Магазин за компютърна техника

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| --- | --- |
| Задача | Фак.No |
| 1. Създаване на схемите и релациите | 62529 |
| 2. Добавяне на съдържание | 62527 |
| 3. Примерни прости заявки и заявки върху две и повече релации | 62371 |
| 4. Примери с подзаявки | 62529 |
| 5. Примери със съединения | 62529 |
| 6. Примери с групиране и аграгация | 62527 |
| 7. Примери с ограничения | 62527 |
| 8. Примери с изгледи и индекси | 62527 |
| 9. Примери с тригери | 62529 |
| 10. Подготовка на презентацията | 62371 |

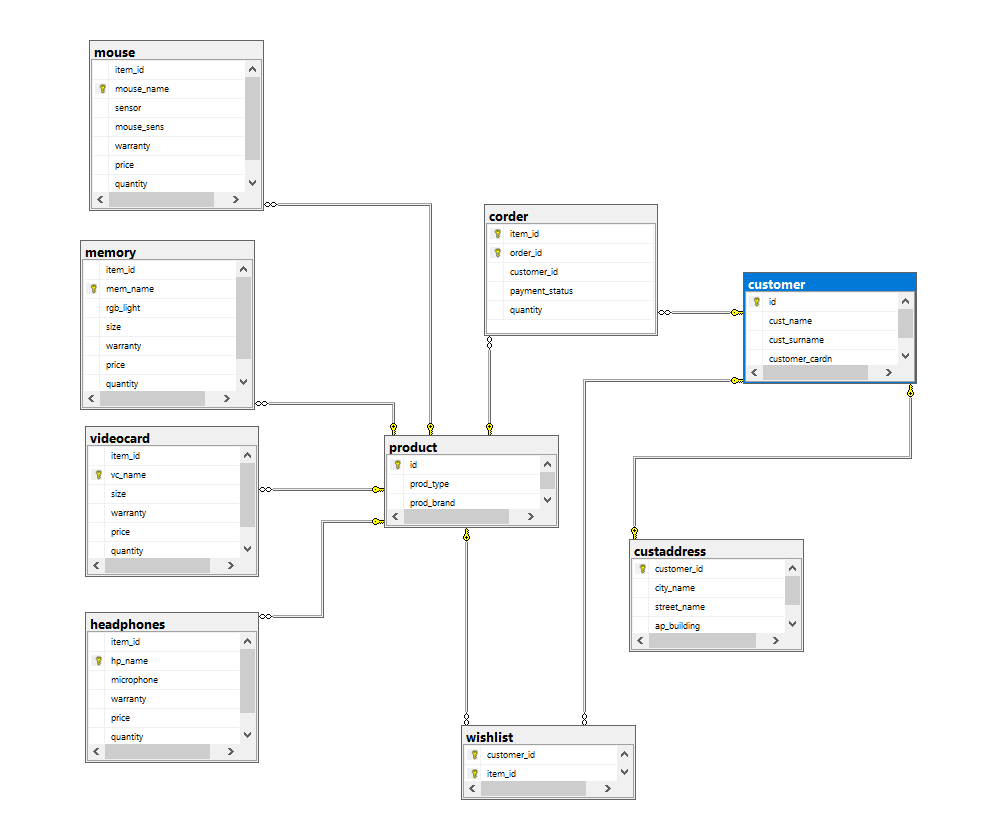
Изготвили: Роберт Борисов 62529

Калоян Божилски 62527

Васил Лялялков 62371

1. Описание на предметната област на заданието

Изготвената база данни съхранява информацията от сайт на магазин за компютърна техника. В сайта се предлагат 4 типа продукти – мишки, слушалки, памети и видео карти, които достигат чрез поръчки до клиенти на съответните клиентски адреси. Също така всеки клиент има опцията на сайта да отбележи даден продукт като любим. С направените връзки от тип първичен-външен ключ и ограничения в базата данни, както и с допълнително внедрените добри практики в използването на изгледи, индекси и тригери базата от данни изпълнява функционалността си и създава удобство на ползващите я.

Схема

1. Създаване на базата данни и релационните схеми:

USE master

GO

if exists (select \* from sysdatabases where name='pcstore')

DROP DATABASE pcstore

GO

CREATE DATABASE pcstore

GO

USE pcstore

GO

CREATE TABLE product(

id int NOT NULL,

prod\_type varchar(15) NOT NULL,

prod\_brand varchar(10) NOT NULL

);

CREATE TABLE videocard(

item\_id int NOT NULL,

vc\_name varchar(22) NOT NULL,

size int NOT NULL,

warranty int,

price float NOT NULL,

quantity int NOT NULL

);

CREATE TABLE memory(

item\_id int NOT NULL,

mem\_name varchar(22) NOT NULL,

rgb\_light char(1) NOT NULL,

size int NOT NULL,

warranty int,

price float NOT NULL,

quantity int NOT NULL

);

