VIETNAM NATIONAL UNIVERSITY
UNIVERSITY OF ECONOMICS AND LAW
FACULTY OF INFORMATION SYSTEM

SUBJECT: DATABASE
REPORT
GROCERY STORE MANAGEMENT

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Ho Chi Minh City, June 1st, 2020

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CHAPTER 1: PROJECT’S OVERVIEW

1.1 Overview of the problem and introduction

- Nowadays, most of the grocery stores in Vietnam still use a paper management system. This leads to a lot of inconvenience and difficulty for the owners when it comes to storage and evaluation of their business. While technology is growing, the traditional paper method might increase inadequate and making difficult for the owner management.
- The disadvantage of the traditional paper method is if the owners want to evaluate the revenue each month, it will cost a lot of time to measure.

1.2 The reason for choosing the project

- First of all, selecting this topic comes from reality, we can create a grocery store management program that helps a lot of grocery owners in selling and controlling their business.
- Previously, owners could only measure their revenue manually each day. And by collecting all the paper each day they will have the result for each month and so on.
- Therefore, the grocery store management solution was born to serve the essential needs of the owners in managing their products and selling status.
- The application of IT has brought a breakthrough for grocery management, helping the owners to collect information about their invoices, products, and customers accurately and promptly. From there, the owners can make the right decisions for their business.
- This tracking system aims to improve the management quality of their business and avoid the mistakes of the traditional method.

1.3 The benefits of using Grocery Store Management Application

- Supervising their grocery activities comprehensively, in real-time. Data is store in digital form, which easy to evaluate. The report figures are accurate.
- Provide information, revenue reports, and order payments.
- Saving time, effort, and optimize sale revenues.

1.4 Task description

❖ ***Management information***

– Customers information.

– Managing revenue per month.

❖ ***Products management***

– Products information

– Suppliers information

❖ ***Selling management process***

– Enter the sale order of each customer

– Evaluate and classify at the end of each month

❖ ***Storage process***

– At the beginning of each month or when out of stock, increase the number of products.

❖ ***Management process***

– The mission is responsible for managing the information related to the date, customers, invoices, products, and supplier's information at the beginning of each month or changes each week.

CHAPTER 2: USER REQUIREMENT ANALYSIS

2.1 Entity

- From the research and survey process, setting out the professional requirements in the process of managing a grocery store, our group has identified some important information that needs to manage and develop into data entities are:

- Customer
- Invoice
- Product
- Supplier

2.2 User requirements

2.2.1 For saving purpose

- Customer: Customer ID, Customer Name, Birthday, Address, Phone Number.
- Invoice: Invoice ID, Customer ID, Date, Price.
- Product: Product ID, Product Name, Product Category, Price, Number, Supplier ID.
- Supplier: Supplier ID, Supplier Name, Address, Phone Number.

2.2.2 Information queries

❖ ***Customer management***

- Function: manage all the information of the customer. Such as add, delete, and update customer information. Find customer information by some specific attribute.

❖ ***Invoice management***

- Function: manage all the information on each invoice. Such as add invoices, make sale order, and evaluate revenue.

❖ ***Product management***

- Function: manage all the information on each product. Such as add, delete, and update product information. Find product information by some specific attribute. Sort the product by category.

❖ ***Category management***

- Function: manage all the information on each category. Such as add, delete, and update category information.

- ***Supplier management***

– Function: manage all the information of the supplier. Such as add, delete, and update supplier information. Find supplier information by some specific attribute

- ***Selling management***

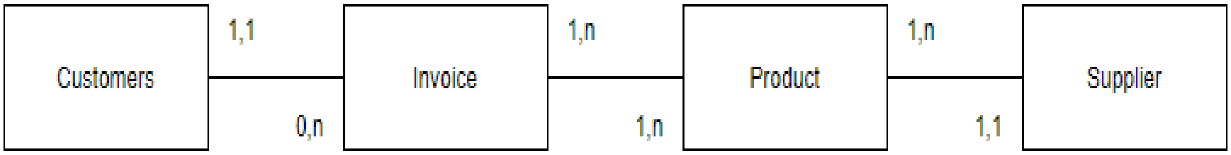
– Function: allow owners to pick up the product into sale order and make the payment. Tracking the change in the inventory after each sale order.

- ***Sign-in***

– Function: allow owners to sign-in the systems. Changing the fixed password.

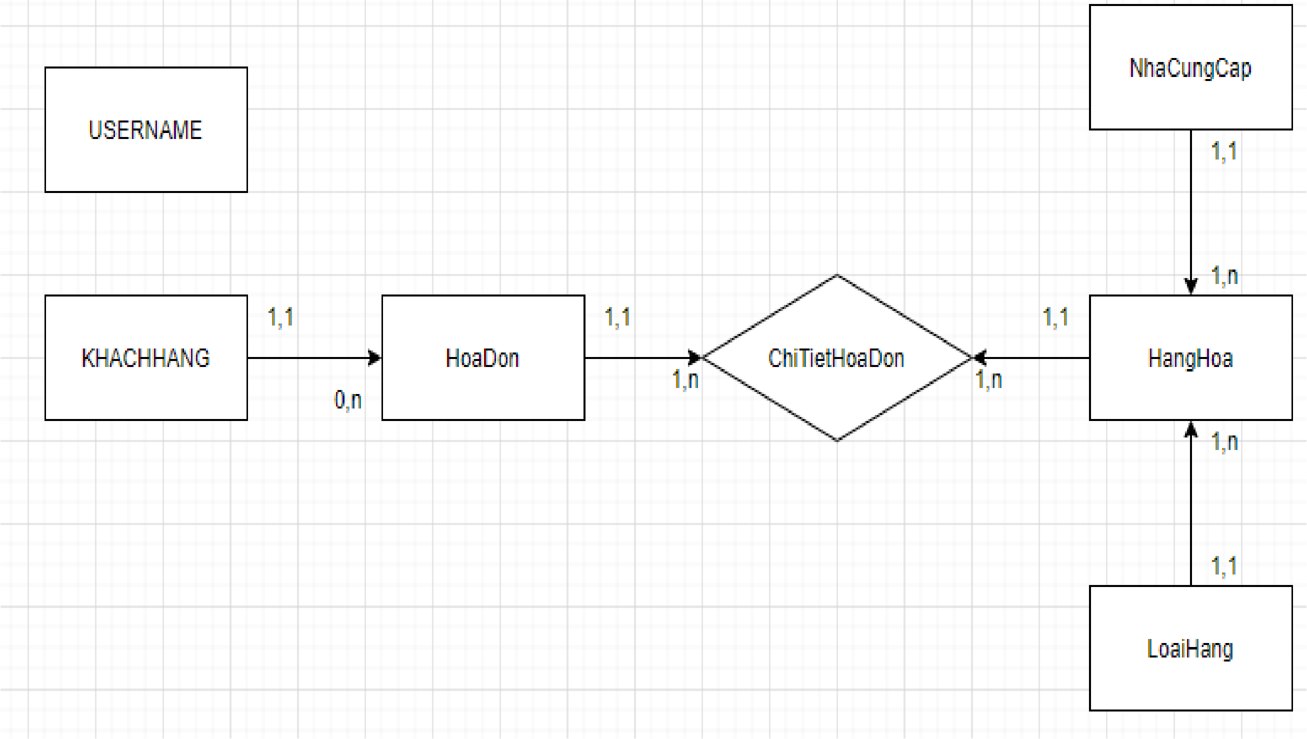
CHAPTER 3: DATABASE DESIGNING

3.1 Conceptual model



- Customer: saving information about customer identification, customer name, home address, date of birth, and phone number.
- Invoice: saving information about customer identification, invoice identification, date invoice created, the price of the invoice.
- Product: saving information about product identification, product name, product category, the price of the product, amount of the product, supplier identification.
- Supplier: saving information about supplier identification, supplier name, supplier address, and phone number.

3.2 ERD design



Based on information from management requirements and the conceptual model, our group has defined relationships between entities as follows:

❖ ***KHACHHANG – HoaDon (1 - n)***

– The relationship between KHACHHANG and HoaDon is one to many, which means that each KHACHHANG has multiple HoaDon and each HoaDon only belongs to one KHACHHANG.

❖ ***HoaDon – ChiTietHoaDon (1 - n)***

– The relationship between HoaDon and ChiTietHoaDon is one to many, which means that each HoaDon has multiple ChiTietHoaDon and each ChiTietHoaDon only belongs to one HoaDon.

❖ ***HangHoa – ChiTietHoaDon (1 – n)***

– The relationship between HangHoa and ChiTietHoaDon is one to many, which means that each HangHoa has multiple ChiTietHoaDon and each ChiTietHoaDon only belongs to one HangHoa.

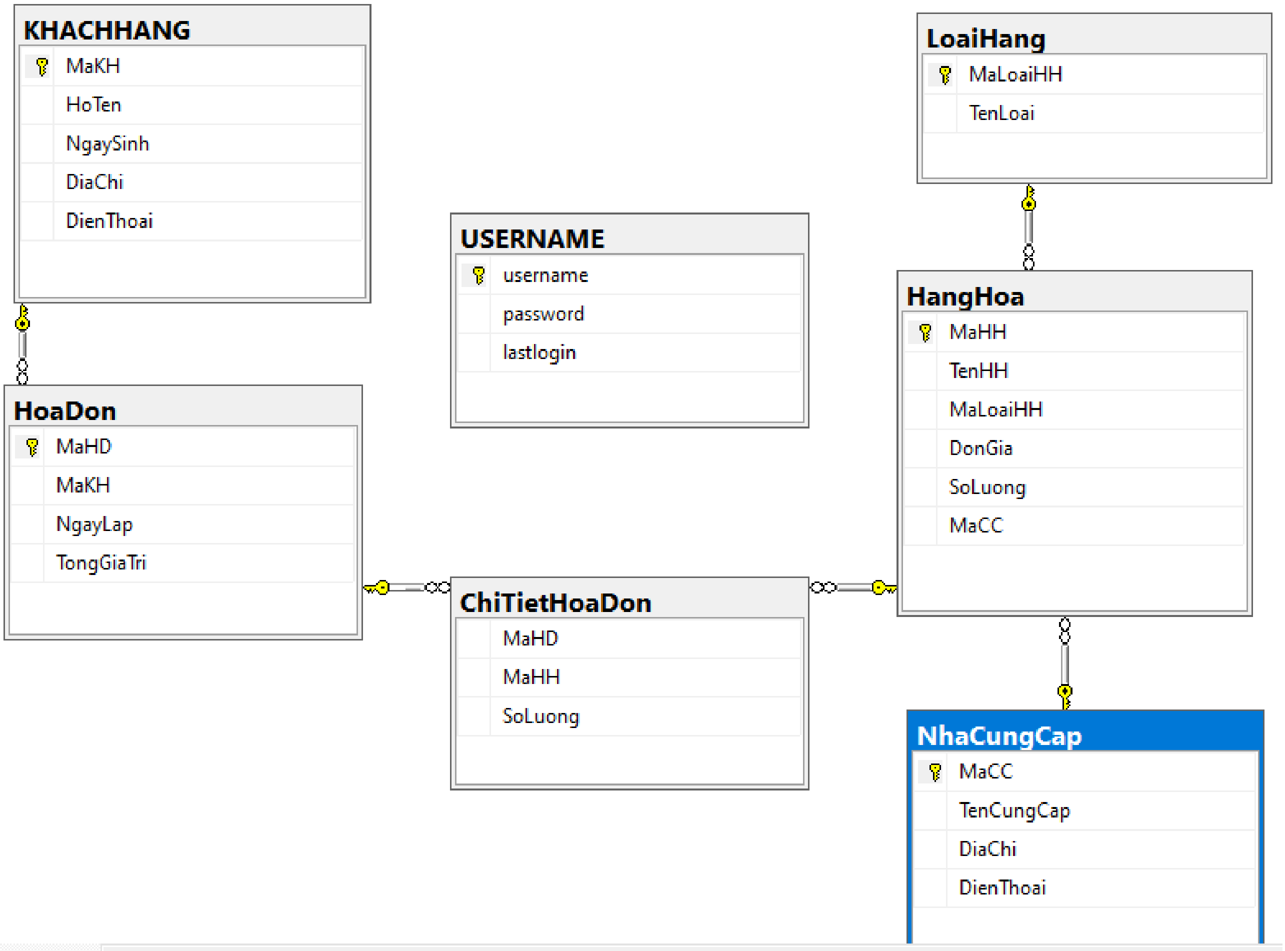
❖ ***LoaiHang – HangHoa (1 – n)***

- The relationship between LoaiHang and HangHoa is one to many, which means that each LoaiHang has multiple HangHoa and each HangHoa only belongs to one LoaiHang.

❖ ***NhaCungCap – HangHoa (1 – n)***

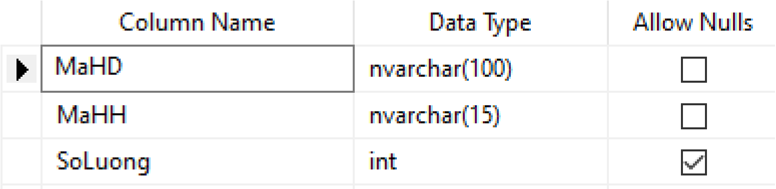
- The relationship between NhaCungCap and HangHoa is one to many, which means that each NhaCungCap has multiple HangHoa and each HangHoa only belongs to one NhaCungCap.

3.3 Logical diagram



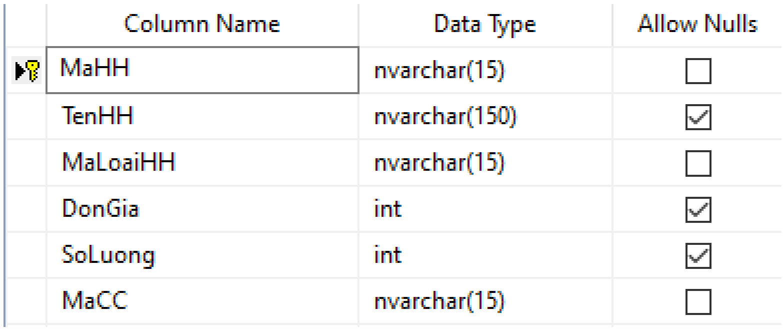
3.4 Physical design

- ***Table ChiTietHoaDon***



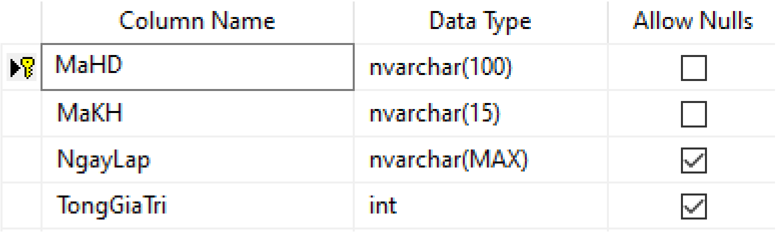
Column Name	Data Type	Allow Nulls
MaHD	nvarchar(100)	☐
MaHH	nvarchar(15)	☐
SoLuong	int	☑

❖ *Table HangHoa*



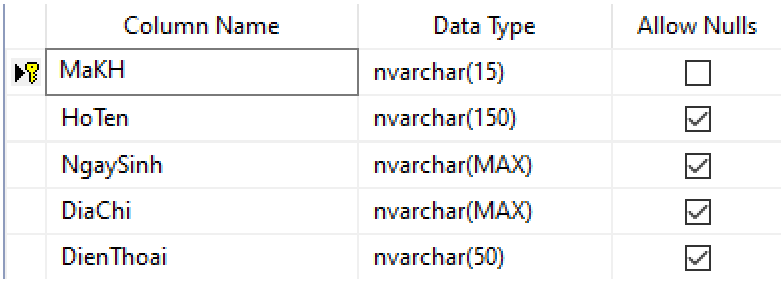
	Column Name	Data Type	Allow Nulls
▶🔑	MaHH	nvarchar(15)	☐
	TenHH	nvarchar(150)	☑
	MaLoaiHH	nvarchar(15)	☐
	DonGia	int	☑
	SoLuong	int	☑
	MaCC	nvarchar(15)	☐

❖ *Table HoaDon*



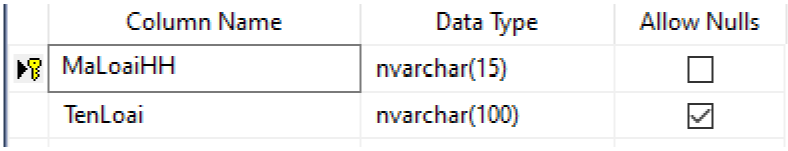
	Column Name	Data Type	Allow Nulls
▶🔑	MaHD	nvarchar(100)	☐
	MaKH	nvarchar(15)	☐
	NgayLap	nvarchar(MAX)	☑
	TongGiaTri	int	☑

❖ *Table KHACHHANG*



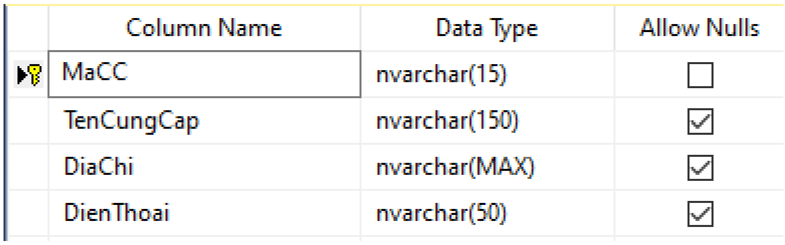
	Column Name	Data Type	Allow Nulls
▶🔑	MaKH	nvarchar(15)	☐
	HoTen	nvarchar(150)	☑
	NgaySinh	nvarchar(MAX)	☑
	DiaChi	nvarchar(MAX)	☑
	DienThoai	nvarchar(50)	☑

❖ *Table LoaiHang*



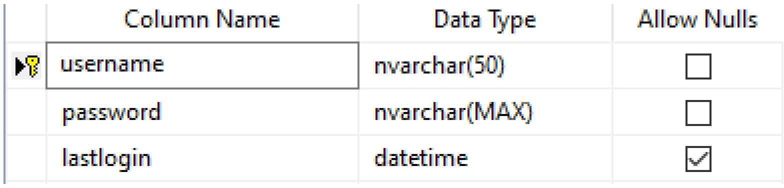
	Column Name	Data Type	Allow Nulls
▶🔑	MaLoaiHH	nvarchar(15)	☐
	TenLoai	nvarchar(100)	☑

❖ *Table NhaCungCap*



Column Name	Data Type	Allow Nulls
MaCC	nvarchar(15)	□
TenCungCap	nvarchar(150)	☑
DiaChi	nvarchar(MAX)	☑
DienThoai	nvarchar(50)	☑

❖ *Table USERNAME*



Column Name	Data Type	Allow Nulls
username	nvarchar(50)	□
password	nvarchar(MAX)	□
lastlogin	datetime	☑

3.5 Integrity constraint

Integrity Constraint (Rule) and check the error of integrity is a very important issue in the process of analyzing and exploiting and designing a database material.

R0: On the relationship between ChiTietHoaDon and HangHoa, the SoLuong attribute in the ChiTietHoaDon table must lower than the SoLuong attribute in the HangHoa table.

