**Introduction**

In modern life it is important to design projects before handle with them or mange them. All business projects need management systems to be managed effectively and increase productivity.

Supermarkets handle with management systems contains customer details, received, and bought products, employee details and depo information. All these information is stored in databases and these databases are designed in different platforms.

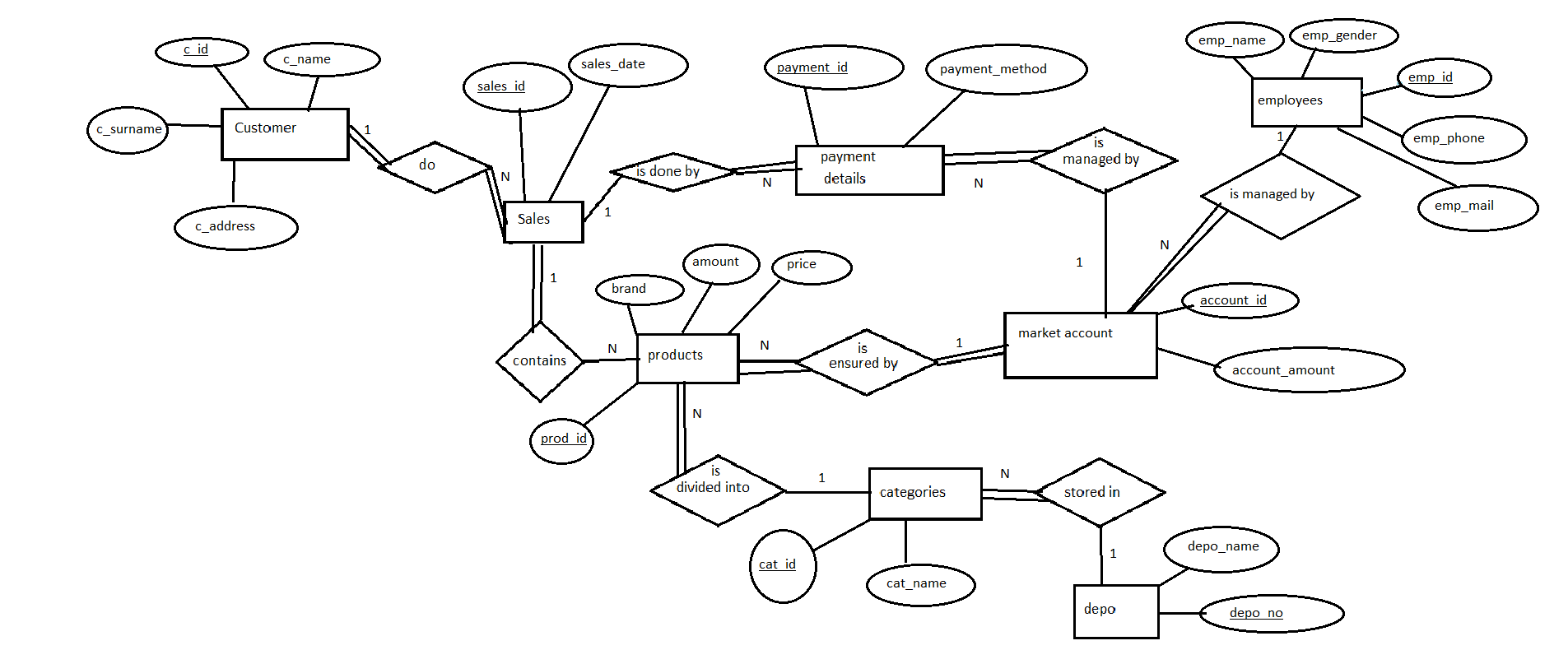
**General information**

As a database I used oracle database and SQL developer. Firstly, I created ER diagram of all entities and relations. I used insert, create, alter, update, create view

, join, drop commands on my project.

**Explanation:**

**Customer** table describes all customers’ information. **Sales** table describes information about customers’ shopping details like sales date. **Products** table illustrates all information about the products including price, brand etc. **Categories** table describes categories of products. **Depo** shows which categories stored in which depo. **Market account** shows all transactions hold in market doing by employees. **Payment details** table described customers’ payment methods and linked to products table. **Employees** table shows information about employees.



**Comments:**

I add some constraints like not null, primary key. I used alter commands and create view. I also used some select commands for multiple tasks.