CREATE TABLE mouse(

item\_id int NOT NULL,

mouse\_name varchar(22) NOT NULL,

sensor varchar(7) NOT NULL,

mouse\_sens int NOT NULL,

warranty int,

price float NOT NULL,

quantity int NOT NULL

);

CREATE TABLE headphones(

item\_id int NOT NULL,

hp\_name varchar(22) NOT NULL,

microphone char(1) NOT NULL,

warranty int,

price float NOT NULL,

quantity int NOT NULL

);

CREATE TABLE corder(

item\_id int NOT NULL,

order\_id int NOT NULL,

customer\_id int NOT NULL,

payment\_status varchar(15) NOT NULL,

quantity int NOT NULL

);

CREATE TABLE customer(

id int NOT NULL,

cust\_name varchar(15) NOT NULL,

cust\_surname varchar(15) NOT NULL,

customer\_cardn char(16),

);

CREATE TABLE custaddress(

customer\_id int NOT NULL,

city\_name varchar(16) NOT NULL,

street\_name varchar(16) NOT NULL,

ap\_building varchar(16) NOT NULL

);

CREATE TABLE wishlist(

customer\_id int NOT NULL,

item\_id int NOT NULL

);

1. Добавяне на съдържание в базата данни

-------------------------------------/\*PRODUCT\*/

USE pcstore

INSERT INTO product VALUES (1,'mouse','ZOWIE');

INSERT INTO product VALUES (2,'mouse','ZOWIE');

INSERT INTO product VALUES (3,'mouse','HYPERX');

INSERT INTO product VALUES (4,'mouse','LOGITECH');

INSERT INTO product VALUES (5,'mouse','LOGITECH');

INSERT INTO product VALUES (6,'mouse','LOGITECH');

INSERT INTO product VALUES (7,'mouse','LOGITECH');

INSERT INTO product VALUES (8,'mouse','Razer');

INSERT INTO product VALUES (9,'mouse','LOGITECH');

INSERT INTO product VALUES (10,'mouse','Roccat');

INSERT INTO product VALUES (11,'headphone','HYPERX');

INSERT INTO product VALUES (12,'headphone','MAXELL');

INSERT INTO product VALUES (13,'headphone','LOGITECH');

INSERT INTO product VALUES (14,'headphone','ASUS');

INSERT INTO product VALUES (15,'headphone','Sony');

INSERT INTO product VALUES (16,'headphone','Sony');

INSERT INTO product VALUES (17,'headphone','Sony');

INSERT INTO product VALUES (18,'headphone','BOSE');

INSERT INTO product VALUES (19,'headphone','AKG');

INSERT INTO product VALUES (20,'headphone','BOSE');

INSERT INTO product VALUES (21,'memory','ADATA');

INSERT INTO product VALUES (22,'memory','HYPERX');

INSERT INTO product VALUES (23,'memory','CORSAIR');

INSERT INTO product VALUES (24,'memory','CORSAIR');

INSERT INTO product VALUES (25, 'memory','ADATA');

INSERT INTO product VALUES (26,'memory','ADATA');

INSERT INTO product VALUES (27,'memory','G.Skill');

INSERT INTO product VALUES (28,'memory','PATRIOT');

INSERT INTO product VALUES (29,'memory','G.Skill');

INSERT INTO product VALUES (30,'videocard','ASUS');

INSERT INTO product VALUES (31,'videocard','ZOTAC');

INSERT INTO product VALUES (32,'videocard','EVGA');

INSERT INTO product VALUES (33,'videocard','NVIDIA');

INSERT INTO product VALUES (34,'videocard','NVIDIA');

INSERT INTO product VALUES (35,'videocard','NVIDIA');

INSERT INTO product VALUES (36,'videocard','AMD');

INSERT INTO product VALUES (37,'videocard','AMD');

INSERT INTO product VALUES (38,'videocard','NVIDIA');

INSERT INTO product VALUES (39,'videocard','NVIDIA');

INSERT INTO product VALUES (40,'videocard','AMD');

---------------------------------------------/\*HEADPHONES\*/

INSERT INTO headphones VALUES (11,'HYPERX STINGER','Y',12,250,4);

INSERT INTO headphones VALUES (12,'MAXELL HYPERSHOCK','N',9,200,4);

INSERT INTO headphones VALUES (13,'LOGITECH G332','Y',22,331,4);

INSERT INTO headphones VALUES (14,'ASUS DELTA','N',2,120,4);

INSERT INTO headphones VALUES (15, 'WF-1000XM4', 'Y', 3, 200,4);

INSERT INTO headphones VALUES (16, 'WH-1000XM4', 'N', 1, 150,4);

INSERT INTO headphones VALUES (18, '700', 'N', 3, 100,4);

INSERT INTO headphones VALUES (19, 'N60NC', 'Y', 10, 1000,4);

INSERT INTO headphones VALUES (20, 'QuietComfort', 'N', 5, 200,4);

----------------------------------------------/\*MOUSE\*/

INSERT INTO mouse VALUES (1,'ZOWIE S1','OPTIC',1200,2,200,5);

INSERT INTO mouse VALUES (2,'ZOWIE S2','LASER',1300,3,250,5);