Form specification:

$$\text{R0: } \forall\, x \in ChiTietHoaDon, y \in HangHoa,$$
$$x.MaHH = y.MaHH \rightarrow x.SoLuong \leq y.SoLuong$$

Influence table:

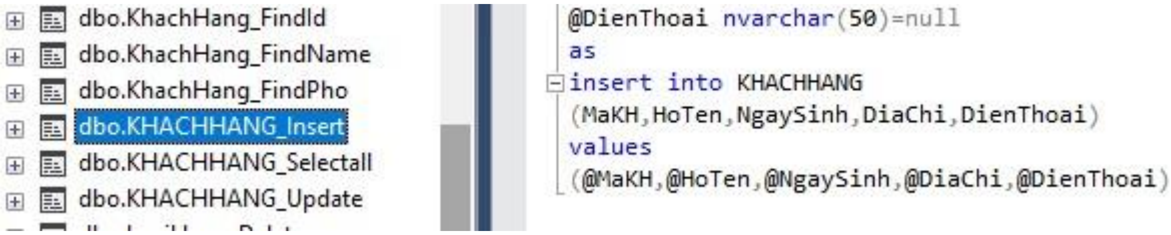
R0	Add	Delete	Fix
HangHoa	-	+	+ (SoLuong)
ChiTietHoaDon	+	-	

CHAPTER 4: SQL SOLVING

4.1 Customer management

❖ ***Insert***

– The following SQL statement will insert a new record, insert data in the “MaKH”, “HoTen”, “NgaySinh”, “DiaChi”, “DienThoai” columns in “KHACHHANG” table.

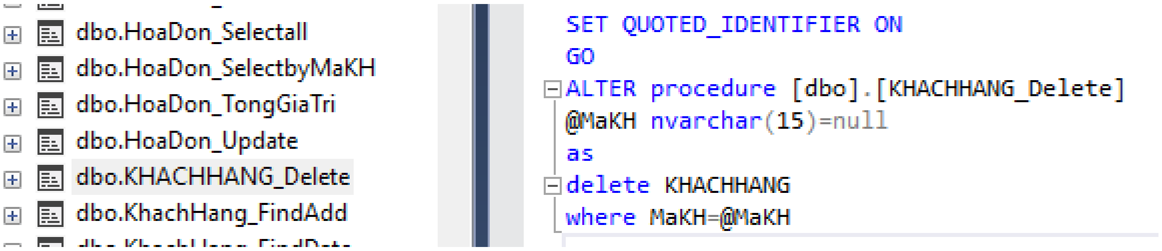


```
dbo.KhachHang_FindId
dbo.KhachHang_FindName
dbo.KhachHang_FindPho
dbo.KHACHHANG_Insert
dbo.KHACHHANG_Selectall
dbo.KHACHHANG_Update
```

```
@DienThoai nvarchar(50)=null
as
insert into KHACHHANG
(MaKH,HoTen,NgaySinh,DiaChi,DienThoai)
values
(@MaKH,@HoTen,@NgaySinh,@DiaChi,@DienThoai)
```

❖ ***Delete***

– The following SQL statement will delete information of “MaKH” in “KHACHHANG” table.

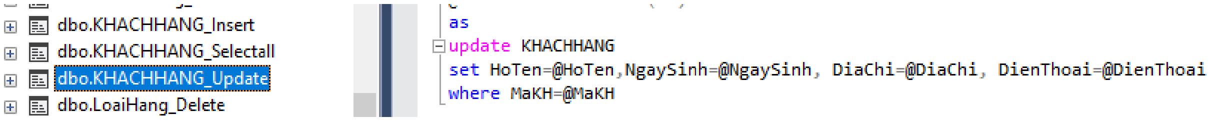


```
dbo.HoaDon_Selectall
dbo.HoaDon_SelectbyMaKH
dbo.HoaDon_TongGiaTri
dbo.HoaDon_Update
dbo.KHACHHANG_Delete
dbo.KhachHang_FindAdd
```

```
SET QUOTED_IDENTIFIER ON
GO
ALTER procedure [dbo].[KHACHHANG_Delete]
@MaKH nvarchar(15)=null
as
delete KHACHHANG
where MaKH=@MaKH
```

❖ ***Update***

– The following SQL statement will update the information of “HoTen”, ”NgaySinh”, ”DiaChi”, “DienThoai” columns in “KHACHHANG” table.



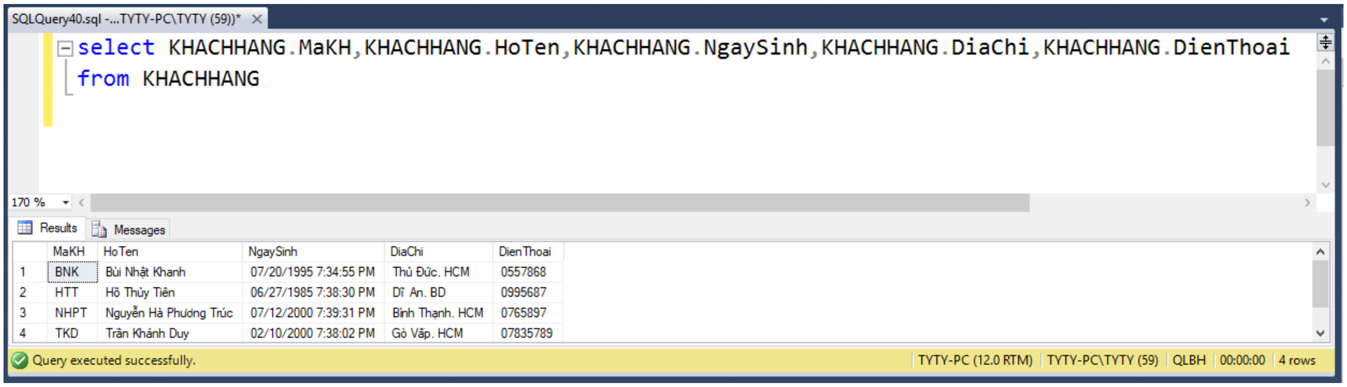
```
dbo.KHACHHANG_Insert
dbo.KHACHHANG_Selectall
dbo.KHACHHANG_Update
dbo.LoaiHang_Delete
```

```
as
update KHACHHANG
set HoTen=@HoTen,NgaySinh=@NgaySinh, DiaChi=@DiaChi, DienThoai=@DienThoai
where MaKH=@MaKH
```

❖ *Display information*

– Display a table containing information of the Customers.

```
SELECT
KHACHHANG.MaKH,KHACHHANG.HoTen,KHACHHANG.NgaySinh,
KHACHHANG.DiaChi,KHACHHANG.DienThoai
FROM KHACHHANG
```



SQLQuery40.sql -...TYTY-PC\TYTY (59))*

```
select KHACHHANG.MaKH,KHACHHANG.HoTen,KHACHHANG.NgaySinh,KHACHHANG.DiaChi,KHACHHANG.DienThoai
from KHACHHANG
```

	MaKH	HoTen	NgaySinh	DiaChi	DienThoai
1	BNK	Bùi Nhật Khanh	07/20/1995 7:34:55 PM	Thủ Đức. HCM	0557868
2	HTT	Hồ Thủy Tiên	06/27/1985 7:38:30 PM	Dĩ An. BD	0995687
3	NHPT	Nguyễn Hà Phương Trúc	07/12/2000 7:39:31 PM	Bình Thạnh. HCM	0765897
4	TKD	Trần Khánh Duy	02/10/2000 7:38:02 PM	Gò Vấp. HCM	07835789

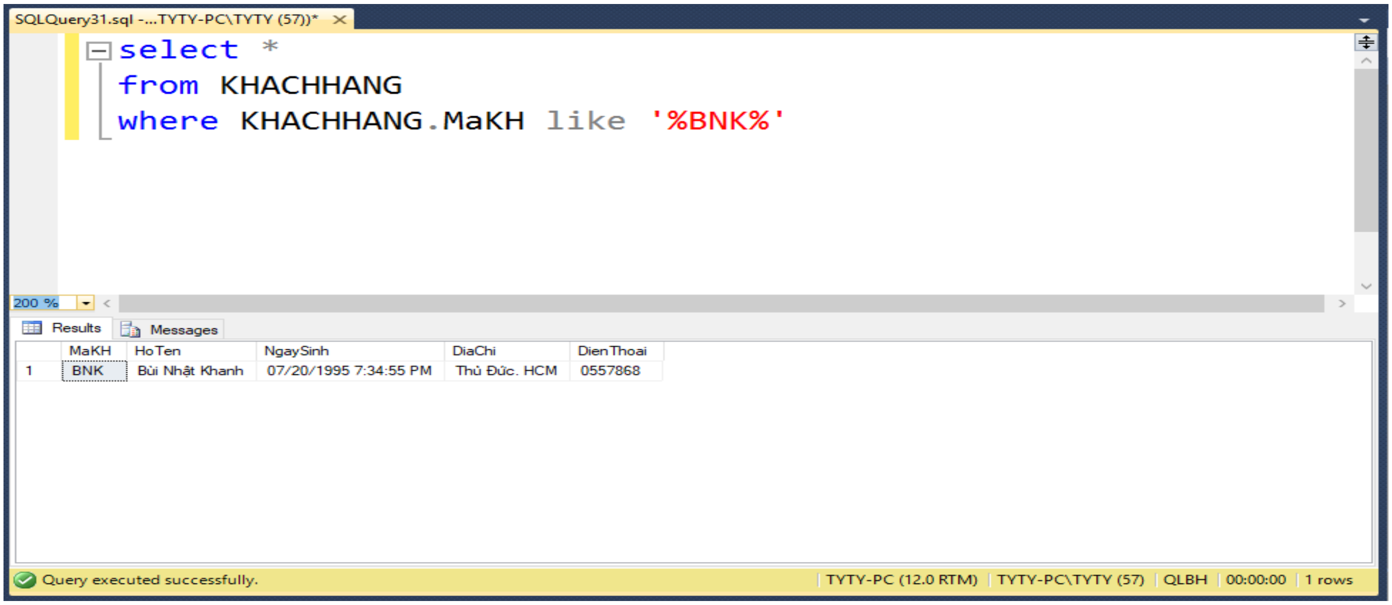
Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 4 rows

❖ *Search information*

– Find information to look up in the Customer table (based on Customer Code/ Full Name/ Date of Birth/ Address/ Phone Number).

- Based on the Customer Code.

```
SELECT * FROM KHACHHANG
WHERE KHACHHANG.MaKH like '%'+@MaKH+'%'
```



SQLQuery31.sql -...TYTY-PC\TYTY (57))*

```
select *
from KHACHHANG
where KHACHHANG.MaKH like '%BNK%'
```

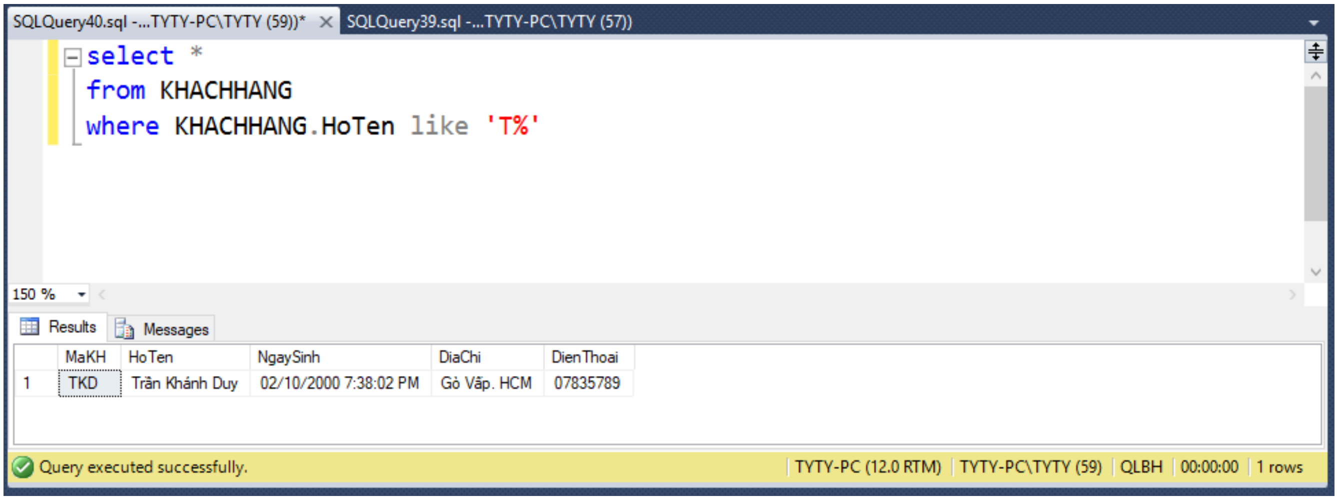
	MaKH	HoTen	NgaySinh	DiaChi	DienThoai
1	BNK	Bùi Nhật Khanh	07/20/1995 7:34:55 PM	Thủ Đức. HCM	0557868

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (57) | QLBH | 00:00:00 | 1 rows

- Based on Full Name.

  SELECT * FROM KHACHHANG

  WHERE KHACHHANG.HoTen like '%'+@HoTen+'%'


SQLQuery40.sql -...TYTY-PC\TYTY (59))*
SQLQuery39.sql -...TYTY-PC\TYTY (57))
150 %
Results
Messages

```
select *
from KHACHHANG
where KHACHHANG.HoTen like 'T%'
```

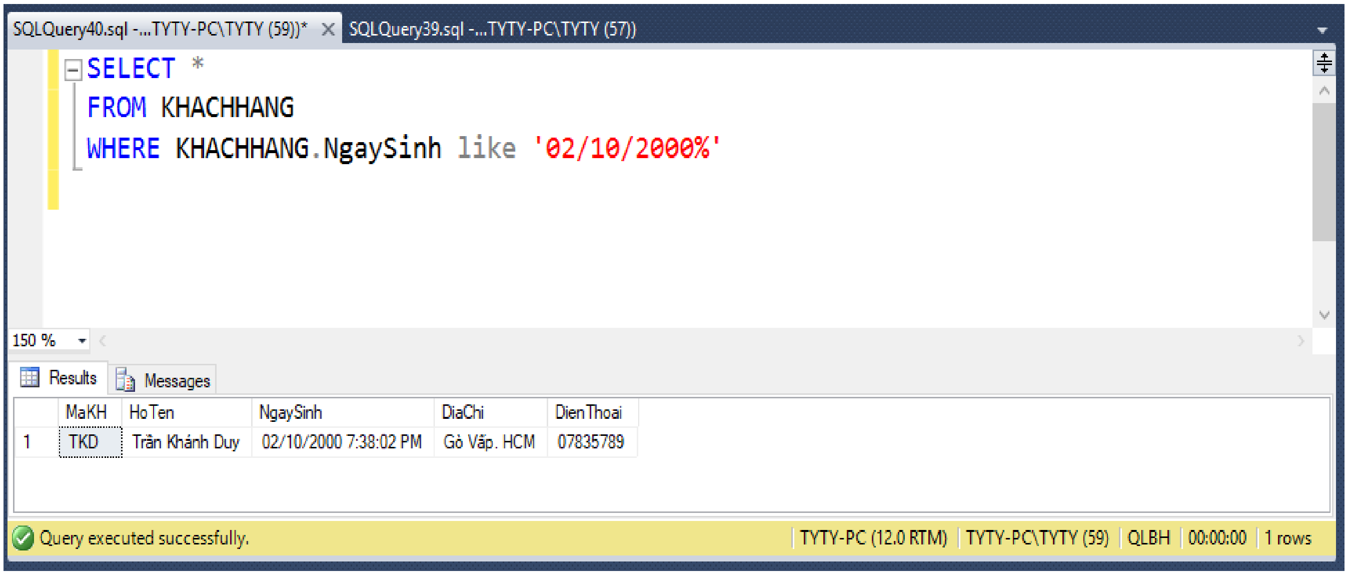
	MaKH	HoTen	NgaySinh	DiaChi	DienThoai
1	TKD	Trần Khánh Duy	02/10/2000 7:38:02 PM	Gò Vấp. HCM	07835789

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

- Based on Date of Birth.

  SELECT * FROM KHACHHANG

  WHERE KHACHHANG.NgaySinh like '%'+@NgaySinh+'%'


SQLQuery40.sql -...TYTY-PC\TYTY (59))*
SQLQuery39.sql -...TYTY-PC\TYTY (57))
150 %
Results
Messages

```
SELECT *
FROM KHACHHANG
WHERE KHACHHANG.NgaySinh like '02/10/2000%'
```

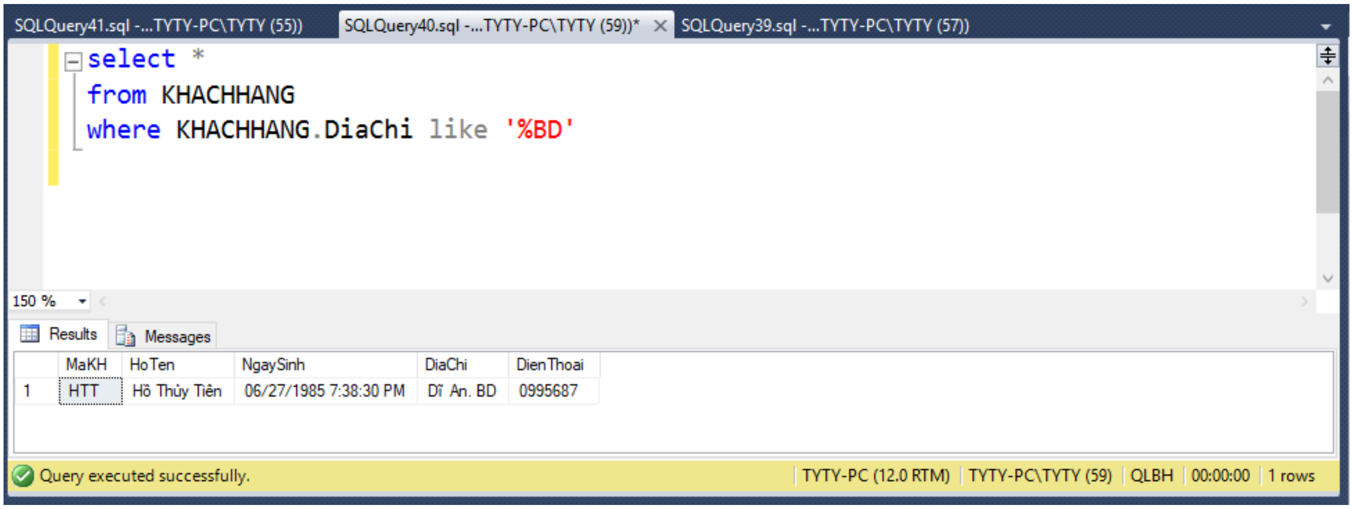
	MaKH	HoTen	NgaySinh	DiaChi	DienThoai
1	TKD	Trần Khánh Duy	02/10/2000 7:38:02 PM	Gò Vấp. HCM	07835789

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

- Based on Address.

