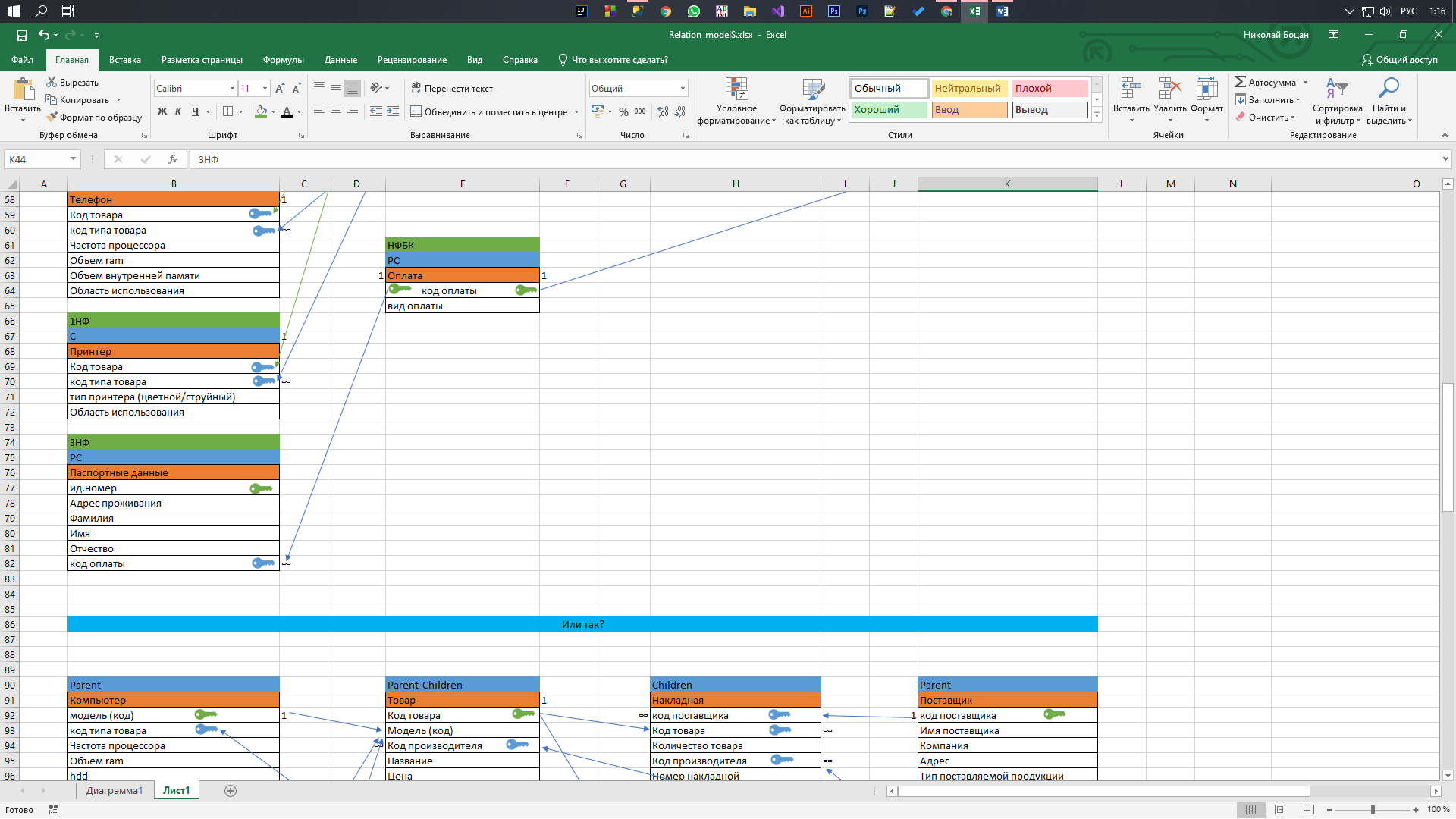
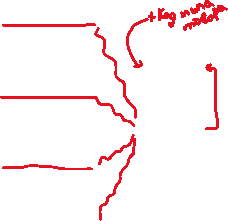
Боцан Николай P-2023R