INSERT INTO mouse VALUES (3,'HYPERX PULSEFIRE','OPTIC',1800,4,333,5);

INSERT INTO mouse VALUES (4,'LOGITECH SPARTAN','LASER',2100,8, 320,5);

INSERT INTO mouse VALUES (5, 'G502 HERO', 'PMW', 3360, 3, 200,5);

INSERT INTO mouse VALUES (6, 'G PRO', 'PMW', 3370, 5, 20,5);

INSERT INTO mouse VALUES (7, 'G PRO X', 'PMW', 3370, 5, 100,5);

INSERT INTO mouse VALUES (8, 'Basilisk 3', 'ADNS', 3095, 7, 300,5);

INSERT INTO mouse VALUES (9, 'G505 HERO', 'PMW', 3360, 1, 60,5);

INSERT INTO mouse VALUES (10, 'Kone', 'ADNS', 3090, 2, 300,5);

-------------------------------------/\*MEMORY\*/

INSERT INTO memory VALUES (21,'ADATA LANCER2','Y',4,10,100,6);

INSERT INTO memory VALUES (22,'HYPERX FURY','N', 8, 2, 200,6);

INSERT INTO memory VALUES (23,'CORSAIR VENGEANCE','N', 12, 3, 300,6);

INSERT INTO memory VALUES (24,'CORSAIR MASTER','Y', 8, 10, 200,6);

INSERT INTO memory VALUES (25, 'Spectrix D80', 'N', 8, 2, 120,6);

INSERT INTO memory VALUES (26, 'Spectrix D90', 'Y', 16, 5, 360,6);

INSERT INTO memory VALUES (27, 'Trident Z RGB', 'Y', 16, 3, 240,6);

INSERT INTO memory VALUES (28, 'Signature', 'N', 32, 3, 480,6);

INSERT INTO memory VALUES (29, 'Trident X RGB', 'Y', 64, 5, 1000,6);

----------------------------/\*VIDEOCARD\*/

INSERT INTO videocard VALUES (30,'ASUS 1060TI',6,12,1000,7);

INSERT INTO videocard VALUES (31,'ZOTAC 1070',8,12,1300,7);

INSERT INTO videocard VALUES (32,'EVGA 1080TI',12,12,1400,7);

INSERT INTO videocard VALUES (33,'NVIDIA 3080',16,12,2000,7);

INSERT INTO videocard VALUES (34, 'Geforce RTX 3080','9', 7, 799,7);

INSERT INTO videocard VALUES (35, 'Geforce RTX 3090','9', 2, 499,7);

INSERT INTO videocard VALUES (36, 'AMD RX 6800 XT','5', 5, 699,7);

INSERT INTO videocard VALUES (37, 'AMD RX 6900 XT','4', 10, 799,7);

INSERT INTO videocard VALUES (38, 'Geforce RTX 3060', '9', 5, 1099,7);

INSERT INTO videocard VALUES (39, 'GeForce RTX 3070', '1', 3, 699,7);

INSERT INTO videocard VALUES (40, 'AMD RX 6700 XT', '2', 3, 599,7);

------customer---

INSERT INTO customer VALUES (1,'TEODOR','KUKOV','1234676788234555');

INSERT INTO customer VALUES (2,'IVAN','IVANOV','1299776225487699');

INSERT INTO customer VALUES (3,'BORIS','BOND','1334227666332211');

INSERT INTO customer VALUES (4,'DIMITUR','MARTINOV','4566799102649026');

INSERT INTO customer VALUES (5,'IVAN','MARTINOV','7625390277712456');

INSERT INTO customer VALUES (6,'BORIS','BALABANOV','4444444466666666');

INSERT INTO customer VALUES (7,'NENCHO','TOSHEV','9283746565748392');

INSERT INTO customer VALUES (8,'PETUR','DIMITROV','1234567888909877');

INSERT INTO customer VALUES (9,'SLAVI','BOND','8977364399124637');

INSERT INTO customer VALUES (10,'STILYAN','KUKROKOV','0000011122233345');

INSERT INTO customer VALUES (11, 'GENCHO','GENEV','1217889234333329');

INSERT INTO customer VALUES (12,'BORISLAV','BORISOV',NULL);

-------------------------/\*CORDER\*/

INSERT INTO corder VALUES (13,1,1,'SUCCESSFUL',3);

INSERT INTO corder VALUES (16,1,1,'SUCCESSFUL',10);

INSERT INTO corder VALUES (15,1,1,'SUCCESSFUL',2);

INSERT INTO corder VALUES (14,1,1,'SUCCESSFUL',1);

INSERT INTO corder VALUES (12,1,1,'SUCCESSFUL',3);

INSERT INTO corder VALUES (33,2,10,'UNSUCCESSFUL',3);

INSERT INTO corder VALUES (32,2,10,'SUCCESSFUL',1);

INSERT INTO corder VALUES (13,3,3,'PROCESSING',1);

INSERT INTO corder VALUES (12,3,3,'UNSUCCESSFUL',40);