  SELECT * FROM KHACHHANG

  WHERE KHACHHANG.DiaChi like '%'+@DiaChi+'%'


SQLQuery41.sql -...TYTY-PC\TYTY (55))
SQLQuery40.sql -...TYTY-PC\TYTY (59))*
SQLQuery39.sql -...TYTY-PC\TYTY (57))
150 %
Results
Messages

```
select *
from KHACHHANG
where KHACHHANG.DiaChi like '%BD'
```

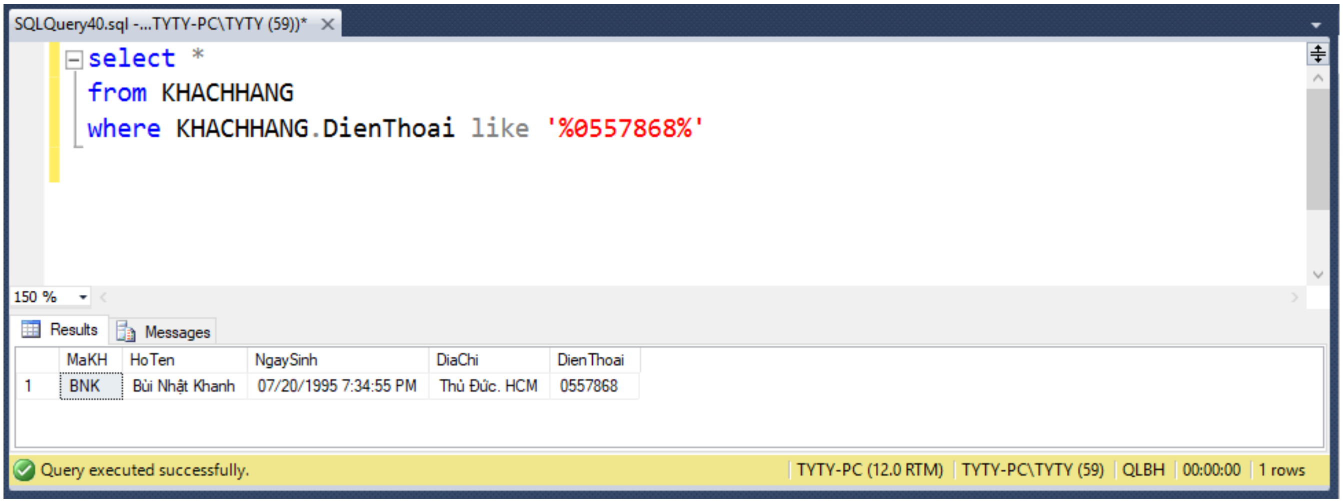
	MaKH	HoTen	NgaySinh	DiaChi	DienThoai
1	HTT	Hồ Thủy Tiên	06/27/1985 7:38:30 PM	Dĩ An. BD	0995687

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

- Based on Phone Number.

  SELECT * FROM KHACHHANG

  WHERE KHACHHANG.DienThoai like '%'+@DienThoai+'%'



```
select *
from KHACHHANG
where KHACHHANG.DienThoai like '%0557868%'
```

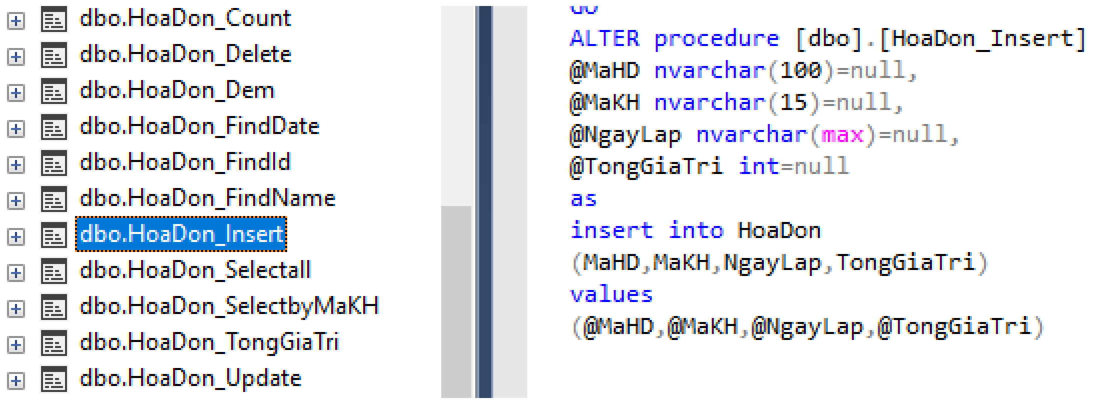
	MaKH	HoTen	NgaySinh	DiaChi	DienThoai
1	BNK	Bùi Nhật Khanh	07/20/1995 7:34:55 PM	Thủ Đức. HCM	0557868

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

4.2 Invoice management

- ***Insert***

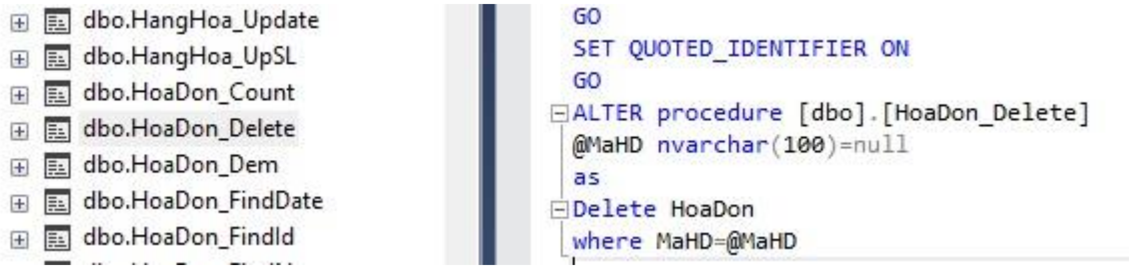
– The following SQL statement will insert a new record, insert data in the “MaHD”, “MaKH”, “NgayLap” and “TongGiaTri” columns in “HoaDon” table.



```sql
ALTER procedure [dbo].[HoaDon_Insert]
@MaHD nvarchar(100)=null,
@MaKH nvarchar(15)=null,
@NgayLap nvarchar(max)=null,
@TongGiaTri int=null
as
insert into HoaDon
(MaHD,MaKH,NgayLap,TongGiaTri)
values
(@MaHD,@MaKH,@NgayLap,@TongGiaTri)
```

- ***Delete***

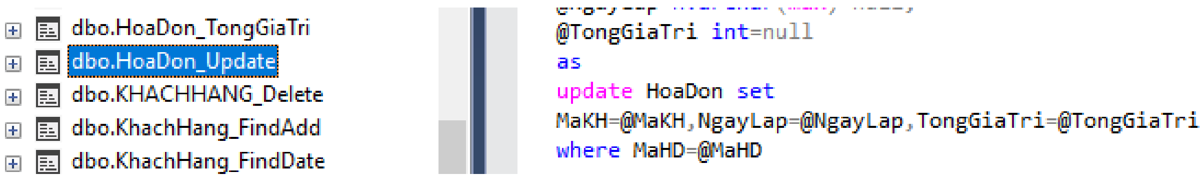
– The following SQL statement will delete information of “MaHD” in “HoaDon” table.



```sql
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER procedure [dbo].[HoaDon_Delete]
@MaHD nvarchar(100)=null
as
Delete HoaDon
where MaHD=@MaHD
```

- ***Update***

– The following SQL statement will update the information of “MaKH”, “NgayLap”, “TongGiaTri” columns in “HoaDon” table.

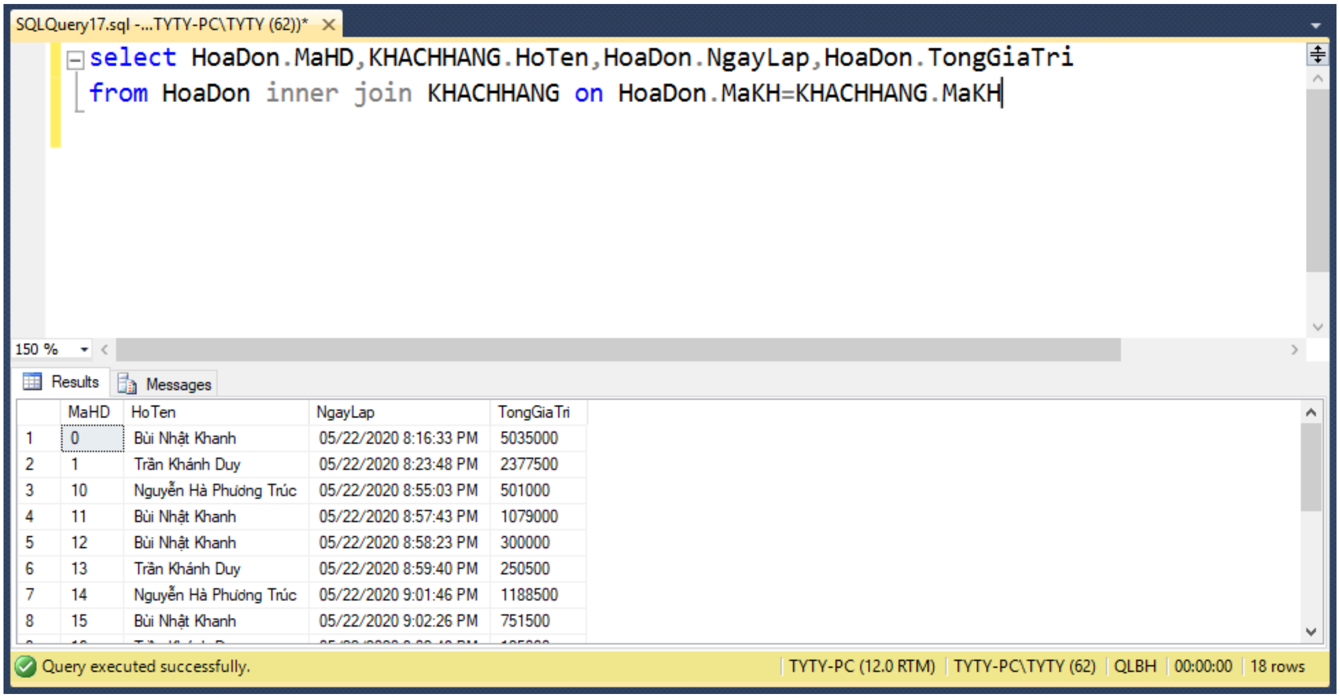


```sql
@TongGiaTri int=null
as
update HoaDon set
MaKH=@MaKH,NgayLap=@NgayLap,TongGiaTri=@TongGiaTri
where MaHD=@MaHD
```

❖ *Display information*

– Display a table describing the sales revenue of the store.

```
SELECT
HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,HoaDon.TongGiaTri
FROM HoaDon inner join KHACHHANG on
HoaDon.MaKH=KHACHHANG.MaKH
```



```
select HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,HoaDon.TongGiaTri
from HoaDon inner join KHACHHANG on HoaDon.MaKH=KHACHHANG.MaKH
```

	MaHD	HoTen	NgayLap	TongGiaTri
1	0	Bùi Nhật Khanh	05/22/2020 8:16:33 PM	5035000
2	1	Trần Khánh Duy	05/22/2020 8:23:48 PM	2377500
3	10	Nguyễn Hà Phương Trúc	05/22/2020 8:55:03 PM	501000
4	11	Bùi Nhật Khanh	05/22/2020 8:57:43 PM	1079000
5	12	Bùi Nhật Khanh	05/22/2020 8:58:23 PM	300000
6	13	Trần Khánh Duy	05/22/2020 8:59:40 PM	250500
7	14	Nguyễn Hà Phương Trúc	05/22/2020 9:01:46 PM	1188500
8	15	Bùi Nhật Khanh	05/22/2020 9:02:26 PM	751500

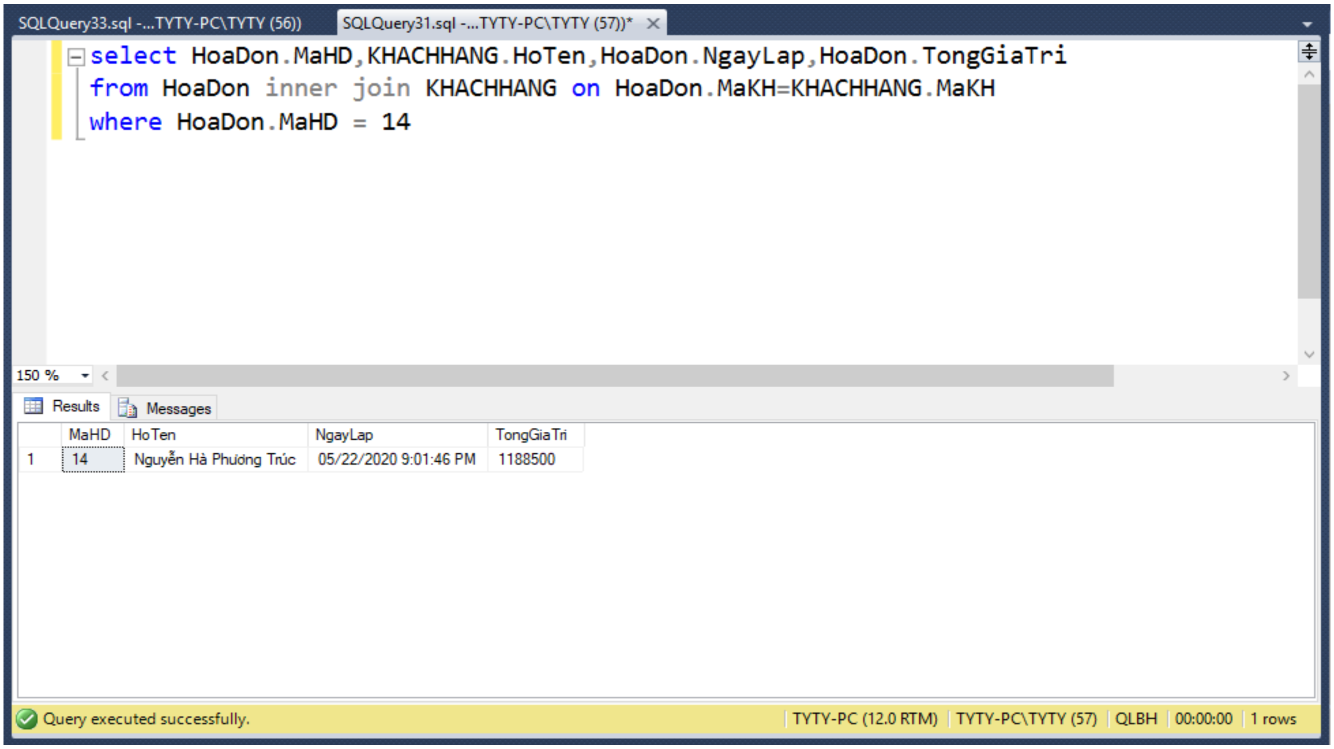
Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (62) | QLBH | 00:00:00 | 18 rows

❖ *Search information*

– Find information to look up in the Sales Revenue table (based on Invoice or Customer or Invoice Date).

- Based on the Invoice.

```
SELECT
HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,HoaDon.TongGiaTri
FROM HoaDon inner join KHACHHANG on
HoaDon.MaKH=KHACHHANG.MaKH
WHERE HoaDon.MaHD = @MaHD
```


SQLQuery33.sql -...TYTY-PC\TYTY (56))
SQLQuery31.sql -...TYTY-PC\TYTY (57))*
150 %
Results
Messages

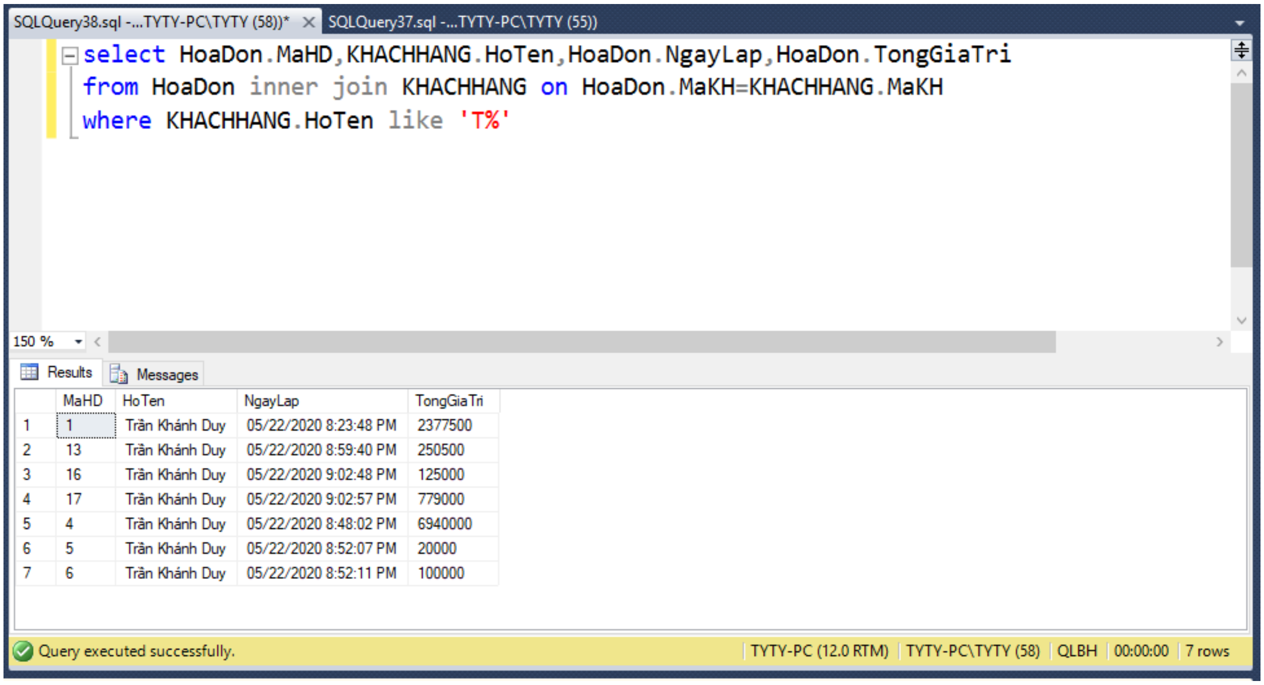
```
select HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,HoaDon.TongGiaTri
from HoaDon inner join KHACHHANG on HoaDon.MaKH=KHACHHANG.MaKH
where HoaDon.MaHD = 14
```

	MaHD	HoTen	NgayLap	TongGiaTri
1	14	Nguyễn Hà Phương Trúc	05/22/2020 9:01:46 PM	1188500

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (57) | QLBH | 00:00:00 | 1 rows

- Based on Customer.

```
SELECT HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,
HoaDon.TongGiaTri
FROM HoaDon inner join KHACHHANG on
HoaDon.MaKH=KHACHHANG.MaKH
WHERE KHACHHANG.HoTen like '%'+@HoTen+'%'
```


SQLQuery38.sql -...TYTY-PC\TYTY (58))*
SQLQuery37.sql -...TYTY-PC\TYTY (55))
150 %
Results
Messages