***Индивидуальная работа за 17.02.22***

***«Учёт продажи техники в компьютерном магазине»***

**Реляционная модель:**





**Код:**

--Создание контейнера базы данных--

create database Computer\_magazine

go

--Активизирование контейнера базы данных--

use Computer\_magazine

go

--Создание пользовательских доменов--

create type Adres from *varchar*(70);

go

create type applicationS from *varchar*(100);

go

create type TNumber from *char*(12);

go

--Создание отношений базы данных--

create table *Pasport\_data*(Id int primary key,

                    C\_Adres Adres,

                    C\_Surname *varchar*(12),

                    C\_Name *varchar*(12),

                    C\_FatherName *varchar*(12),

                    Pay\_code int foreign key references *Payment*(Pay\_code) *not* null)

go

insert into *Pasport\_data*(Id, C\_Adres, C\_Surname, C\_Name, C\_FatherName, Pay\_code)

values (1001, 'ул.Пушкина 6/7', 'Балконский', 'Андрей', 'Николаевич', 102),

      (1002, 'ул. Николае Милеску Спэтарул 21/1', 'Безухов', 'Пьер', 'Анатольевичь', 101),

      (1003, 'ул. Садовяну 13/5', 'Ростов', 'Николай', 'Ильич', 103),

      (1004, 'ул. Петру Заднипру 28/8', 'Болякин', 'Андрей', 'Никифорович', 102),

      (1005, 'ул. Мунчешть 76/9', 'Шишкин', 'Алескандр', 'Игоревич', 103)

go

create table *Product\_type*(Cod\_type smallint primary key,

                    Product\_type *varchar*(20))

go

insert into *Product\_type*(Cod\_type, Product\_type)

values (2000, 'PC'),

      (2010, 'Laptop'),

      (2020, 'Monitor'),

      (2030, 'Phone'),

      (2040, 'Tablet PC'),

      (2050, 'Printer')

go

create table *supplier*(Sup\_code int primary key,

                 Sup\_name *varchar*(20),

                 Company *varchar*(20),

                 Sup\_Adres Adres,

                 production\_type *varchar*(40))

go

alter table supplier

add Telephone TNumber

go

alter table supplier

drop column Company

go

alter table supplier

add Man\_cod int foreign key references *manufacturer*(Man\_code) *not* null

go

insert into *supplier*(Sup\_code, Sup\_name, Man\_cod, Sup\_Adres, production\_type, Telephone)

values (3001, 'Comp\_Moldova', 4003, 'ул. Штефан чел маре 21/5', 'PCs, Laptops, Monitors, Phones', '+37367354672'),

      (3002, 'Hyper Supply', 4005, 'ул. Гоголя 34/4', 'PCs, Monitors, Printers, Laptops', '+37369984519'),

      (3003, 'GMSupply', 4006, 'ул. Колумна 5', 'PCs, Laptops', '+37378534765'),

      (3004, 'TechMD', 4002, 'ул. Узинелор 7', 'Monitors, Phones, Laptops', '+37379945543'),

      (3005, 'XMoldova', 4001, 'ул. Петру Мовилэ 7', 'Laptops, Phones, Printers, Monitors', '+37360606607'),

      (3006, 'Hyper Supply', 4004, 'ул. Михаил Садовяну 3', 'PCs, Monitors, Printers', '+37369984519')

go

update supplier

set Sup\_name = 'HPSupply'

where Sup\_code = 3006

go

create table *manufacturer*(Man\_code int primary key,

                    Man\_name *varchar*(20),

                    Man\_Adres Adres,

                    Man\_Production\_price smallint)

go

insert into *manufacturer*(Man\_code, Man\_name, Man\_Adres, Man\_Production\_price)

values (4001, 'Xiaomi', 'ул. Петру Мовилэ 8', 2000),

      (4002, 'Samsung', 'ул. Узинелор 10', 3000),

      (4003, 'LG', 'ул. Мунчешть 7', 3000),

      (4004, 'HP', 'ул. Гоголя 36', 2000),

      (4005, 'Hyper PC', 'ул. Михаил Садовяну 10', 4000),

      (4006, 'Game Max', 'ул. Отовыска 7', 4000)

go

create table *Payment*(Pay\_code int primary key,

                Pay\_type *varchar*(15) default 'cash')

go

insert into *Payment*(Pay\_code, Pay\_type)

values (101, 'credit'),

      (102, 'credit card'),

      (103, 'cash')

go

create table *Chek*(Check\_code int primary key,

              Pay\_code int foreign key references *Payment*(Pay\_code) *not* null)