INSERT INTO corder VALUES (10,3,3,'PROCESSING',1);

INSERT INTO corder VALUES (4,3,3,'PROCESSING',2);

INSERT INTO corder VALUES (3,4,8,'SUCCESSFUL',3);

INSERT INTO corder VALUES (28,4,8,'SUCCESSFUL',9);

INSERT INTO corder VALUES (25,4,8,'SUCCESSFUL',1);

INSERT INTO corder VALUES (1,4,8,'SUCCESSFUL',1);

INSERT INTO corder VALUES (2,4,8,'SUCCESSFUL',3);

INSERT INTO corder VALUES (3,14,8,'SUCCESSFUL',4);

INSERT INTO corder VALUES (33,5,10,'SUCCESSFUL',11);

INSERT INTO corder VALUES (31,5,10,'UNSUCCESSFUL',12);

INSERT INTO corder VALUES (40,6,7,'UNSUCCESSFUL',1);

INSERT INTO corder VALUES (20,7,7,'SUCCESSFUL',3);

INSERT INTO corder VALUES (19,8,2,'SUCCESSFUL',2);

INSERT INTO corder VALUES (13,8,2,'SUCCESSFUL',1);

INSERT INTO corder VALUES (18,8,2,'SUCCESSFUL',2);

INSERT INTO corder VALUES (27,8,2,'SUCCESSFUL',4);

INSERT INTO corder VALUES (31,8,2,'SUCCESSFUL',3);

INSERT INTO corder VALUES (4,8,2,'SUCCESSFUL',5);

INSERT INTO corder VALUES (9,8,2,'PROCESSING',1);

INSERT INTO corder VALUES (38,8,2,'SUCCESSFUL',1);

INSERT INTO corder VALUES (39,8,2,'SUCCESSFUL',1);

INSERT INTO corder VALUES (40,8,2,'SUCCESSFUL',2);

INSERT INTO corder VALUES (13,9,6,'SUCCESSFUL',3);

INSERT INTO corder VALUES (12,9,6,'SUCCESSFUL',5);

INSERT INTO corder VALUES (17,9,6,'SUCCESSFUL',2);

INSERT INTO corder VALUES (6,10,8,'UNSUCCESSFUL',2);

INSERT INTO corder VALUES (16,10,8,'UNSUCCESSFUL',1);

INSERT INTO corder VALUES (26,10,8,'UNSUCCESSFUL',2);

INSERT INTO corder VALUES (36,11,8,'SUCCESSFUL',3);

INSERT INTO corder VALUES (40,11,8,'PROCESSING',1);

INSERT INTO corder VALUES (30,12,4,'SUCCESSFUL',1);

INSERT INTO corder VALUES (20,13,4,'SUCCESSFUL',1);

INSERT INTO corder VALUES (10,14,1,'UNSUCCESSFUL',82);

INSERT INTO corder VALUES (1,15,4,'UNSUCCESSFUL',1);

INSERT INTO corder VALUES (11,16,3,'SUCCESSFUL',3);

INSERT INTO corder VALUES (21,16,3,'SUCCESSFUL',3);

INSERT INTO corder VALUES (31,16,3,'SUCCESSFUL',1);

INSERT INTO corder VALUES (40,16,3,'SUCCESSFUL',2);

-------------------------/\*CUSTOMER ADDRESS\*/

INSERT INTO custaddress VALUES(1,'SOFIA','TOMA IKONOPISEC',1);

INSERT INTO custaddress VALUES(2,'BURGAS','IOSIF',11);

INSERT INTO custaddress VALUES(3,'VARNA','SIMEONOVSKA',22);

INSERT INTO custaddress VALUES(4,'SOFIA','BELI GULUB',9);

INSERT INTO custaddress VALUES(5,'BURGAS','KRIVA',16);

INSERT INTO custaddress VALUES(6,'PLOVDIV','DIMITROVSKA',48);

INSERT INTO custaddress VALUES(7,'SOFIA','LEKI ISKUR',39);

INSERT INTO custaddress VALUES(8,'RUSE','SVETI PETUR',4);

-------------------------/\*WISHLIST\*/

INSERT INTO wishlist VALUES (1,3);

INSERT INTO wishlist VALUES (2,10);

INSERT INTO wishlist VALUES (3,8);

INSERT INTO wishlist VALUES (1,40);

INSERT INTO wishlist VALUES (1,39);

INSERT INTO wishlist VALUES (10,7);

INSERT INTO wishlist VALUES (9,31);

INSERT INTO wishlist VALUES (9,20);

INSERT INTO wishlist VALUES (9,1);

INSERT INTO wishlist VALUES (9,2);

INSERT INTO wishlist VALUES (9,3);

INSERT INTO wishlist VALUES (7,7);

INSERT INTO wishlist VALUES (7,33);

INSERT INTO wishlist VALUES (6,5);

INSERT INTO wishlist VALUES (6,6);

INSERT INTO wishlist VALUES (6,7);

INSERT INTO wishlist VALUES (6,8);