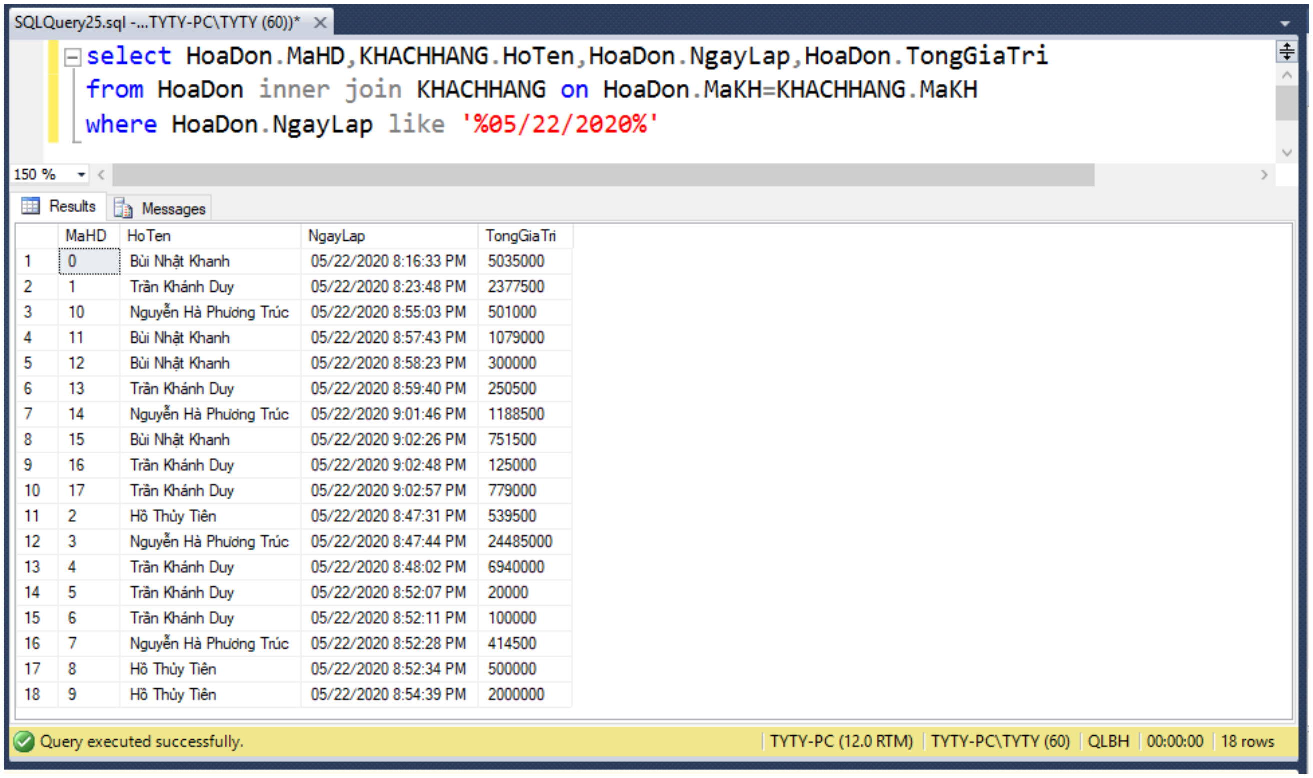
```sql
select HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,HoaDon.TongGiaTri
from HoaDon inner join KHACHHANG on HoaDon.MaKH=KHACHHANG.MaKH
where KHACHHANG.HoTen like 'T%'
```

	MaHD	HoTen	NgayLap	TongGiaTri
1	1	Trần Khánh Duy	05/22/2020 8:23:48 PM	2377500
2	13	Trần Khánh Duy	05/22/2020 8:59:40 PM	250500
3	16	Trần Khánh Duy	05/22/2020 9:02:48 PM	125000
4	17	Trần Khánh Duy	05/22/2020 9:02:57 PM	779000
5	4	Trần Khánh Duy	05/22/2020 8:48:02 PM	6940000
6	5	Trần Khánh Duy	05/22/2020 8:52:07 PM	20000
7	6	Trần Khánh Duy	05/22/2020 8:52:11 PM	100000

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (58) | QLBH | 00:00:00 | 7 rows

- Based on Invoice Date.

  ```sql
  SELECT HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,
  HoaDon.TongGiaTri
  FROM HoaDon inner join KHACHHANG on
  HoaDon.MaKH=KHACHHANG.MaKH
  WHERE HoaDon.NgayLap like '%'+@NgayLap+'%'
  ```



```sql
select HoaDon.MaHD,KHACHHANG.HoTen,HoaDon.NgayLap,HoaDon.TongGiaTri
from HoaDon inner join KHACHHANG on HoaDon.MaKH=KHACHHANG.MaKH
where HoaDon.NgayLap like '%05/22/2020%'
```

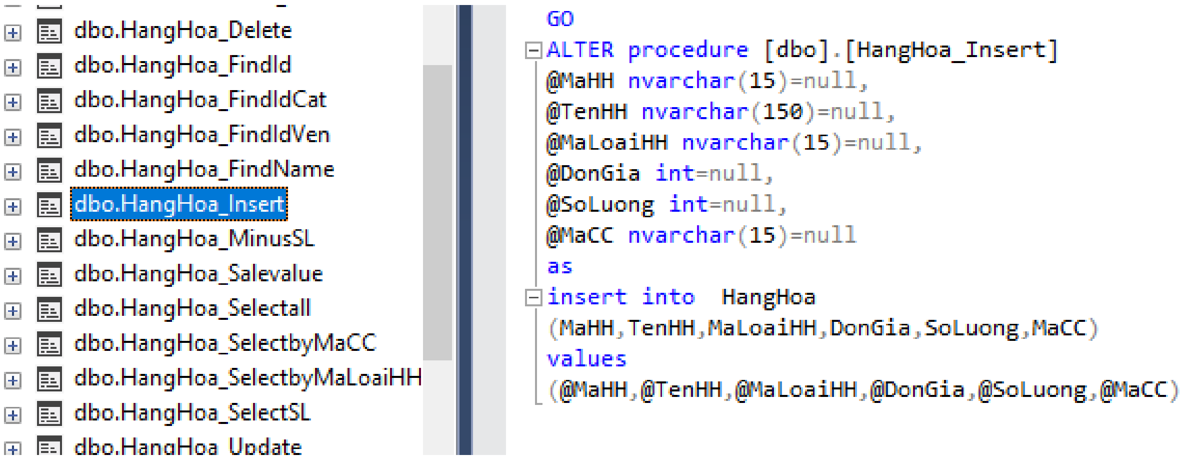
	MaHD	HoTen	NgayLap	TongGiaTri
1	0	Bùi Nhật Khanh	05/22/2020 8:16:33 PM	5035000
2	1	Trần Khánh Duy	05/22/2020 8:23:48 PM	2377500
3	10	Nguyễn Hà Phương Trúc	05/22/2020 8:55:03 PM	501000
4	11	Bùi Nhật Khanh	05/22/2020 8:57:43 PM	1079000
5	12	Bùi Nhật Khanh	05/22/2020 8:58:23 PM	300000
6	13	Trần Khánh Duy	05/22/2020 8:59:40 PM	250500
7	14	Nguyễn Hà Phương Trúc	05/22/2020 9:01:46 PM	1188500
8	15	Bùi Nhật Khanh	05/22/2020 9:02:26 PM	751500
9	16	Trần Khánh Duy	05/22/2020 9:02:48 PM	125000
10	17	Trần Khánh Duy	05/22/2020 9:02:57 PM	779000
11	2	Hồ Thủy Tiên	05/22/2020 8:47:31 PM	539500
12	3	Nguyễn Hà Phương Trúc	05/22/2020 8:47:44 PM	24485000
13	4	Trần Khánh Duy	05/22/2020 8:48:02 PM	6940000
14	5	Trần Khánh Duy	05/22/2020 8:52:07 PM	20000
15	6	Trần Khánh Duy	05/22/2020 8:52:11 PM	100000
16	7	Nguyễn Hà Phương Trúc	05/22/2020 8:52:28 PM	414500
17	8	Hồ Thủy Tiên	05/22/2020 8:52:34 PM	500000
18	9	Hồ Thủy Tiên	05/22/2020 8:54:39 PM	2000000

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (60) | QLBH | 00:00:00 | 18 rows

4.3 Product management

❖ ***Insert***

– The following SQL statement will insert a new record, insert data in the “TenHH”, “MaHH”, “SoLuong”, “MaLoaiHH”, “MaCC” and “DonGia” columns in “HangHoa” table.

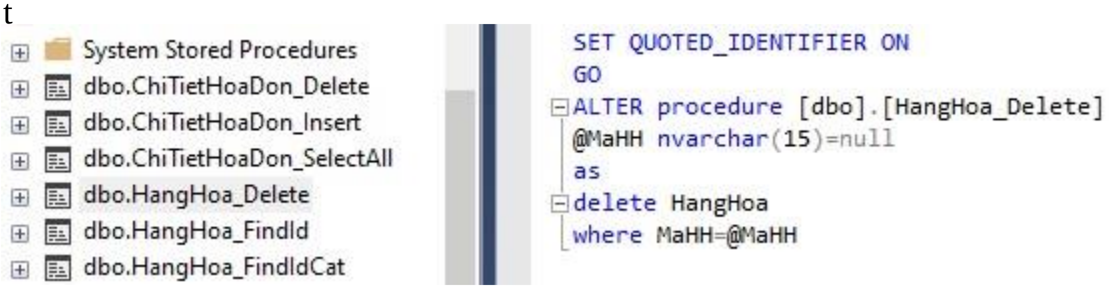


dbo.HangHoa_Delete
dbo.HangHoa_FindId
dbo.HangHoa_FindIdCat
dbo.HangHoa_FindIdVen
dbo.HangHoa_FindName
dbo.HangHoa_Insert
dbo.HangHoa_MinusSL
dbo.HangHoa_Salevalue
dbo.HangHoa_Selectall
dbo.HangHoa_SelectbyMaCC
dbo.HangHoa_SelectbyMaLoaiHH
dbo.HangHoa_SelectSL
dbo.HangHoa_Update

```sql
GO
ALTER procedure [dbo].[HangHoa_Insert]
@MaHH nvarchar(15)=null,
@TenHH nvarchar(150)=null,
@MaLoaiHH nvarchar(15)=null,
@DonGia int=null,
@SoLuong int=null,
@MaCC nvarchar(15)=null
as
insert into  HangHoa
(MaHH,TenHH,MaLoaiHH,DonGia,SoLuong,MaCC)
values
(@MaHH,@TenHH,@MaLoaiHH,@DonGia,@SoLuong,@MaCC)
```

❖ *Delete*

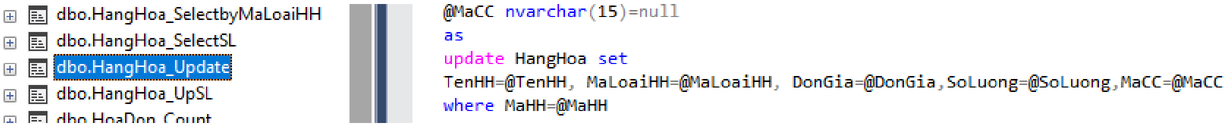
– The following SQL statement will delete information of “MaHH” in “HangHoa” t



```
SET QUOTED_IDENTIFIER ON
GO
ALTER procedure [dbo].[HangHoa_Delete]
@MaHH nvarchar(15)=null
as
delete HangHoa
where MaHH=@MaHH
```

❖ *Update*

– The following SQL statement will update a new record.

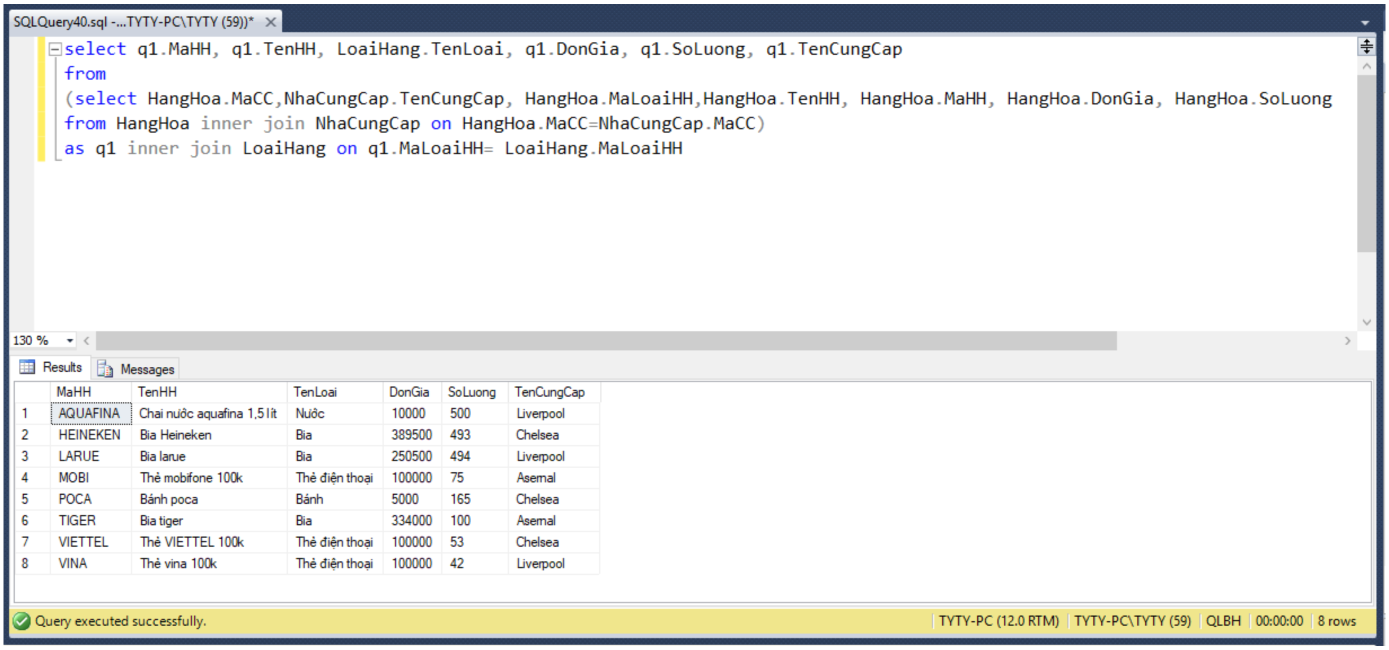


```
@MaCC nvarchar(15)=null
as
update HangHoa set
TenHH=@TenHH, MaLoaiHH=@MaLoaiHH, DonGia=@DonGia,SoLuong=@SoLuong,MaCC=@MaCC
where MaHH=@MaHH
```

❖ *Display information*

– Display a table containing information about the Goods.

```
SELECT q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong,
q1.TenCungCap
FROM
(SELECT HangHoa.MaCC,NhaCungCap.TenCungCap,HangHoa.MaLoaiHH,
HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong
FROM HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
```



```
select q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong, q1.TenCungCap
from
(select HangHoa.MaCC,NhaCungCap.TenCungCap, HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong
from HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
```

	MaHH	TenHH	TenLoai	DonGia	SoLuong	TenCungCap
1	AQUAFINA	Chai nuớc aquafina 1,5 lít	Nuớc	10000	500	Liverpool
2	HEINEKEN	Bia Heineken	Bia	389500	493	Chelsea
3	LARUE	Bia larue	Bia	250500	494	Liverpool
4	MOBI	Thẻ mobifone 100k	Thẻ điện thoại	100000	75	Asemal
5	POCA	Bánh poca	Bánh	5000	165	Chelsea
6	TIGER	Bia tiger	Bia	334000	100	Asemal
7	VIETTEL	Thẻ VIETTEL 100k	Thẻ điện thoại	100000	53	Chelsea
8	VINA	Thẻ vina 100k	Thẻ điện thoại	100000	42	Liverpool

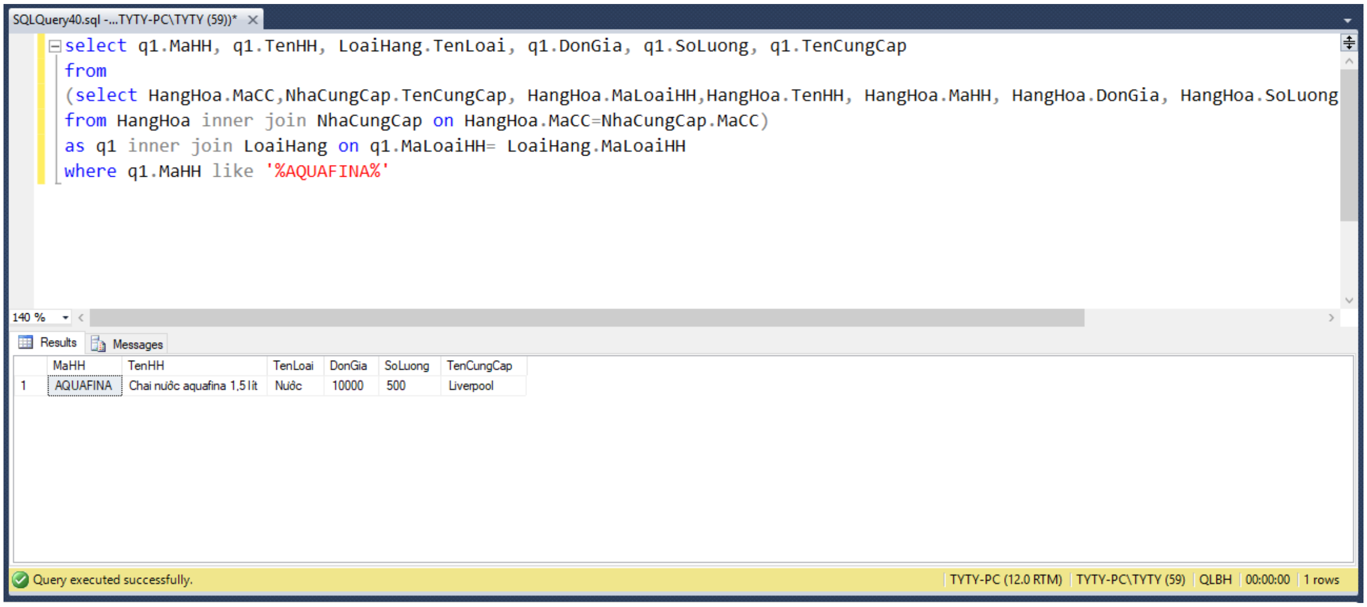
```
Query executed successfully.    TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 8 rows
```

❖ ***Search information***

– Find information to look up in the Goods table (based on Goods Code/ Goods Name/ Type of Goods/ Vendor Name).

- Based on Goods Code.

```
SELECT q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong, q1.TenCungCap
FROM
(SELECT HangHoa.MaCC,NhaCungCap.TenCungCap, HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong
FROM HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
WHERE q1.MaHH like '%'+@MaHH+'%'
```



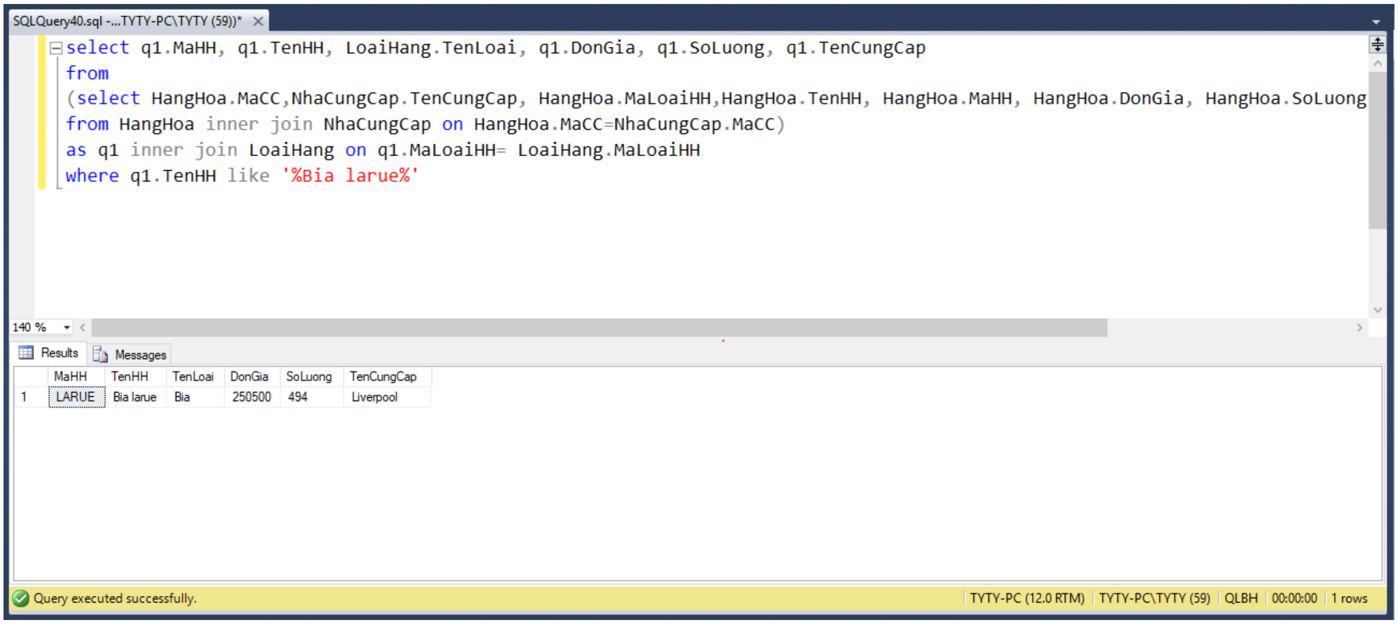
```sql
select q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong, q1.TenCungCap
from
(select HangHoa.MaCC,NhaCungCap.TenCungCap, HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong
from HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
where q1.MaHH like '%AQUAFINA%'
```

	MaHH	TenHH	TenLoai	DonGia	SoLuong	TenCungCap
1	AQUAFINA	Chai nước aquafina 1,5 lít	Nước	10000	500	Liverpool

Query executed successfully.