**Code:**

CREATE SEQUENCE dept\_seq START WITH 100;

create table customer(

c\_name varchar2(50) not null,

c\_surname varchar2(50) not null,

c\_address varchar2(50),

c\_id number primary key

);

alter table customer

modify c\_address varchar2(50) not null;

create table sales(

sales\_id number primary key,

sales\_date date not null,

fk\_sal\_customer\_id references customer(c\_id)

);

create table products(

prod\_id number primary key,

brand varchar2(50) not null,

price decimal not null,

amount decimal not null,

total decimal not null,

fk\_sal\_prod\_id references sales(sales\_id),

fk\_cat\_prod\_id references categories(cat\_id),

fk\_mar\_prod\_id references market\_account(account\_id)

);

alter table products

modify price float;

alter table products

modify amount float;

alter table products

modify total float;

CREATE SEQUENCE dept\_seq START WITH 100;

create table categories(

cat\_name varchar2(50) NOT NULL,

cat\_id number default dept\_seq.nextval not null

);

alter table categories

add constraint cat\_pk primary key(cat\_id);

create table depo(

depo\_name varchar2(50) not null,

depo\_no number primary key

);

alter table depo

add fk\_depo\_cat\_pk references categories(cat\_id);

CREATE SEQUENCE acc\_seq START WITH 201;

create table market\_account(

account\_amount number not null,

account\_id number default acc\_seq.nextval not null

);

alter table market\_account

add constraint acc\_pk primary key(account\_id);

alter table market\_account

add fk\_markt\_pay\_id references payment\_details(payment\_id);

alter table market\_account

add fk\_markt\_emp\_id references employees0(emp\_id);

alter table market\_account

modify account\_amount decimal;

create table payment\_details(

payment\_method varchar2(50) check (payment\_method = 'cash' or payment\_method='card'),

payment\_id number primary key,

fk\_prod\_id references products(prod\_id)

);

alter table payment\_details

drop column fk\_prod\_id;

alter table payment\_details

add fk\_sal\_pay\_id references sales(sales\_id);

create table employees0(

emp\_name varchar2(50) not null,

emp\_gender varchar2(30) check (emp\_gender = 'female' or emp\_gender='male'),

emp\_id number primary key,

emp\_phone number not null,

emp\_mail varchar2(100) not null

);

alter table employees0

add emp\_surname varchar2(30) not null;

insert into Customer values('Kylian','Mbappe','Paris',102101);

insert into Customer values('Lionel','Messi','Buenos-aires',102102);

insert into Customer values('Neymar','Jr','Lion',102103);

insert into Customer values('Ali','Mammadzade','Baku',102104);

insert into Customer values('Aykhan','Huseynli','Saatli',102105);

insert into Customer values('Vusal','Rustamov','Baku',102106);

insert into Customer values('Ilham','Aliyev','Moscow',102107);

insert into Customer values('Ali','Karimli','Saatli',102108);

insert into Customer values('Kerim','Babacanov','Shamkir',102109);

insert into Customer values('Azer','Suleymanov','Moscow',102110);

select \* from customer;

insert into categories values('meat',101);

insert into categories values('diary',102);

insert into categories values('vegetable',103);

insert into categories values('cooking',104);

insert into categories values('drinks',105);

insert into categories values('cleaning',106);

insert into categories values('candy',107);

insert into categories values('fast meals',108);

insert into categories values('for home',109);

insert into categories values('alcoholic drinks',110);

select\*from categories;

insert into sales values(4567,'12 December 2022',102105);

insert into sales values(4568,'13 December 2022',102102);

insert into sales values(4569,'13 December 2022',102106);

insert into sales values(4570,'14 December 2022',102110);

insert into sales values(4571,'15 December 2022',102108);

insert into sales values(4572,'16 December 2022',102107);

insert into sales values(4573,'16 December 2022',102104);

insert into sales values(4574,'16 December 2022',102103);

insert into sales values(4575,'17 December 2022',102101);

insert into sales values(4576,'17 December 2022',102109);

select\*from sales;

insert into depo values('depo1',049,107);

insert into depo values('depo1',050,103);

insert into depo values('depo1',051,105);

insert into depo values('depo1',052,104);

insert into depo values('depo1',053,102);

insert into depo values('depo1',054,101);

insert into depo values('depo1',055,108);

insert into depo values('depo1',056,107);

select\*from depo;

insert into employees0 values('Narmina','female',1309092,994557007710,'narmina@gmail.com','Namazova');

insert into employees0 values('Azer','male',1309093,994557007711,'azer@gmail.com','Suleymanov');

insert into employees0 values('Azad','male',1309094,994557007712,'azad@gmail.com','Suleymanov');

insert into employees0 values('Tural','male',1309095,994557007713,'tural@gmail.com','Rustamli');

insert into employees0 values('Aysel','female',1309096,994557007714,'aysel@gmail.com','Isayeva');

insert into employees0 values('Narmin','female',1309097,994557007715,'narmin@gmail.com','Zeynalova');