INSERT INTO wishlist VALUES (6,9);

INSERT INTO wishlist VALUES (6,10);

INSERT INTO wishlist VALUES (6,17);

INSERT INTO wishlist VALUES (6,18);

INSERT INTO wishlist VALUES (6,40);

INSERT INTO wishlist VALUES (6,39);

INSERT INTO wishlist VALUES (6,37);

INSERT INTO wishlist VALUES (4,31);

INSERT INTO wishlist VALUES (4,20);

INSERT INTO wishlist VALUES (4,2);

INSERT INTO wishlist VALUES (8,2);

INSERT INTO wishlist VALUES (8,13);

INSERT INTO wishlist VALUES (8,17);

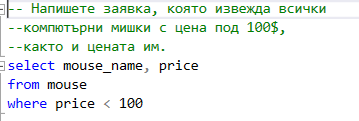
INSERT INTO wishlist VALUES (8,33);

INSERT INTO wishlist VALUES (8,25);

1. Примерни заявки

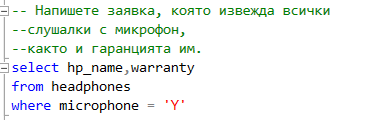
1. Примерни прости заявки и заявки върху две или повече релации:

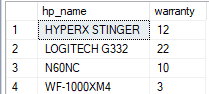
1)



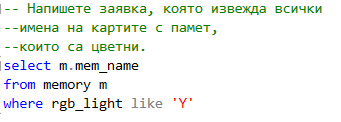
https://i.gyazo.com/95791a874a4328d699148ec29c75441e.png

2)



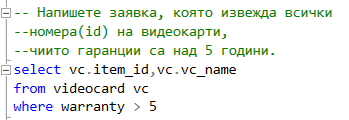


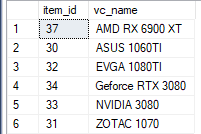
3)



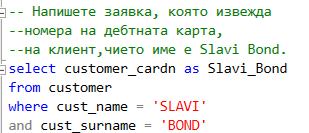


4)



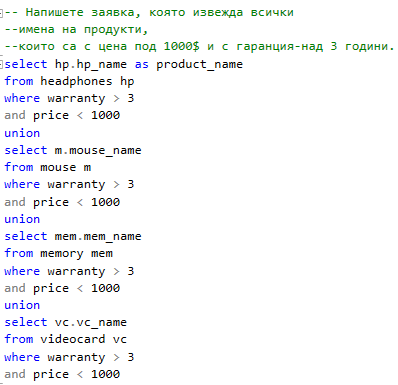


5)



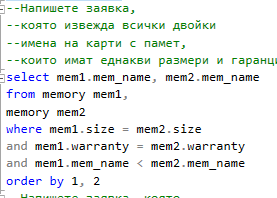
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6)



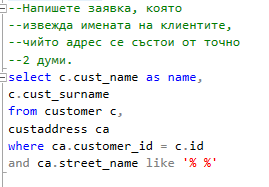


7)



https://i.gyazo.com/07853d7931d8ac1c492baebe2d92b2cc.png

8)





9)

Graphical user interface, text, application

Description automatically generated

Graphical user interface

Description automatically generated with medium confidence

10)

Text

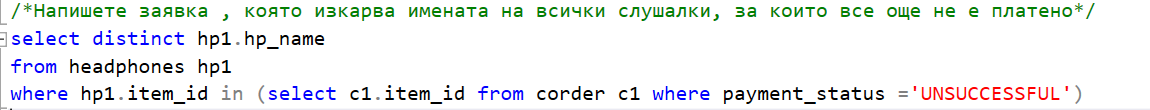
Description automatically generated

Graphical user interface, table

Description automatically generated

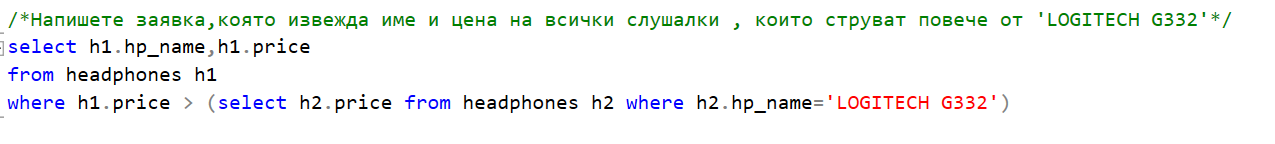
2. Примери с подзаявки

1)



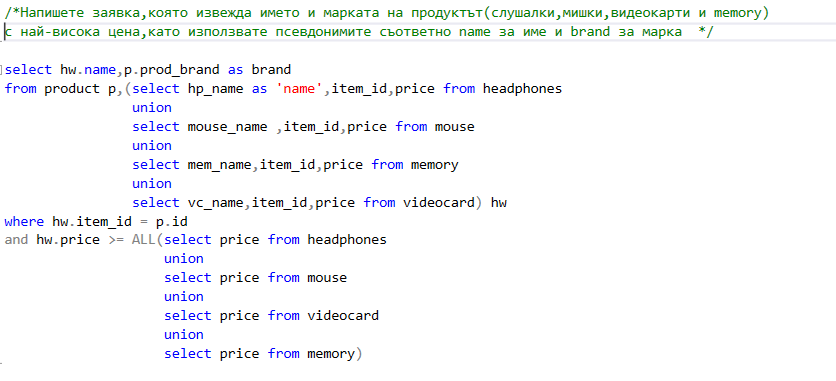
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2)