- Based on Goods Name.

```sql
SELECT q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong,
q1.TenCungCap
FROM
(SELECT HangHoa.MaCC,NhaCungCap.TenCungCap,
HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia,
HangHoa.SoLuong
FROM HangHoa inner join NhaCungCap on
HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
WHERE q1.TenHH like '%'+@TenHH+'%'
```



```
select q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong, q1.TenCungCap
from
(select HangHoa.MaCC,NhaCungCap.TenCungCap, HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong
from HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
where q1.TenHH like '%Bia larue%'
```

	MaHH	TenHH	TenLoai	DonGia	SoLuong	TenCungCap
1	LARUE	Bia larue	Bia	250500	494	Liverpool

Query executed successfully.

- Based on Type of Goods.

SELECT q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong, q1.TenCungCap

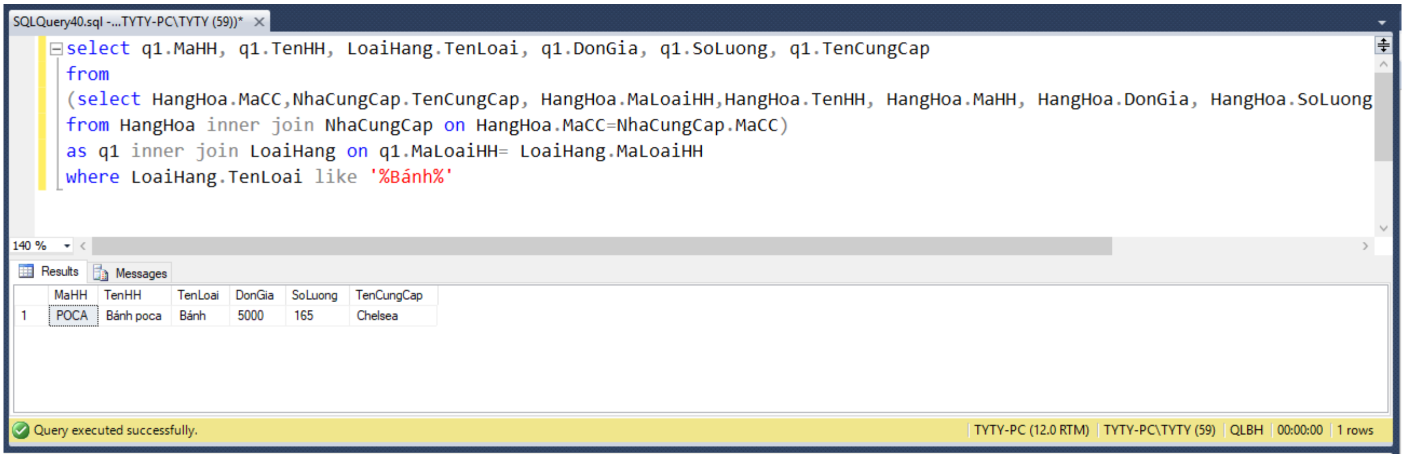
FROM

(SELECT HangHoa.MaCC,NhaCungCap.TenCungCap, HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong

FROM HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)

as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH

WHERE LoaiHang.TenLoai like '%'+@TenLoai+'%'



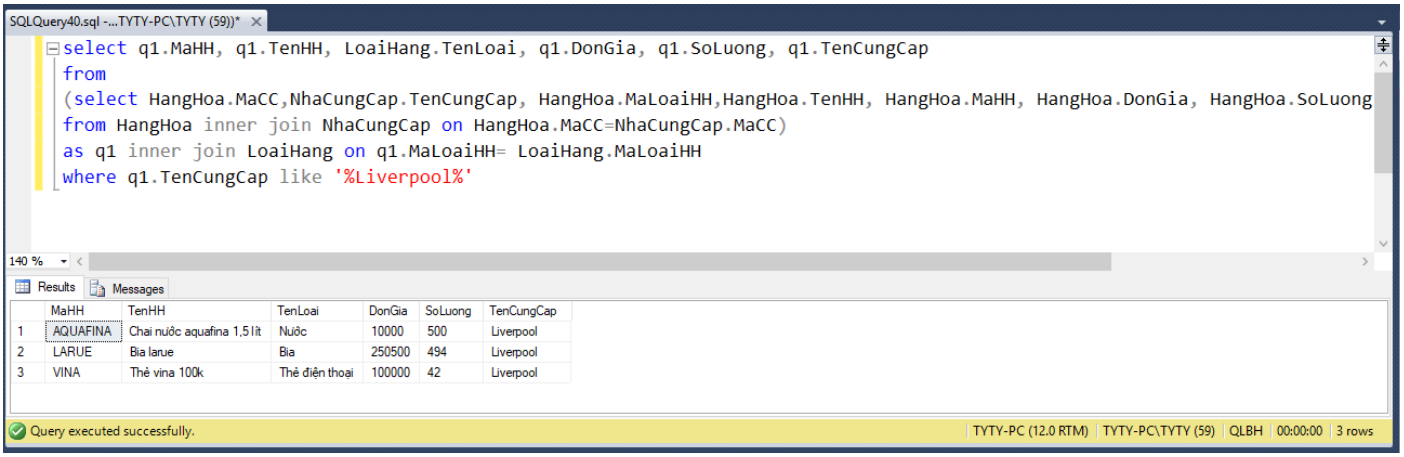
```
select q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong, q1.TenCungCap
from
(select HangHoa.MaCC,NhaCungCap.TenCungCap, HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong
from HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
where LoaiHang.TenLoai like '%Bánh%'
```

	MaHH	TenHH	TenLoai	DonGia	SoLuong	TenCungCap
1	POCA	Bánh poca	Bánh	5000	165	Chelsea

Query executed successfully.

- Based on Vendor Name.

  ```
  SELECT q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong,
  q1.TenCungCap
  FROM
  (SELECT HangHoa.MaCC,NhaCungCap.TenCungCap,
  HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia,
  HangHoa.SoLuong
  FROM HangHoa inner join NhaCungCap on
  HangHoa.MaCC=NhaCungCap.MaCC)
  as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
  WHERE q1.TenCungCap like '%'+@TenCungCap+'%'
  ```



```
select q1.MaHH, q1.TenHH, LoaiHang.TenLoai, q1.DonGia, q1.SoLuong, q1.TenCungCap
from
(select HangHoa.MaCC,NhaCungCap.TenCungCap, HangHoa.MaLoaiHH,HangHoa.TenHH, HangHoa.MaHH, HangHoa.DonGia, HangHoa.SoLuong
from HangHoa inner join NhaCungCap on HangHoa.MaCC=NhaCungCap.MaCC)
as q1 inner join LoaiHang on q1.MaLoaiHH= LoaiHang.MaLoaiHH
where q1.TenCungCap like '%Liverpool%'
```

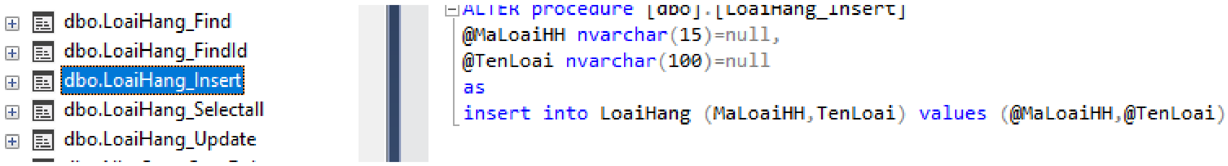
	MaHH	TenHH	TenLoai	DonGia	SoLuong	TenCungCap
1	AQUAFINA	Chai nước aquafina 1,5 lít	Nước	10000	500	Liverpool
2	LARUE	Bia larue	Bia	250500	494	Liverpool
3	VINA	Thẻ vina 100k	Thẻ điện thoại	100000	42	Liverpool

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 3 rows

4.4 Category management

❖ ***Insert***

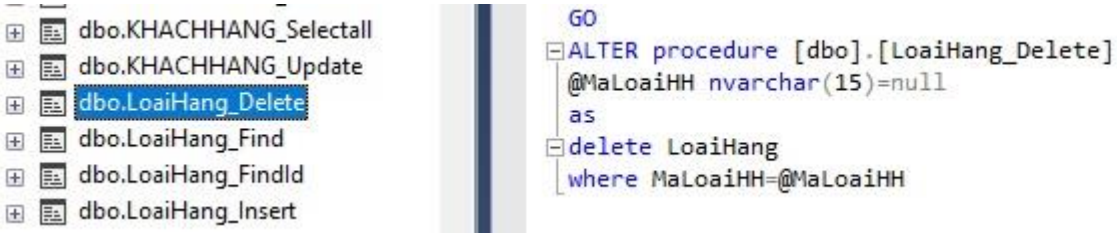
– The following SQL statement will insert a new record, insert data in the “MaLoaiHH”, “TenLoai” columns in “LoaiHang” table.



```
ALTER procedure [dbo].[LoaiHang_Insert]
@MaLoaiHH nvarchar(15)=null,
@TenLoai nvarchar(100)=null
as
insert into LoaiHang (MaLoaiHH,TenLoai) values (@MaLoaiHH,@TenLoai)
```

❖ ***Delete***

– The following SQL statement will delete information of “MaLoaiHH” in “LoaiHang” table.

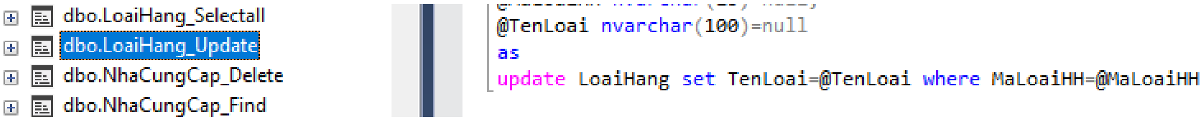


- dbo.KHACHHANG_Selectall
- dbo.KHACHHANG_Update
- dbo.LoaiHang_Delete
- dbo.LoaiHang_Find
- dbo.LoaiHang_FindId
- dbo.LoaiHang_Insert

```
GO
ALTER procedure [dbo].[LoaiHang_Delete]
@MaLoaiHH nvarchar(15)=null
as
delete LoaiHang
where MaLoaiHH=@MaLoaiHH
```

❖ ***Update***

– The following SQL statement will update the information of “TenLoai” columns in “LoaiHang” table.



- dbo.LoaiHang_Selectall
- dbo.LoaiHang_Update
- dbo.NhaCungCap_Delete
- dbo.NhaCungCap_Find

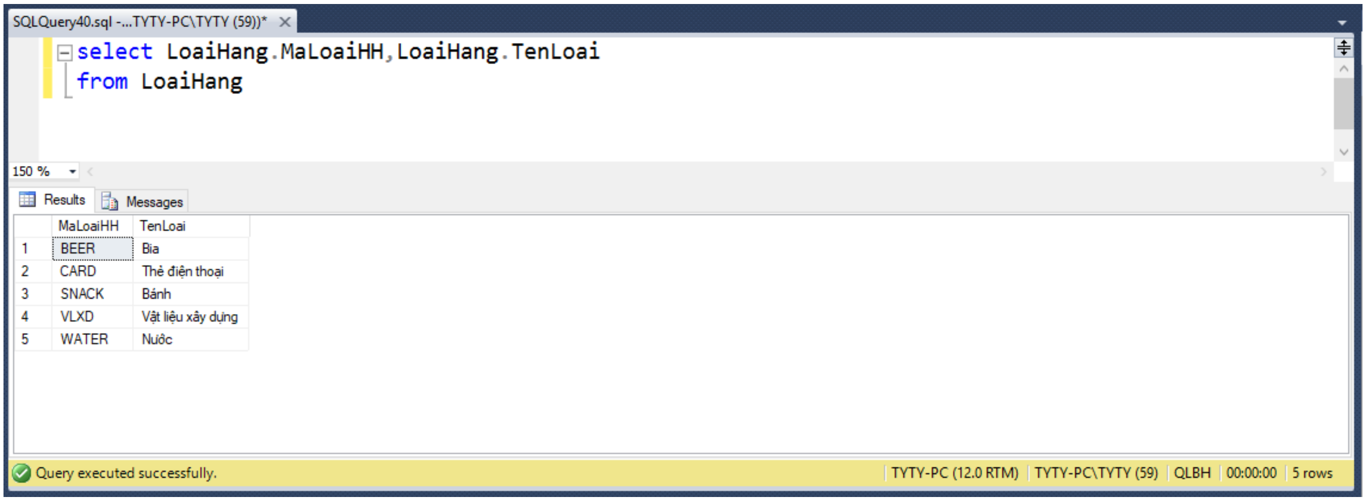
```
@TenLoai nvarchar(100)=null
as
update LoaiHang set TenLoai=@TenLoai where MaLoaiHH=@MaLoaiHH
```

❖ ***Display information***

– Display a table containing information on the Category.

SELECT LoaiHang.MaLoaiHH,LoaiHang.TenLoai

FROM LoaiHang



SQLQuery40.sql -...TYTY-PC\TYTY (59))*

```
select LoaiHang.MaLoaiHH,LoaiHang.TenLoai
from LoaiHang
```

150 %

Results | Messages

	MaLoaiHH	TenLoai
1	BEER	Bia
2	CARD	Thẻ điện thoại
3	SNACK	Bánh
4	VLXD	Vật liệu xây dựng
5	WATER	Nước

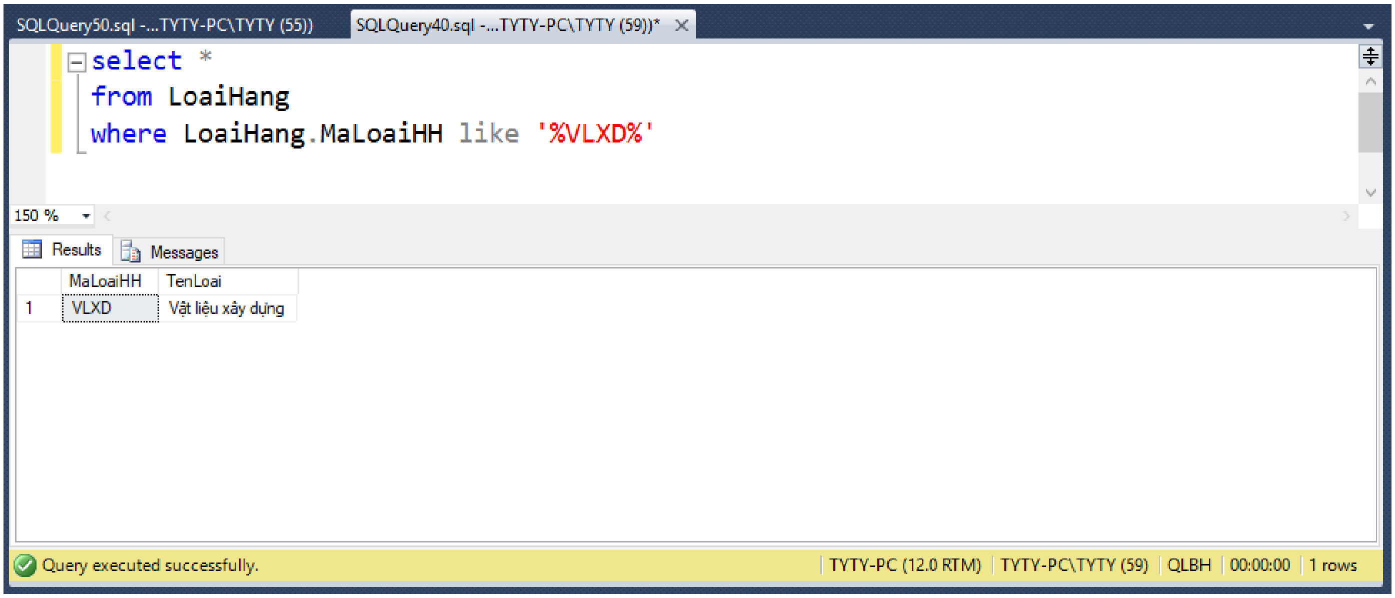
Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 5 rows

- ***Search information***

– Find information to look up in the Category table (Based on Category Code/ Category Name).