insert into employees0 values('Nureddin','male',1309098,994557007716,'nureddin@gmail.com','Aliyev');

insert into employees0 values('Orxan','male',1309099,994557007717,'orxan@gmail.com','Kerimov');

insert into employees0 values('Nicat','male',1309100,994557007718,'nicat@gmail.com','Bagirov');

insert into employees0 values('Senan','male',1309101,994557007719,'senan@gmail.com','Mammadov');

select\*from employees0;

insert into payment\_details values('cash',20510,4568);

insert into payment\_details values('cash',20511,4570);

insert into payment\_details values('cash',20512,4567);

insert into payment\_details values('card',20513,4573);

insert into payment\_details values('cash',20514,4574);

insert into payment\_details values('card',20515,4571);

insert into payment\_details values('card',20516,4572);

insert into payment\_details values('cash',20517,4569);

insert into payment\_details values('cash',20518,4575);

insert into payment\_details values('card',20519,4576);

select\*from payment\_details;

insert into market\_account values(19300,201,20510,1309092);

insert into market\_account values(20059,202,20511,1309093);

insert into market\_account values(13434,203,20512,1309094);

insert into market\_account values(17560,204,20513,1309095);

insert into market\_account values(1934,205,20514,1309096);

insert into market\_account values(3004,206,20515,1309097);

insert into market\_account values(1423,207,20516,1309098);

insert into market\_account values(34234,208,20517,1309099);

insert into market\_account values(1122,209,20518,1309100);

insert into market\_account values(34443,210,20519,1309101);

select\*from market\_account;

insert into products values(999001,'Coca-cola',0.70,2,1.40,4567,105,201);

insert into products values(999010,'Beef',12.0,2,24.0,4568,101,202);

insert into products values(999020,'Azersud milk',1.73,1,1.73,4569,102,203);

insert into products values(999030,'Potato Celilabad',0.69,2,1.38,4570,103,204);

insert into products values(999040,'Bine bread',0.70,3,2.10,4571,104,205);

insert into products values(999050,'Shampoo H and S',3.58,1,3.58,4572,106,206);

insert into products values(999060,'Turk pakhlava',25.0,0.200,5.0,4573,107,207);

insert into products values(999070,'Pizza',14.0,1,14.0,4574,108,208);

insert into products values(999080,'window cleaner',2.90,1,2.90,4575,109,209);

insert into products values(999090,'Mamedoff klassik araq',14.50,1,14.50,4576,110,210);

--creating views--

--details about producst--

create view products\_view

as select prod\_id,brand,price from products;

select\*from products\_view;

--details about categories and products together--

create view prod\_categories

as select products.brand,categories.cat\_name from products

left join categories

on categories.cat\_id=products.fk\_cat\_prod\_id;

select\*from prod\_categories;

select\*from products;

update products

set total=14.50

where prod\_id=999090;

-- select command for multiple tasks--

--category id based on category name--

select cat\_id from categories

where cat\_name='drinks';

--product id based on product name--

select prod\_id from products

where brand='Bine bread';

--getting products and prices--

select brand,price from products;

--getting categories name ordered--

select \* from categories order by cat\_name;

--getting sales when 13 december 2022--

select sales.sales\_id,products.brand from sales

left join products

on products.fk\_sal\_prod\_id=sales.sales\_id

where sales.sales\_date='13 December 2022';

--getting employees--

select emp\_id,emp\_name| |' '||emp\_surname as full\_name from employees0;

--updating customer address--

update customer

set c\_address='Baku'

where c\_id=102107;

--getting total sales on 14-17 december 2022--

select sum(total) from products

left join sales

on sales.sales\_id=fk\_sal\_prod\_id

where sales\_date between '14 December 2022' and '17 December 2022';

--change the date 12 december to 13 december--

update sales

set sales\_date=to\_date('13 December 2022','DD-MON-YYYY')

where sales\_date=to\_date('12 December 2022');

-- select all products with 15% discount--

select brand,price as old\_price,price-price\*0.15 as discount\_price from products;

-- show which customer buys which products--

create view customer\_sales

as select sales.sales\_id,customer.c\_name ||' '|| customer.c\_surname as c\_fullname from customer

left join sales

on sales.fk\_sal\_customer\_id=customer.c\_id;

select\*from customer\_sales;

create view customer\_product

as select customer\_sales.c\_fullname,products.brand from customer\_sales

left join products

on products.fk\_sal\_prod\_id=customer\_sales.sales\_id;

select\*from customer\_product;

--order products by price--

select price from products

order by price desc;

--select top 5 expensive products--

select brand,price from products

order by price desc

fetch first 5 rows only;

-- select employee names oredred by alphabet--

select emp\_name||' '||emp\_surname from employees0

order by emp\_name;