go

insert into *Chek*(Check\_code, Pay\_code)

values (1013, 101),

      (1014, 102),

      (1017, 103),

      (1020, 103),

      (1022, 102)

go

create table *Product*(cod\_prod int primary key,

                Man\_cod int foreign key references *manufacturer*(Man\_code) *not* null,

                Prod\_name *varchar*(20),

                Price smallint,

                Waranty smallint *check*(Waranty <= 5) default 1)

go

insert into *Product*(cod\_prod, Man\_cod, Prod\_name, Price, Waranty)

values (5000, 4005, 'Blye Yeti', 20000, 5),

      (5010, 4006, 'Nitro', 25000 ,3),

      (5020, 4003, 'Spin 5', 5000, 1),

      (5021, 4004, 'Hp one', 2000, 1),

      (5030, 4002, 'Redmi 5 pro', 4000, 1),

      (5040, 4001, 'Prestige Pro 3', 4700, 2),

      (5050, 4004, 'All Vew Pro', 2000, 3),

      (5051, 4001, 'Clear Sky', 3000, 4),

      (5052, 4001, 'Colors', 2500, 2)

go

create table *Computer*(cod\_prod int foreign key references *Product*(cod\_prod) unique *not* null, --связь 1 к 1--

                 Cod\_type smallint foreign key references *Product\_type*(Cod\_type) *not* null,

                 CPU\_freq smallint default 2000,

                 RAM smallint default 1000,

                 HDD smallint default 250,

                 CD *varchar*(5) *check*((CD = 'true') *or* (CD = 'false')) default 'false',

                 Applic applicationS)

go

insert into *Computer*(cod\_prod, Cod\_type, CPU\_freq, RAM, HDD, CD, Applic)

values (5000, 2000, 4200, 16000, 1000, 'false', 'Gaming'),

      (5010, 2010, 3900, 8000, 2500, 'true', 'Gaming')

go

create table *Monitor*(cod\_prod int foreign key references *Product*(cod\_prod) unique *not* null,

                Cod\_type smallint foreign key references *Product\_type*(Cod\_type) *not* null,

                Tatrix\_type *varchar*(5) default 'TN',

                Diagonal smallint default 21,

                Monitor\_type *varchar*(20) default 'without rotation',

                Matrix\_size *varchar*(10) default 'glossy',

                Applic applicationS)

go

insert into *Monitor*(cod\_prod, Cod\_type, Tatrix\_type, Diagonal, Monitor\_type, Matrix\_size, Applic)

values (5020, 2020, 'IPS', 21, 'with rotation', 'mate', 'Gaming'),

      (5021, 2020, 'TN', 18, 'without rotation', 'glossy','Office')

go

create table *Phone*(cod\_prod int foreign key references *Product*(cod\_prod) unique *not* null,

               Cod\_type smallint foreign key references *Product\_type*(Cod\_type) *not* null,

               CPU\_freq smallint default 1000,

               RAM smallint default 1000,

               Intern\_mem smallint default 5000,

               Applic applicationS)

go

insert into *Phone*(cod\_prod, Cod\_type, CPU\_freq, RAM, Intern\_mem, Applic)

values (5030, 2030, 2000, 3000, 32000, 'Dayly'),

      (5040, 2040, 3000, 4000, 32000, 'Graphic design')

go

create table *Printer*(cod\_prod int foreign key references *Product*(cod\_prod) unique *not* null,

                Cod\_type smallint foreign key references *Product\_type*(Cod\_type) *not* null,

                Printer\_type *varchar*(6) *check*((Printer\_type = 'color') *or* (Printer\_type = 'laser')) default 'laser',

                Applic applicationS)

go

insert into *Printer*(cod\_prod, Cod\_type, Printer\_type, Applic)

values (5050, 2050, 'laser', 'Office'),

      (5051, 2050, 'color', 'Photos'),

      (5052, 2050, 'color', 'Photos')

go

create table *consignment*(Sup\_code int foreign key references *supplier*(Sup\_code) *not* null,

                   cod\_prod int foreign key references *Product*(cod\_prod) *not* null,

                   prod\_number smallint,

                   Man\_code int foreign key references *manufacturer*(Man\_code) *not* null,

                   consignment\_number int,

                   Consignment\_date date,

                   Price smallint)

go

insert into *consignment*(Sup\_code, cod\_prod, prod\_number, Man\_code, consignment\_number, Consignment\_date, Price)