- Based on Category Code.

```
SELECT *
FROM LoaiHang
WHERE LoaiHang.MaLoaiHH like '%'+@MaLoaiHH+'%'
```



SQLQuery50.sql -...TYTY-PC\TYTY (55))
SQLQuery40.sql -...TYTY-PC\TYTY (59))*
150 %
Results
Messages

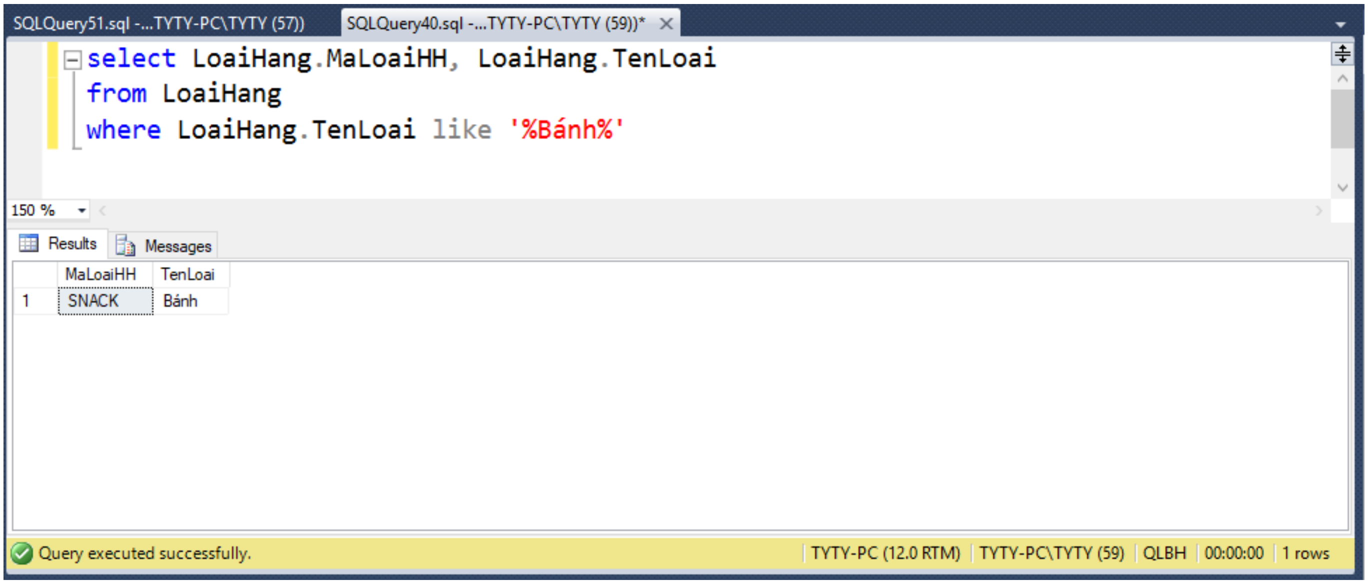
```
select *
from LoaiHang
where LoaiHang.MaLoaiHH like '%VLXD%'
```

	MaLoaiHH	TenLoai
1	VLXD	Vật liệu xây dựng

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

- Based on Category Name.

```
SELECT LoaiHang.MaLoaiHH, LoaiHang.TenLoai
FROM LoaiHang
WHERE LoaiHang.TenLoai like '%'+@TenLoai+'%'
```


SQLQuery51.sql -...TYTY-PC\TYTY (57))
SQLQuery40.sql -...TYTY-PC\TYTY (59))*
150 %
Results
Messages

```sql
select LoaiHang.MaLoaiHH, LoaiHang.TenLoai
from LoaiHang
where LoaiHang.TenLoai like '%Bánh%'
```

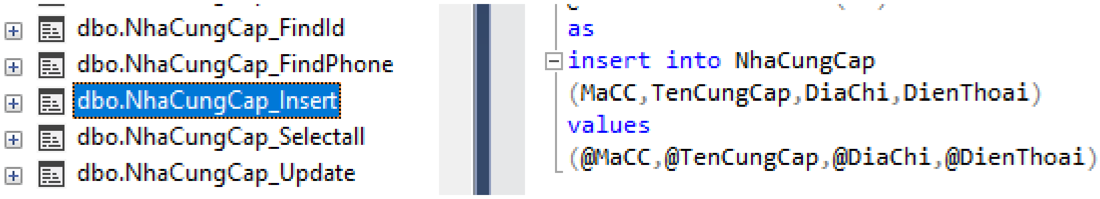
	MaLoaiHH	TenLoai
1	SNACK	Bánh

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

4.5 Supplier management

❖ ***Insert***

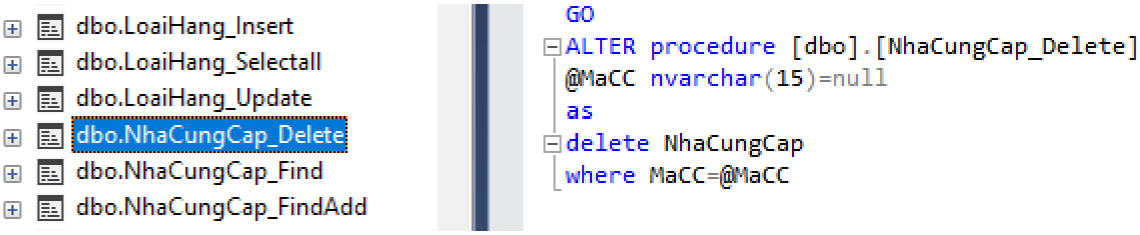
– The following SQL statement will insert a new record, insert data in the “MaCC”, “TenCungCap”, “DiaChi” and “DienThoai” columns in “NhaCungCap” table.



```sql
as
insert into NhaCungCap
(MaCC,TenCungCap,DiaChi,DienThoai)
values
(@MaCC,@TenCungCap,@DiaChi,@DienThoai)
```

❖ ***Delete***

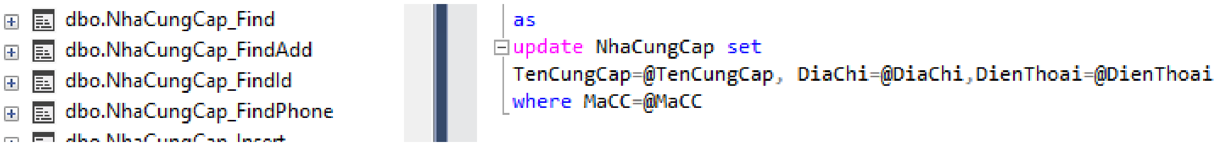
– The following SQL statement will delete information of “MaCC” in “NhaCungCap” table.



```sql
GO
ALTER procedure [dbo].[NhaCungCap_Delete]
@MaCC nvarchar(15)=null
as
delete NhaCungCap
where MaCC=@MaCC
```

❖ ***Update***

– The following SQL statement will update the information of “TenCungCap”, “DiaChi”, “DienThoai” columns in “NhaCungCap” table.

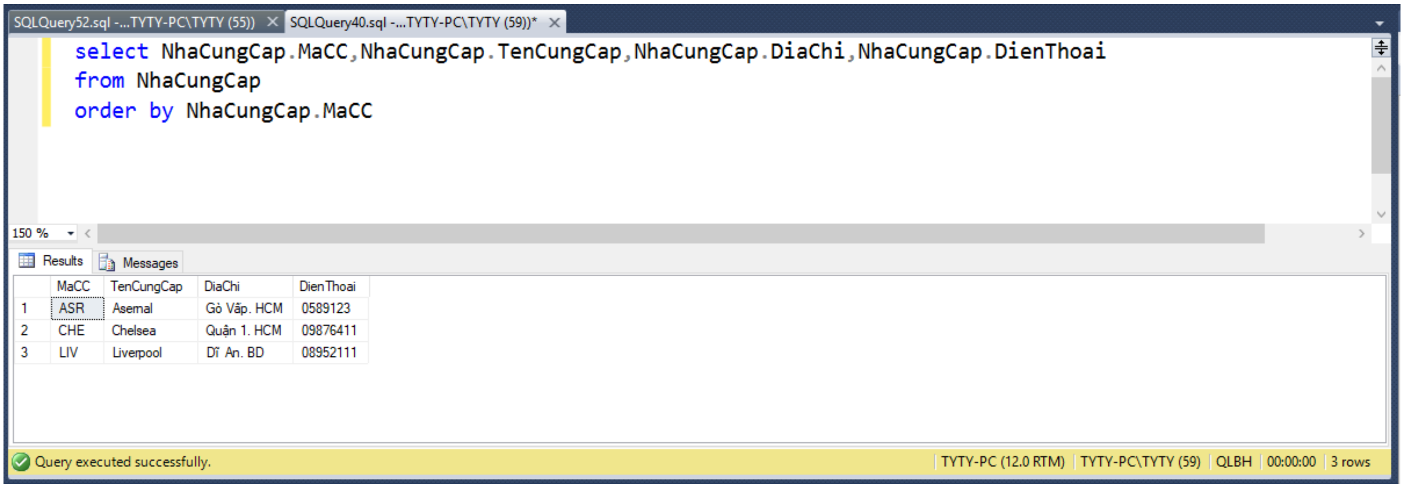


```
as
update NhaCungCap set
TenCungCap=@TenCungCap, DiaChi=@DiaChi,DienThoai=@DienThoai
where MaCC=@MaCC
```

❖ ***Display information***

– Display a table containing information of the Vendors.

```
SELECT NhaCungCap.MaCC,NhaCungCap.TenCungCap,NhaCungCap.DiaChi,
NhaCungCap.DienThoai
FROM NhaCungCap
ORDER BY NhaCungCap.MaCC
```


SQLQuery52.sql -...TYTY-PC\TYTY (55))
SQLQuery40.sql -...TYTY-PC\TYTY (59))*
150 %
Results
Messages

```
select NhaCungCap.MaCC,NhaCungCap.TenCungCap,NhaCungCap.DiaChi,NhaCungCap.DienThoai
from NhaCungCap
order by NhaCungCap.MaCC
```

	MaCC	TenCungCap	DiaChi	DienThoai
1	ASR	Asemal	Gò Vấp. HCM	0589123
2	CHE	Chelsea	Quận 1. HCM	09876411
3	LIV	Liverpool	Dĩ An. BD	08952111

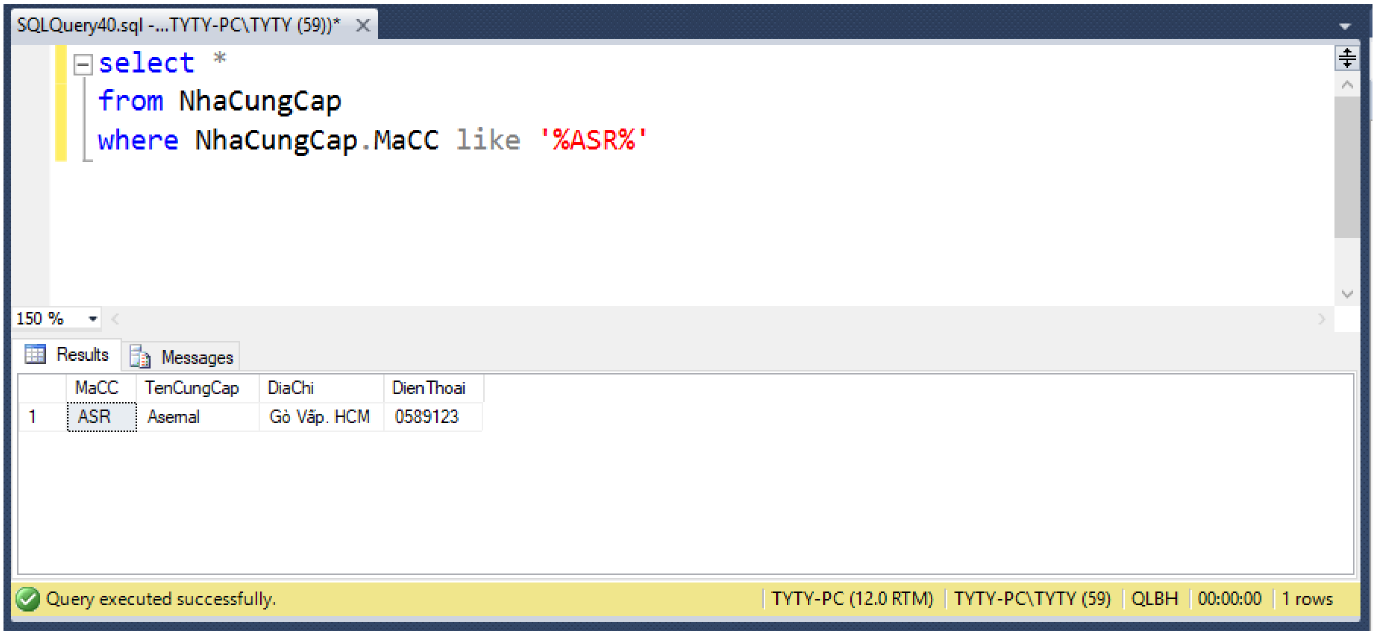
Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 3 rows

❖ ***Search information***

– Find information to look up in the Vendor table (based on Vendor Code/ Vendor Name/ Address/ Phone Number).

- Based on the Vendor Code.

```
SELECT *
FROM NHACUNGCAP
WHERE NHACUNGCAP.MACC LIKE '%'+@MACC+'%'
```



```
select *
from NhaCungCap
where NhaCungCap.MaCC like '%ASR%'
```

	MaCC	TenCungCap	DiaChi	DienThoai
1	ASR	Asernal	Gò Vấp. HCM	0589123

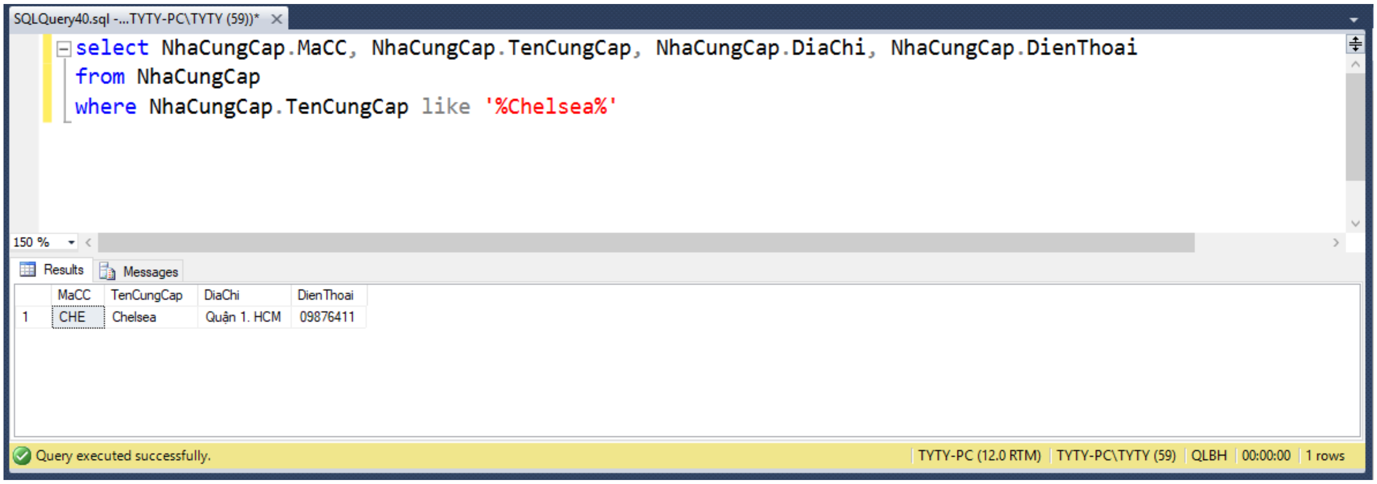
Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

- Based on Vendor Name.

  SELECT NhaCungCap.MaCC, NhaCungCap.TenCungCap, NhaCungCap.DiaChi, NhaCungCap.DienThoai

  FROM NhaCungCap

  WHERE NhaCungCap.TenCungCap like '%'+@TenCungCap+'%'



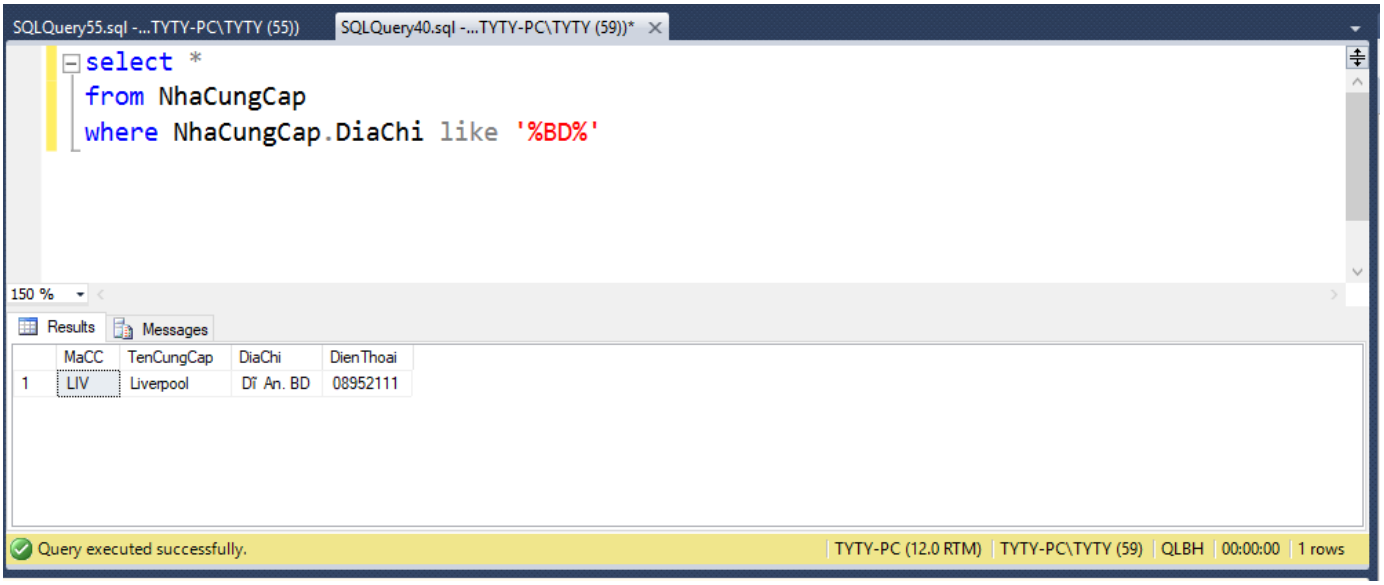
```
select NhaCungCap.MaCC, NhaCungCap.TenCungCap, NhaCungCap.DiaChi, NhaCungCap.DienThoai
from NhaCungCap
where NhaCungCap.TenCungCap like '%Chelsea%'
```

	MaCC	TenCungCap	DiaChi	DienThoai
1	CHE	Chelsea	Quận 1. HCM	09876411

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

- Based on Address.

```
SELECT *
FROM NhaCungCap
WHERE NhaCungCap.DiaChi like '%'+@DiaChi+'%'
```



SQLQuery55.sql -...TYTY-PC\TYTY (55))
SQLQuery40.sql -...TYTY-PC\TYTY (59))*
150 %
Results
Messages

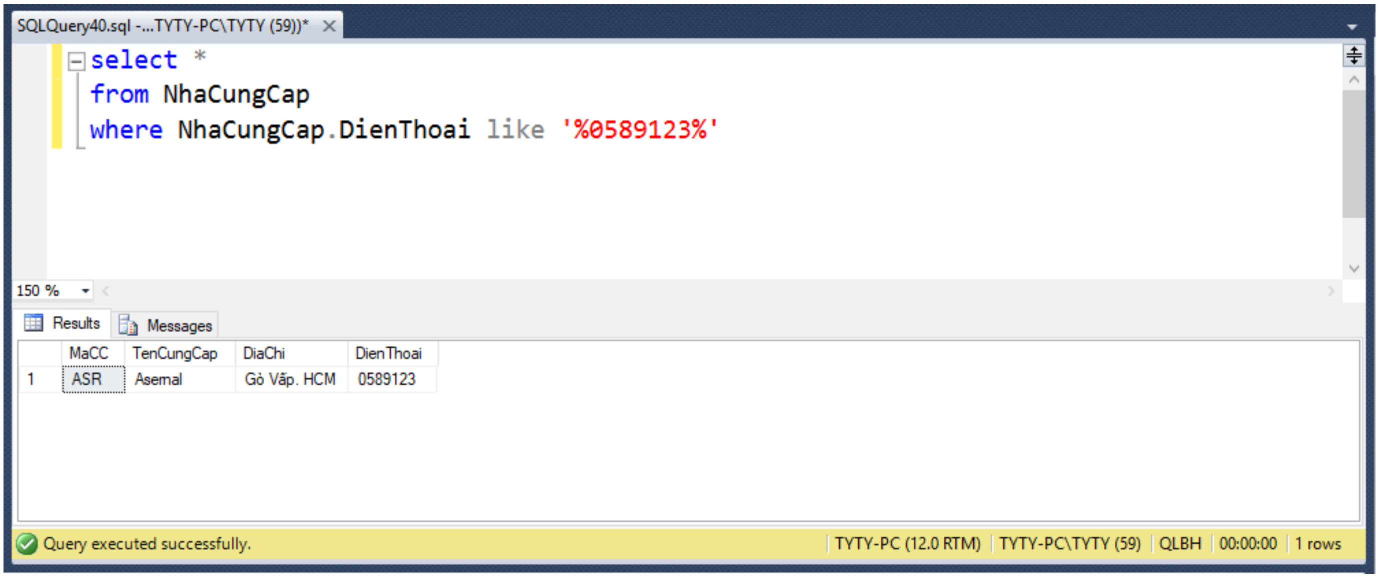
```
select *
from NhaCungCap
where NhaCungCap.DiaChi like '%BD%'
```