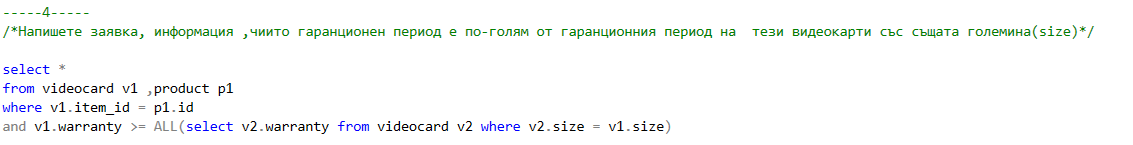
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3)



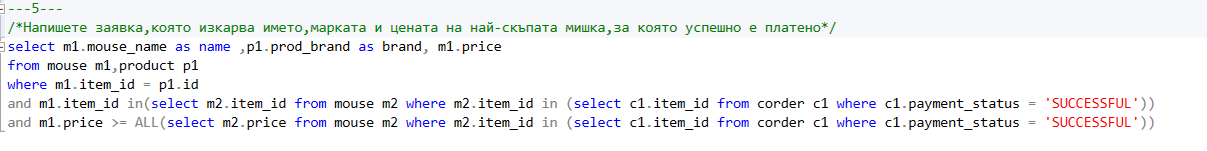
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4)



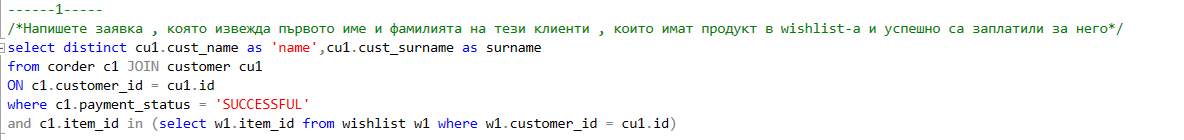


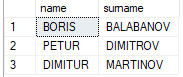
5)



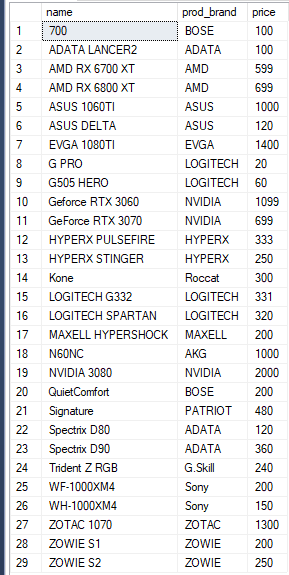
https://i.gyazo.com/cb59ed8c80cdd370a528757562324502.png

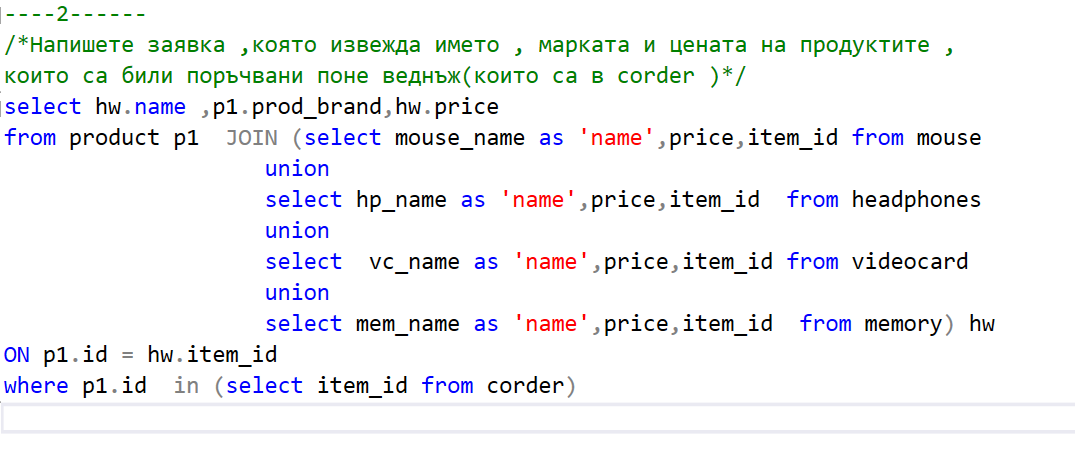
3. Примери със съединения:

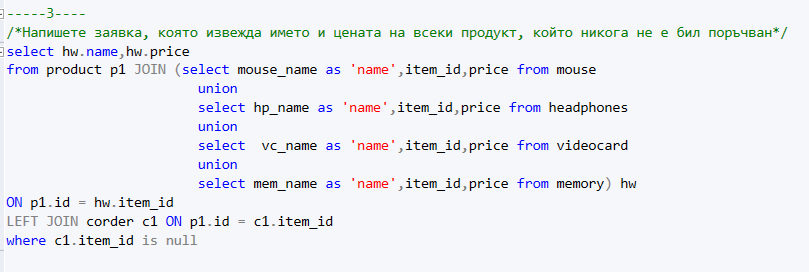
1)

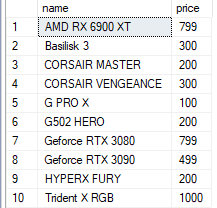


2)

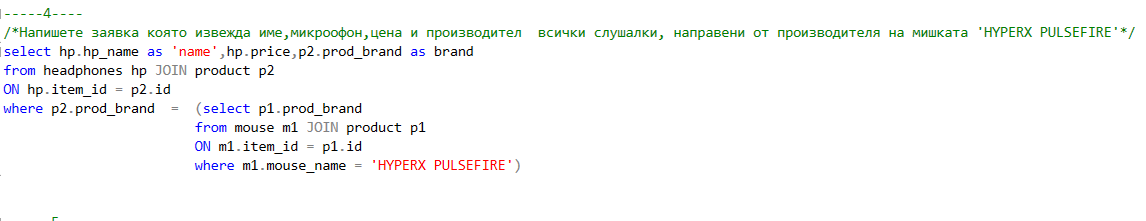


3) 



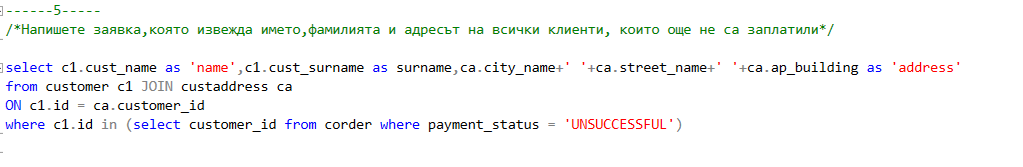


4)



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5)





4. Примери с групиране и агрегация:

1)

Graphical user interface, text, application

Description automatically generated

Table

Description automatically generated

2)

Text

Description automatically generated with medium confidence



3)

Text

Description automatically generated

Table

Description automatically generated

4)

Graphical user interface, text

Description automatically generated



5)

Text

Description automatically generated with medium confidence

Table, scatter chart

Description automatically generated with medium confidence

6)

Text

Description automatically generated with low confidence

Chart

Description automatically generated

7)

Graphical user interface, text, application

Description automatically generated



8)

Text

Description automatically generated

Graphical user interface

Description automatically generated with medium confidence

9)

Graphical user interface, text, application

Description automatically generated

Shape

Description automatically generated with medium confidence

10)

Graphical user interface, text

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A picture containing chart

Description automatically generated

5. Примери с ограничения:

---------------------------------------------/\*PRIMARY KEYS\*/

ALTER TABLE videocard ADD CONSTRAINT PK\_videocards PRIMARY KEY(vc\_name);

ALTER TABLE memory ADD CONSTRAINT PK\_memory PRIMARY KEY(mem\_name);

ALTER TABLE product ADD CONSTRAINT PK\_product PRIMARY KEY (id);

ALTER TABLE mouse ADD CONSTRAINT PK\_mouse PRIMARY KEY(mouse\_name);

ALTER TABLE headphones ADD CONSTRAINT PK\_headphones PRIMARY KEY(hp\_name);

ALTER TABLE corder ADD CONSTRAINT PK\_corder PRIMARY KEY(item\_id,order\_id);

ALTER TABLE customer ADD CONSTRAINT PK\_customer PRIMARY KEY(id);

ALTER TABLE custaddress ADD CONSTRAINT PK\_custaddress PRIMARY KEY(customer\_id);

ALTER TABLE wishlist ADD CONSTRAINT PK\_wishlist PRIMARY KEY(customer\_id,item\_id);

---------------------------------------------/\*FOREIGN KEYS\*/

ALTER TABLE memory ADD CONSTRAINT FK\_memory\_product FOREIGN KEY(item\_id) REFERENCES product(id)

ALTER TABLE videocard ADD CONSTRAINT FK\_videocard\_product FOREIGN KEY(item\_id) REFERENCES product(id)

ALTER TABLE headphones ADD CONSTRAINT FK\_headphones\_product FOREIGN KEY(item\_id) REFERENCES product(id)

ALTER TABLE mouse ADD CONSTRAINT FK\_mouse\_product FOREIGN KEY(item\_id) REFERENCES product(id)

ALTER TABLE corder ADD CONSTRAINT FK\_corder\_product FOREIGN KEY(item\_id) REFERENCES product(id)

ALTER TABLE corder ADD CONSTRAINT FK\_corder\_customer FOREIGN KEY(customer\_id) REFERENCES customer(id)