values (3002, 5000, 5, 4005, 10456, '2021-12-21', 17000),

      (3003, 5010, 3, 4006, 10432, '2022-01-04', 14000),

      (3001, 5020, 4, 4003, 10487, '2021-10-10', 3000),

      (3006, 5021, 7, 4004, 10499, '2022-01-09', 1000),

      (3004, 5030, 10, 4002, 10444, '2022-02-27', 2500),

      (3005, 5040, 8, 4001, 10411, '2022-01-01', 3000),

      (3006, 5050, 11, 4004, 10410, '2022-02-04', 1500),

      (3005, 5051, 15, 4001, 10440, '2022-02-02', 2000),

      (3005, 5052, 12, 4001, 10404, '2021-12-13', 1700)

go

create table *Chek\_infoChek*(Check\_code int foreign key references *Chek*(Check\_code) *not* null,

                     cod\_prod int foreign key references *Product*(cod\_prod) *not* null,

                     Purc\_date date,

                     Gen\_price smallint)

go

insert into *Chek\_infoChek*(Check\_code, cod\_prod, Purc\_date, Gen\_price)

values (1013, 5000, '2021-12-31', 20000),

      (1014, 5052, '2021-12-31', 2500),

      (1017, 5040, '2022-01-08', 4700),

      (1020, 5021, '2022-01-09', 2000),

      (1022, 5030, '2022-02-28', 4000)

go

--Укажите, какая информация в созданной базе данных может изменяться и примените команды группы DML для её изменения.--

--Printer(Printer\_type)--

update Printer

set Printer\_type = 'laser'

where cod\_prod = 5052

go

update Printer

set Printer\_type = 'color'

where cod\_prod = 5052

go

--Computer(RAM, HDD, CD)--

update Computer

set RAM = 32000

where (Cod\_type = 2000) *and* (cod\_prod = 5000)

go

update Computer

set RAM = 16000

where (Cod\_type = 2000) *and* (cod\_prod = 5000)

go

--Product(price, name)--

update Product

set Price = 15000

where (Prod\_name = 'Blue Yeti') *and* (cod\_prod = 5000)

go

update Product

set Prod\_name = 'Blue Yeti'

where Prod\_name = 'Blye Yeti'

go

update Product

set Price = 20000

where (Prod\_name = 'Blue Yeti') *and* (cod\_prod = 5000)

go

--manufacterer(Man\_name, Man\_Production\_price)

update manufacturer

set Man\_name = 'Lenovo'

where Man\_name = 'HP'

go

update manufacturer

set Man\_name = 'HP'

where Man\_name = 'Lenovo'

go

update manufacturer

set Man\_Production\_price = 7000

where Man\_Production\_price = 2000

go

update manufacturer

set Man\_Production\_price = 2000

where Man\_Production\_price = 7000

go

select \*

from manufacturer

go

--supplier(production\_type, Sup\_name)

update supplier

set Sup\_name = 'SamsungS\_MD'

where Sup\_name = 'TechMD'

go

update supplier

set Sup\_name = 'TechMD'

where Sup\_name = 'SamsungS\_MD'

go

update supplier

set production\_type = 'Monitors, Phones, Laptops, PCs'

where Sup\_name = 'TechMD'

go

update supplier

set production\_type = 'Monitors, Phones, Laptops'

where Sup\_name = 'TechMD'

go

--Создайте необходимые индексы--

/\*Можно было бы создать индексы также и для отношений product\_type и Payment, но в данных отношениях только два столбца, один из которых первичный ключ \*/

--создание индексов для отношения manufacturer (редко вносим, часто берём => index)--

create index man\_name\_indx on *manufacturer*(Man\_name)

go

create index man\_adres\_indx on *manufacturer*(Man\_Adres)

go

--создание индексов для отношения supplyer (редко вносим, часто берём => index)--

create index sup\_name\_indx on *supplier*(Sup\_name)

go

create index sup\_adres\_indx on *supplier*(Sup\_Adres)

go

create index sup\_telephone\_indx on *supplier*(Telephone)

go

create index sup\_prodType\_indx on *supplier*(production\_type)

go

--Вывод содержимого отношений на экран--

/\*

select \*

from Product

inner join manufacturer on Product.Man\_cod = manufacturer.Man\_code; --Естественное соединение--