	MaCC	TenCungCap	DiaChi	DienThoai
1	LIV	Liverpool	Dĩ An. BD	08952111

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

- Based on Phone Number.

```
SELECT *
FROM NhaCungCap
WHERE NhaCungCap.DienThoai like '%'+@DienThoai+'%'
```



```
select *
from NhaCungCap
where NhaCungCap.DienThoai like '%0589123%'
```

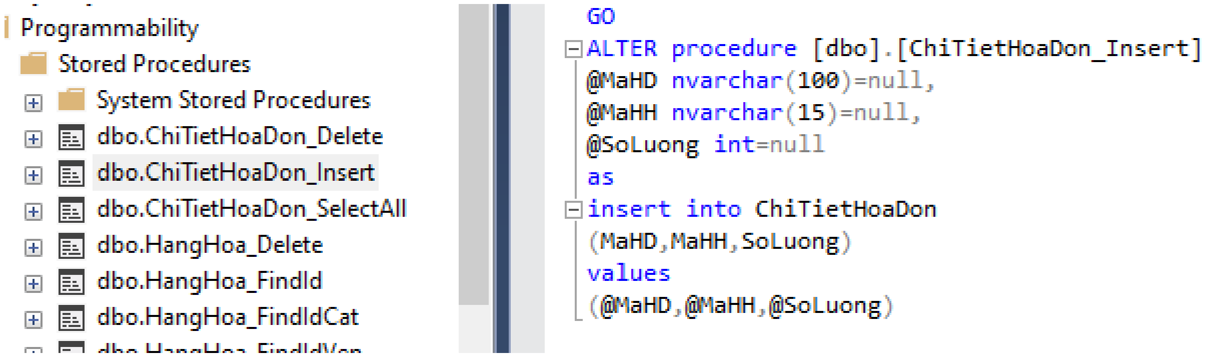
	MaCC	TenCungCap	DiaChi	DienThoai
1	ASR	Asemal	Gò Vấp. HCM	0589123

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

4.6 Selling management

❖ ***Insert***

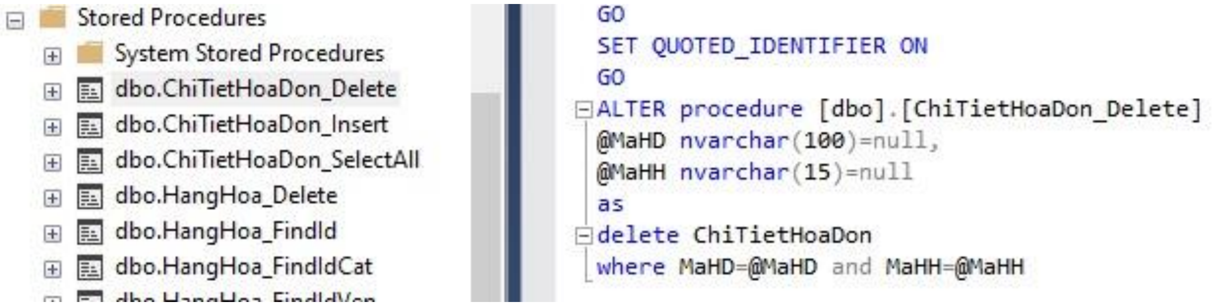
– The following SQL statement will insert a new record, insert data in the “MaHD”, “MaHH”, and “SoLuong” columns in “ChiTietHoaDon” table.



```
GO
ALTER procedure [dbo].[ChiTietHoaDon_Insert]
@MaHD nvarchar(100)=null,
@MaHH nvarchar(15)=null,
@SoLuong int=null
as
insert into ChiTietHoaDon
(MaHD,MaHH,SoLuong)
values
(@MaHD,@MaHH,@SoLuong)
```

❖ ***Delete***

– The following SQL statement will delete information of “MaHD” and “MaHH” in “ChiTietHoaDon” table.

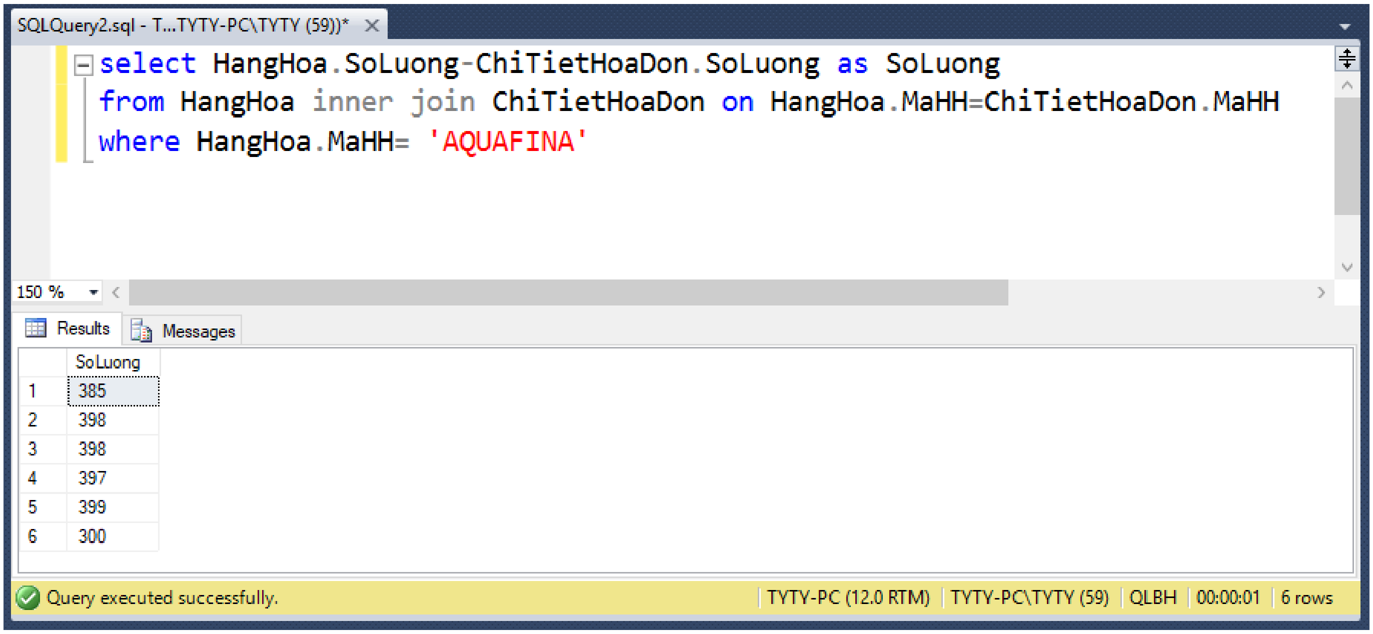


```
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER procedure [dbo].[ChiTietHoaDon_Delete]
@MaHD nvarchar(100)=null,
@MaHH nvarchar(15)=null
as
delete ChiTietHoaDon
where MaHD=@MaHD and MaHH=@MaHH
```

❖ ***Update after a complete sale order***

– Record how many goods are in stock after creating the invoice.

```
SELECT HangHoa.SoLuong-ChiTietHoaDon.SoLuong as SoLuong
FROM HangHoa inner join ChiTietHoaDon on
HangHoa.MaHH=ChiTietHoaDon.MaHH
WHERE HangHoa.MaHH=@MaHH
```



```
select HangHoa.SoLuong-ChiTietHoaDon.SoLuong as SoLuong
from HangHoa inner join ChiTietHoaDon on HangHoa.MaHH=ChiTietHoaDon.MaHH
where HangHoa.MaHH= 'AQUAFINA'
```

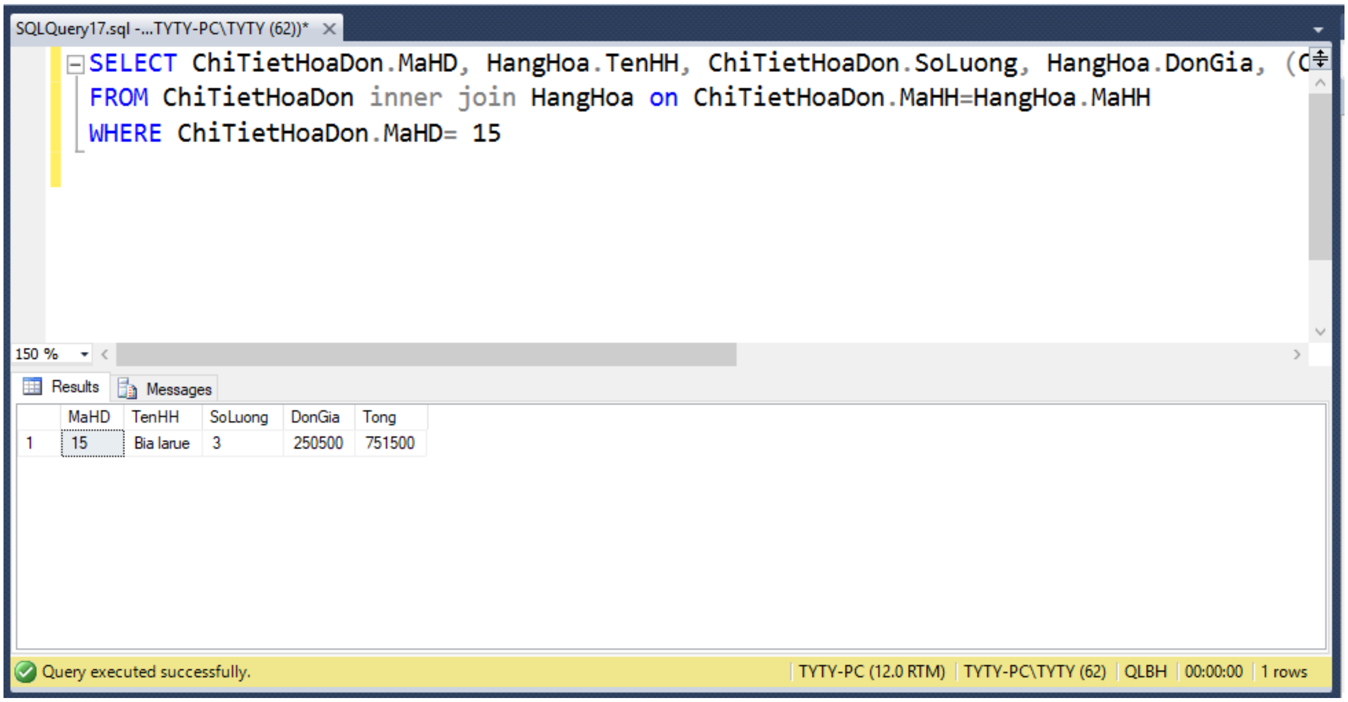
	SoLuong
1	385
2	398
3	398
4	397
5	399
6	300

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:01 | 6 rows

❖ ***Display invoice detail***

– List invoice details of any invoice based on Invoice code.

```
SELECT ChiTietHoaDon.MaHD, HangHoa.TenHH, ChiTietHoaDon.SoLuong,
HangHoa.DonGia, (ChiTietHoaDon.SoLuong*HangHoa.DonGia) as Tong
FROM ChiTietHoaDon inner join HangHoa on
ChiTietHoaDon.MaHH=HangHoa.MaHH
WHERE ChiTietHoaDon.MaHD=@MaHD
```



SQLQuery17.sql -...TYTY-PC\TYTY (62))*

```sql
SELECT ChiTietHoaDon.MaHD, HangHoa.TenHH, ChiTietHoaDon.SoLuong, HangHoa.DonGia, (C
FROM ChiTietHoaDon inner join HangHoa on ChiTietHoaDon.MaHH=HangHoa.MaHH
WHERE ChiTietHoaDon.MaHD= 15
```

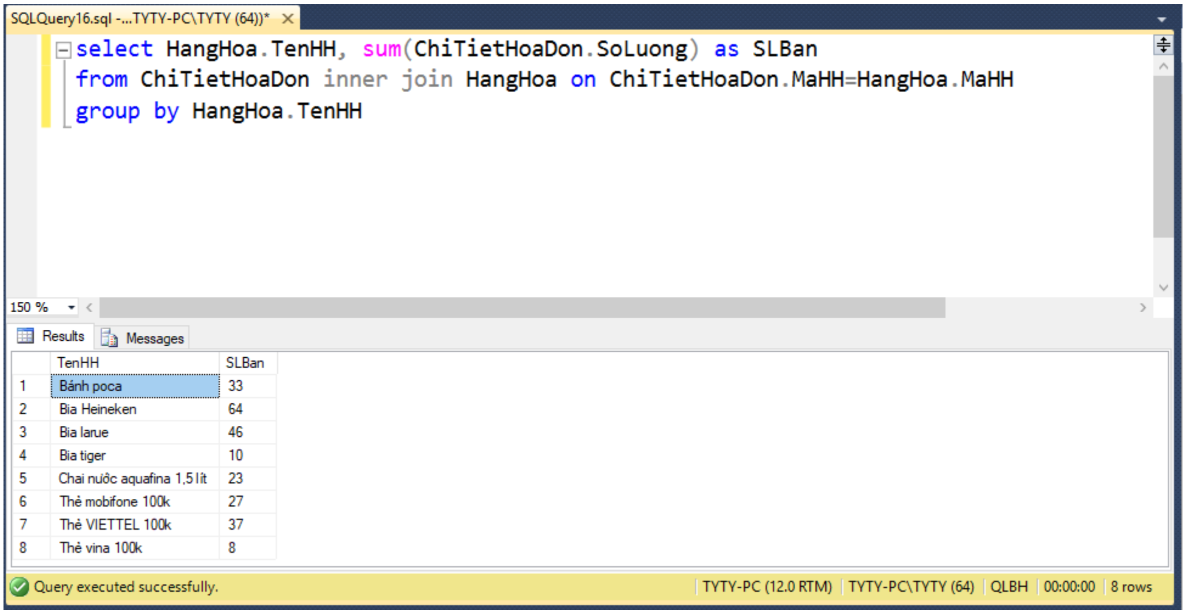
	MaHD	TenHH	SoLuong	DonGia	Tong
1	15	Bia larue	3	250500	751500

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (62) | QLBH | 00:00:00 | 1 rows

❖ ***Display sold product***

– Display a table describing sales statistics of the store.

SELECT HangHoa.TenHH, sum(ChiTietHoaDon.SoLuong) as SLBan
FROM ChiTietHoaDon inner join HangHoa on
ChiTietHoaDon.MaHH=HangHoa.MaHH
GROUP BY HangHoa.TenHH



SQLQuery16.sql -...TYTY-PC\TYTY (64))*

```sql
select HangHoa.TenHH, sum(ChiTietHoaDon.SoLuong) as SLBan
from ChiTietHoaDon inner join HangHoa on ChiTietHoaDon.MaHH=HangHoa.MaHH
group by HangHoa.TenHH
```

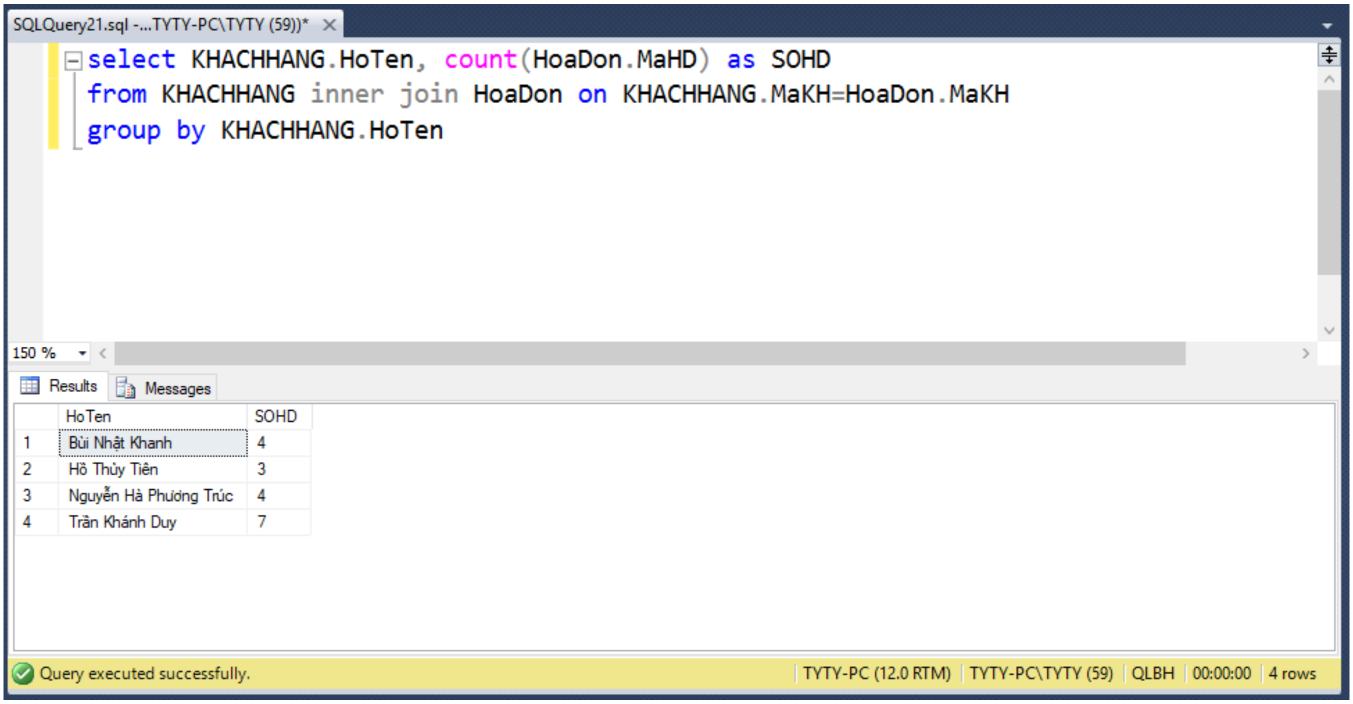
	TenHH	SLBan
1	Bánh poca	33
2	Bia Heineken	64
3	Bia larue	46
4	Bia tiger	10
5	Chai nuớc aquafina 1,5 lít	23
6	Thẻ mobifone 100k	27
7	Thẻ VIETTEL 100k	37
8	Thẻ vina 100k	8

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (64) | QLBH | 00:00:00 | 8 rows

- ***Display a statistic of the invoice per customer***

– Display a statistic table of the invoices of the customers who bought goods from the store.

```
SELECT KHACHHANG.HoTen, count(HoaDon.MaHD) as SOHD
FROM KHACHHANG inner join HoaDon on
KHACHHANG.MaKH=HoaDon.MaKH
GROUP BY KHACHHANG.HoTen
```



```
select KHACHHANG.HoTen, count(HoaDon.MaHD) as SOHD
from KHACHHANG inner join HoaDon on KHACHHANG.MaKH=HoaDon.MaKH
group by KHACHHANG.HoTen
```