ALTER TABLE custaddress ADD CONSTRAINT FK\_custaddress\_customer FOREIGN KEY(customer\_id) REFERENCES customer(id)

ALTER TABLE wishlist ADD CONSTRAINT FK\_wishlist\_customer FOREIGN KEY(customer\_id) REFERENCES customer(id)

ALTER TABLE wishlist ADD CONSTRAINT FK\_wishlist\_product FOREIGN KEY(item\_id) REFERENCES product(id)

---------------------------------------------/\*CHECK\*/

ALTER TABLE memory ADD CONSTRAINT CK\_memory

CHECK(size > 0 and warranty > 0 and price < 0 and rgb\_light in ('Y', 'N'))

ALTER TABLE videocard ADD CONSTRAINT CK\_videocard

CHECK(size > 0 and warranty > 0 and price > 0);

ALTER TABLE mouse ADD CONSTRAINT CK\_mouse

CHECK(warranty > 0 and price > 0);

ALTER TABLE headphones ADD CONSTRAINT CK\_headphones

CHECK(warranty > 0 and price > 0 and microphone in ('Y','N'));

ALTER TABLE corder ADD CONSTRAINT CK\_corder

CHECK(quantity > 0);

1. Заключения

Нашата база данни може да се подобри с внедряването на изгледи, индекси и тригери по описания начин:

1. Примери с изгледи и индекси

* Изгледи

Create View cheapMice

as SELECT \*

FROM mouse m

where m.price < 100;

GO

Create View cheapHeadphones

as SELECT \*

FROM headphones

where price < 200;

GO

Create View cheapMemories

as SELECT \*

FROM mouse m

where m.price < 300;

GO

Create View cheapVideoCards

as SELECT \*

FROM mouse m

where m.price < 200;

GO

Create View CustomersBigWishList

as

SELECT w.customer\_id, COUNT(w.item\_id) as "num\_products"

FROM WATCHLIST w

GROUP BY (w.customer\_id)

HAVING COUNT(w.item\_id) > 10

GO

Create View RazerProducts

as

SELECT \*

FROM product

where prod\_brand = '%Razer%'

Първите 4 изгледа улесняват търсенето на по-евтините продукти, 5-тия изглед – търсенето на клиенти с wishlist с повече от 10 артикула, а 6-тия изглед показва всички продукти на марката “Razer”.

* Индекси

CREATE INDEX idx\_memory\_price

ON memory(price)

CREATE INDEX idx\_memory\_item\_id

ON memory(item\_id)

CREATE INDEX idx\_videocard\_price

ON videocard(price)

CREATE INDEX idx\_mouse\_price

ON mouse(price)

CREATE INDEX idx\_headphones\_price

ON headphones(price)

CREATE INDEX idx\_customer\_id

ON corder(customer\_id)

CREATE INDEX idx\_customer\_id

ON customer(cust\_name, cust\_surname)

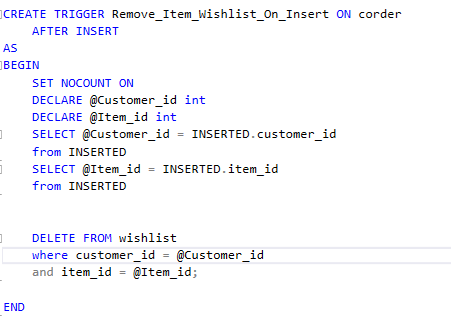
Създадените индекси са избрани на база целесъобразност и функционалност. Спазени са добрите практики посочени в упражнение 11. Първите 4 индекса са поставени върху атрибут цена на различните продукти, защото така достъпването на тази информация от базата ще стане по-бързо (особено при повече кортежи при евентуално разширяване). 5-тият индекс е към атрибута customer\_id на corder, за да може да се достъпи информацията за поръчки и от него, тъй като SQL вече е създал clustered индекс по подразбиране за атрибутите order\_id и item\_id.

2. Примери с тригери:

1) Един от начините за доразвиване на системата е чрез тригери.

Първият тригер е свързан с таблицата corder. Клиентите имат възможността да запазват своите желани продукти, а те се пазят в таблицата wishlist. При покупка на такъв продукт от клиент, който има този продукт в wishlist-a си, той трябва да се махне от списъкът му с желани продукти.

Пример: В wishlist-a има клиент с id 2 , който е сложил продукт с id 3 като желан.При закупуване на съответния продукт от клиент с id 3 в corder влиза кортеж с customer\_id 2 и item\_id 3. След което кортежът с customer\_id 2 и item\_id 3 от таблицата wishlist бива изтрит.



2) Вторият тригер е направен с цел да не може да влезе кортеж в corder

с quantity на даден продукт , което quantity е по-голямо от quantity-то на самия продукт в една от таблиците: headphones, mouse, videocard и memory. Ако такъв кортеж бива въведен в следствие на изпълнението на insert statement,той бива премахнат. Ако обаче се подаде по-малко число като количество за покупка в таблицата corder, то кортежът успешно се въвежда в таблицата corder и количеството на наличните съответни продукти се намалява с заявено закупеното количество.