go

\*/

select \*

from Chek

go

select \*

from Chek\_infoChek

go

select \*

from Computer

go

select \*

from consignment

go

select \*

from manufacturer

go

select \*

from Monitor

go

select \*

from Pasport\_data

go

select \*

from Payment

go

select \*

from Phone

go

select \*

from Printer

go

select \*

from Product

go

select \*

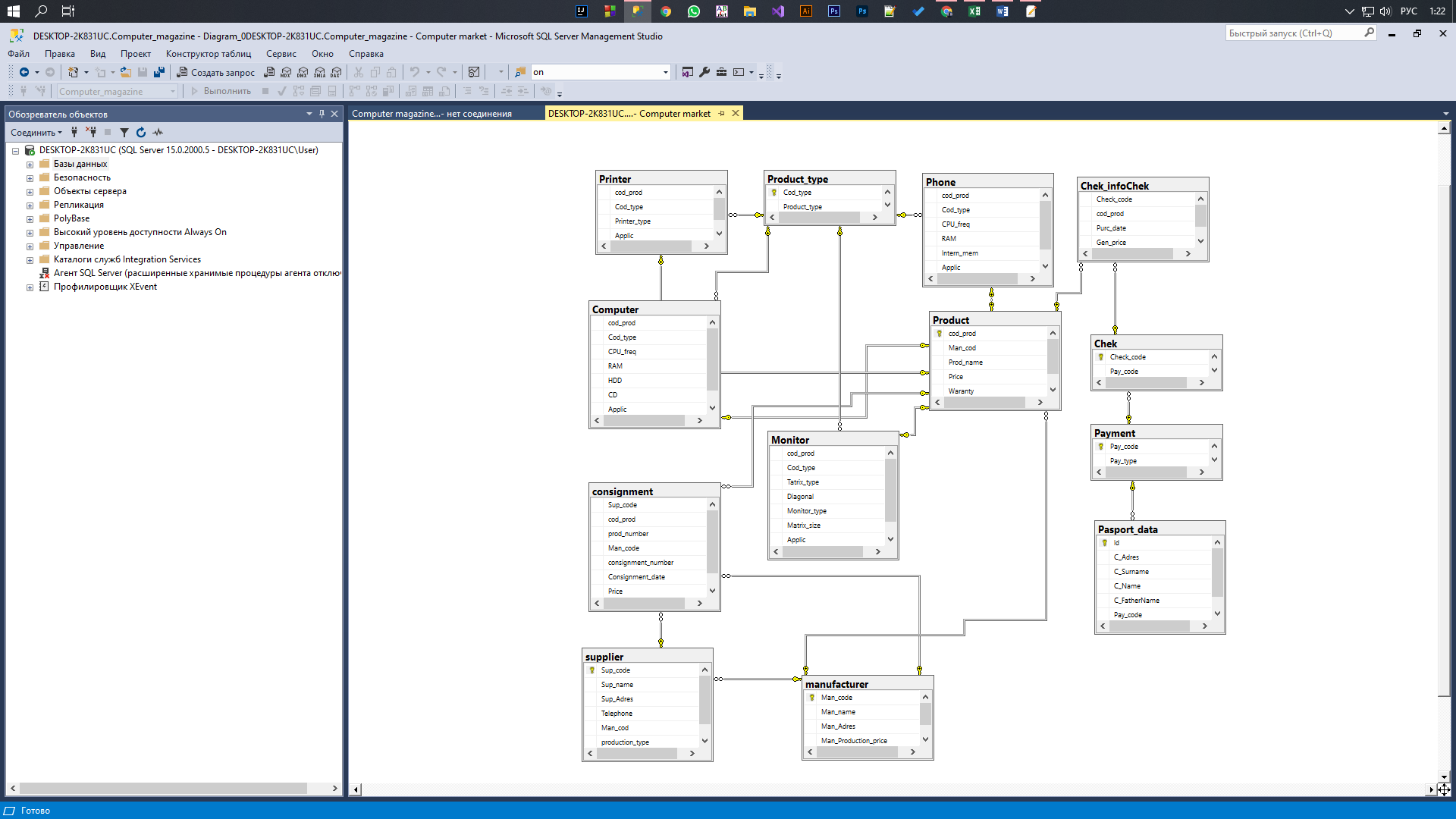
from Product\_type

go

select \*

from supplier

go

**Диаграмма Базы Данных:**