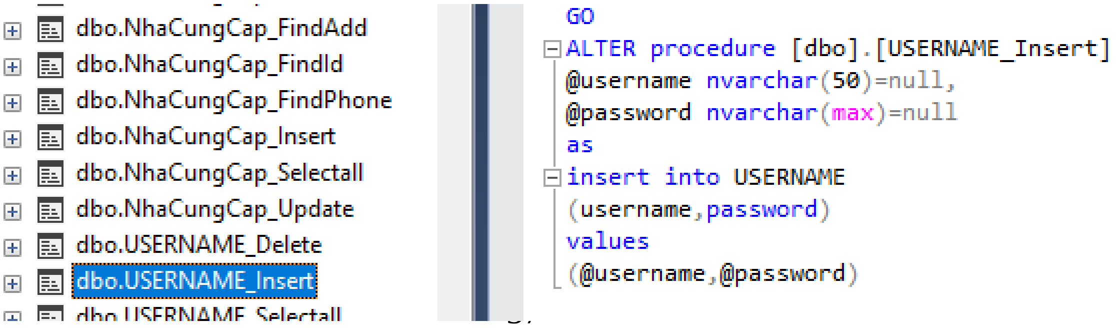
	HoTen	SOHD
1	Bùi Nhật Khanh	4
2	Hồ Thủy Tiên	3
3	Nguyễn Hà Phương Trúc	4
4	Trần Khánh Duy	7

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 4 rows

4.7 Sign-in

- ***Insert***

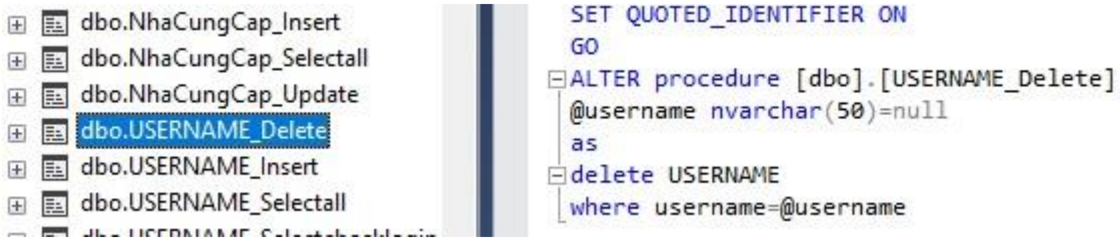
– The following SQL statement will insert a new record, insert data in the “username”, “password” columns in “USERNAME” table.



```
GO
ALTER procedure [dbo].[USERNAME_Insert]
@username nvarchar(50)=null,
@password nvarchar(max)=null
as
insert into USERNAME
(username,password)
values
(@username,@password)
```

❖ ***Delete***

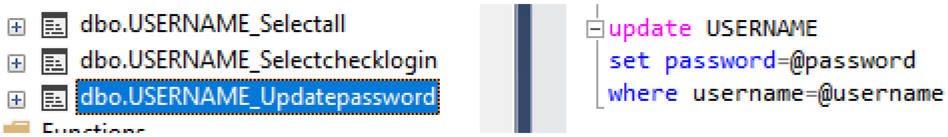
– The following SQL statement will delete information of “username” in “USERNAME” table.



```
SET QUOTED_IDENTIFIER ON
GO
ALTER procedure [dbo].[USERNAME_Delete]
@username nvarchar(50)=null
as
delete USERNAME
where username=@username
```

❖ ***Update***

– The following SQL statement will update the information of “password” columns in “USERNAME” table.

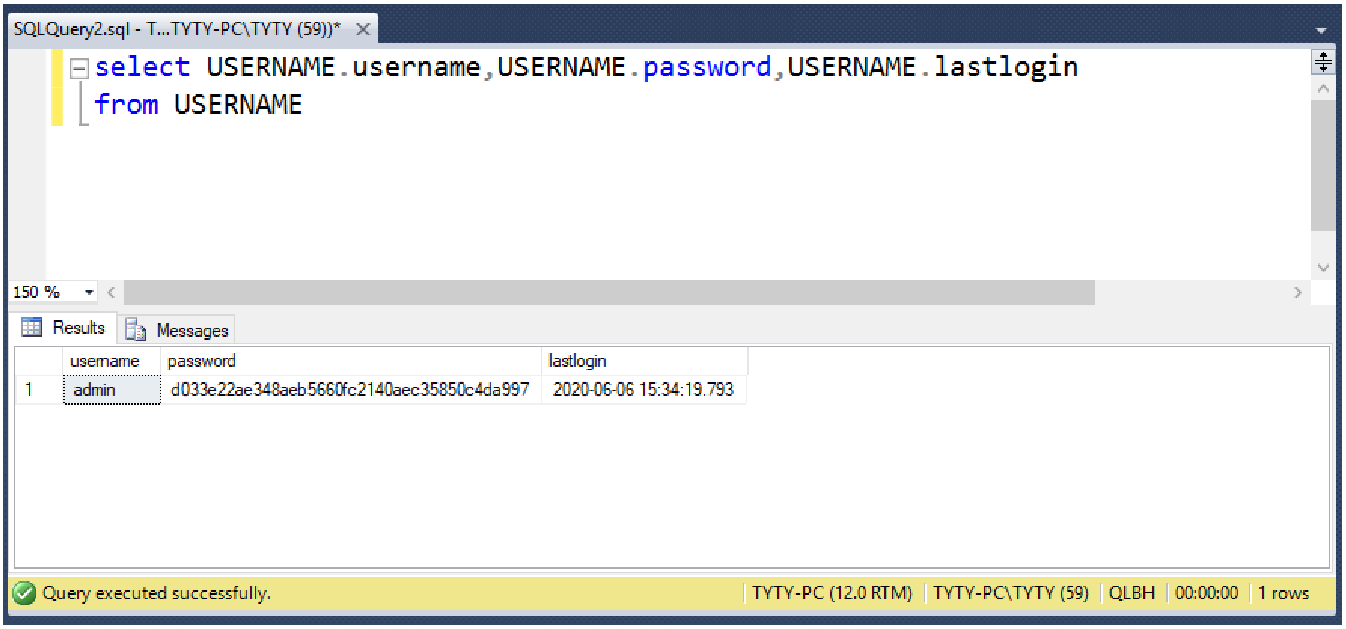


```
update USERNAME
set password=@password
where username=@username
```

❖ ***Display information***

– View user account information (including username, password, last log in).

SELECT USERNAME.username,USERNAME.password,USERNAME.lastlogin
FROM USERNAME



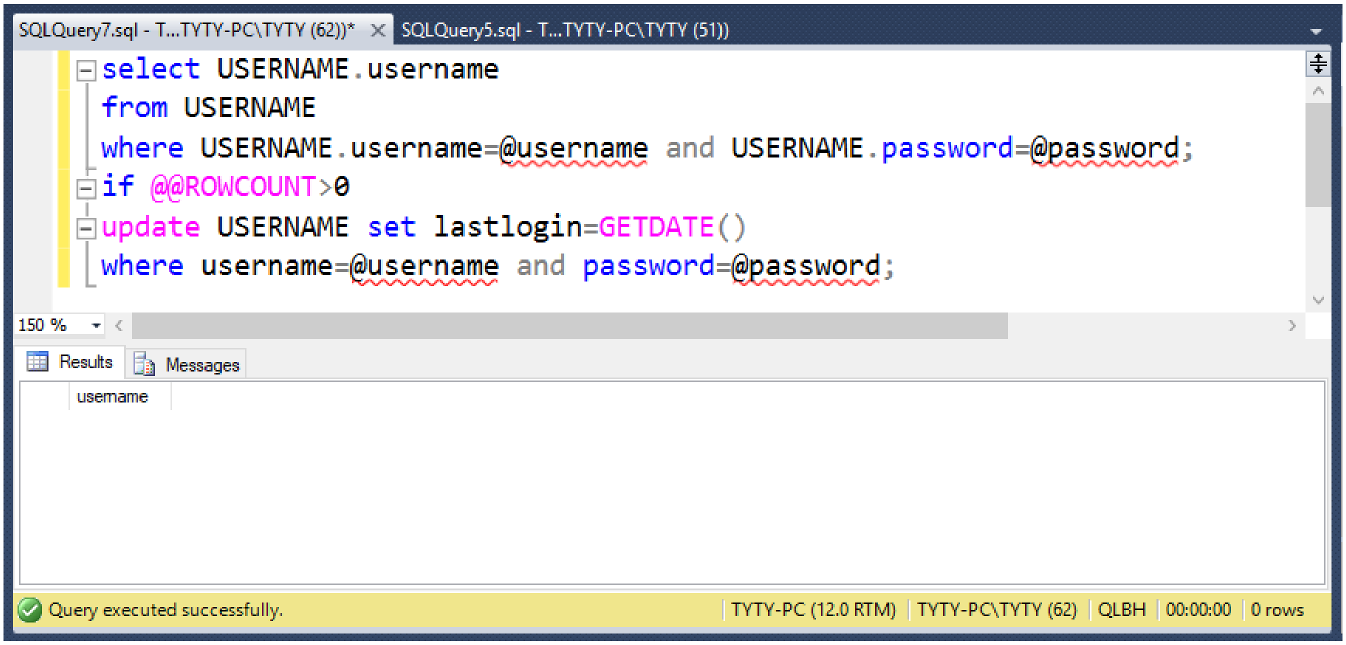
```
select USERNAME.username,USERNAME.password,USERNAME.lastlogin
from USERNAME
```

	username	password	lastlogin
1	admin	d033e22ae348aeb5660fc2140aec35850c4da997	2020-06-06 15:34:19.793

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (59) | QLBH | 00:00:00 | 1 rows

❖ *Check log in*

– Check if the username and password entered are correct or incorrect.



SQLQuery7.sql - T...TYTY-PC\TYTY (62))*
SQLQuery5.sql - T...TYTY-PC\TYTY (51))
150 %
Results
Messages

```sql
select USERNAME.username
from USERNAME
where USERNAME.username=@username and USERNAME.password=@password;
if @@ROWCOUNT>0
update USERNAME set lastlogin=GETDATE()
where username=@username and password=@password;
```

```
username
```

Query executed successfully. | TYTY-PC (12.0 RTM) | TYTY-PC\TYTY (62) | QLBH | 00:00:00 | 0 rows

CHAPTER 5: APPLICATION

5.1 Platform

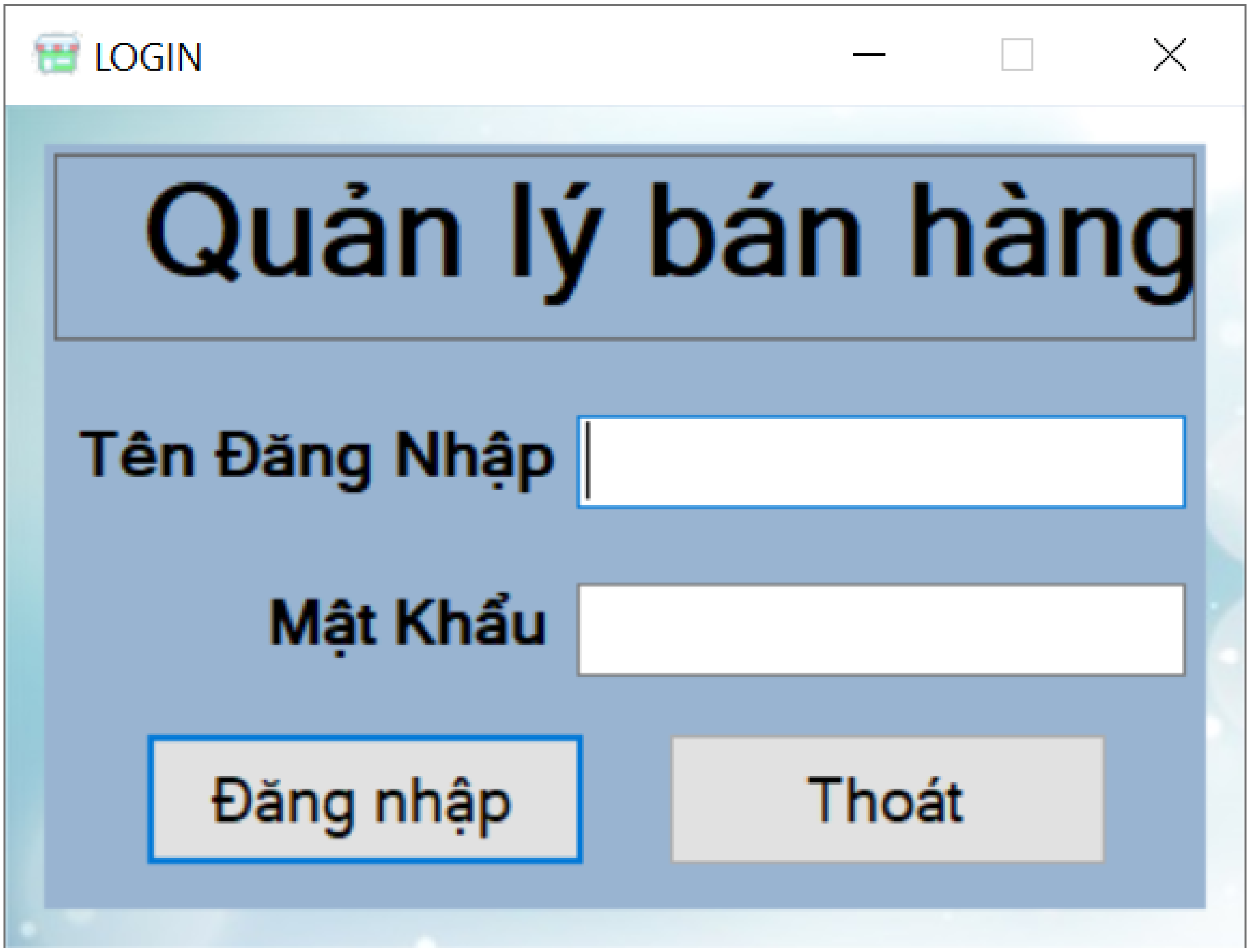
– This application is used for the sales management of grocery. So, we decided to build this application with WinForm for these reasons:

- The internet is not needed in this situation.
- The data is not too complicated because grocery has no department division.
- The grocery meets the needs of facilities easily.

5.2 Business Processing

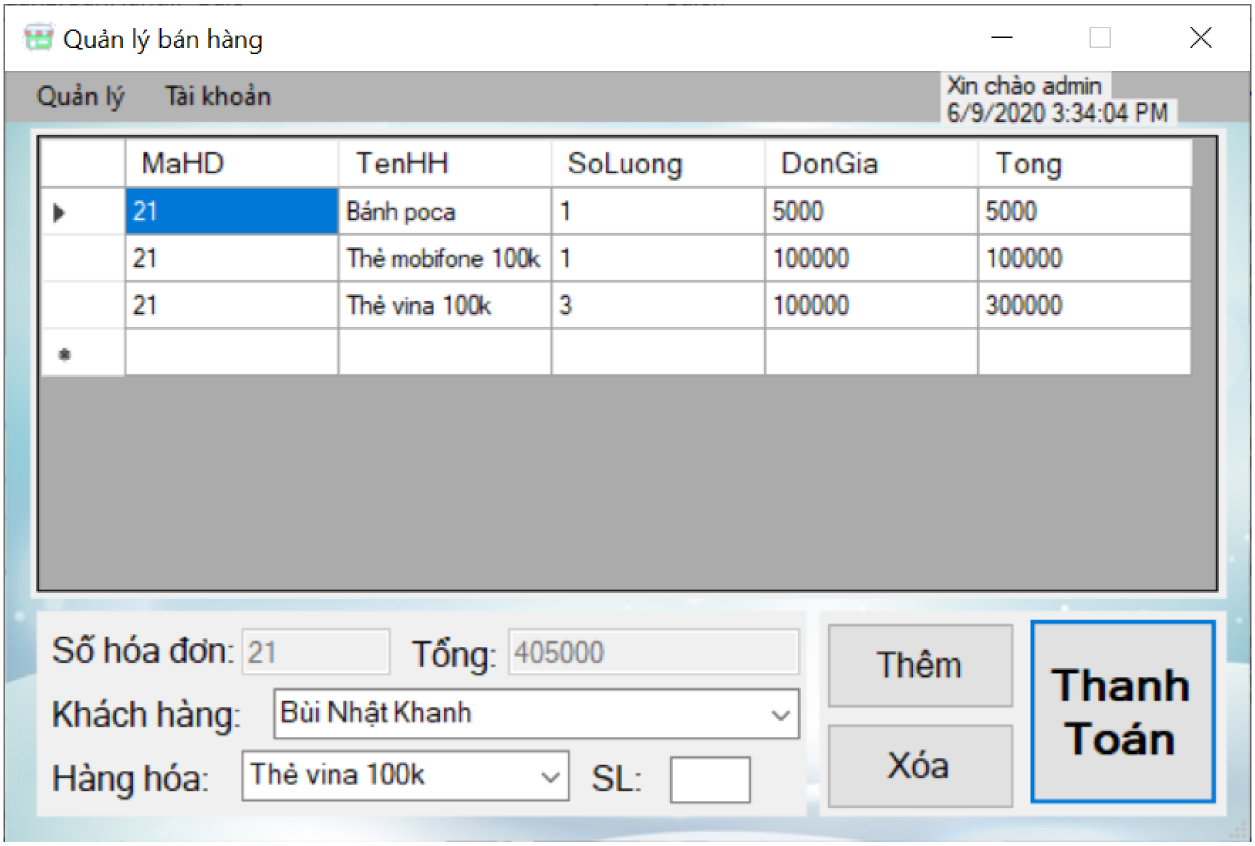
5.2.1 Sign in

– The grocery owner signs in with his/her username and password. Because the scale here is not big, new users will be added in the database manually. Otherwise, for the security issue, on the user display, there is only Sign in function.



5.2.2 Create invoices

- The main function of grocery is sales. In this process, the owner can create invoices to make revenue recognition.
- The ID of billing will be created automatically. The first step is choosing the customer's name in your list. Then, choose the products and quantities before adding information on sales into the invoice. The total invoice is displayed immediately after each product added.



Xin chào admin
6/9/2020 3:34:04 PM

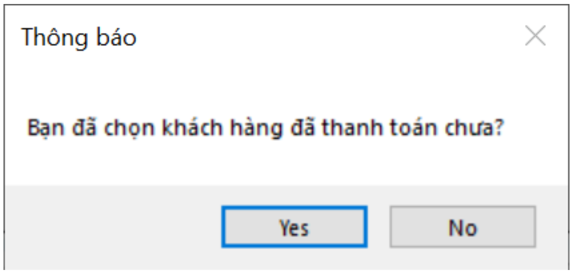
	MaHD	TenHH	SoLuong	DonGia	Tong
▶	21	Bánh poca	1	5000	5000
	21	Thẻ mobifone 100k	1	100000	100000
	21	Thẻ vina 100k	3	100000	300000
*					

Số hóa đơn: 21 Tổng: 405000

Khách hàng: Bùi Nhật Khanh

Hàng hóa: Thẻ vina 100k SL:

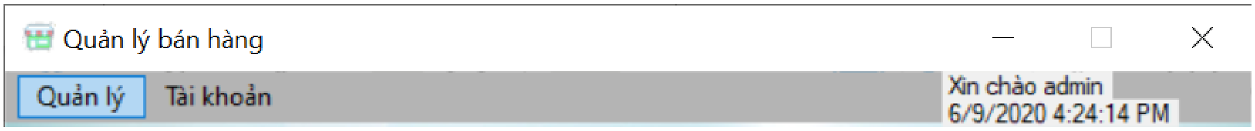
- If customers want to change the products or quantities, there is a function to delete whatever they want, and then add again the right ones.
- The system will record the invoice when the owner presses the button "Thanh toán". Besides, to control some of the careless situations, the notification will appear to confirm the customer who will pay for this invoice.



Bạn đã chọn khách hàng đã thanh toán chưa?

5.2.3 Manage the grocery

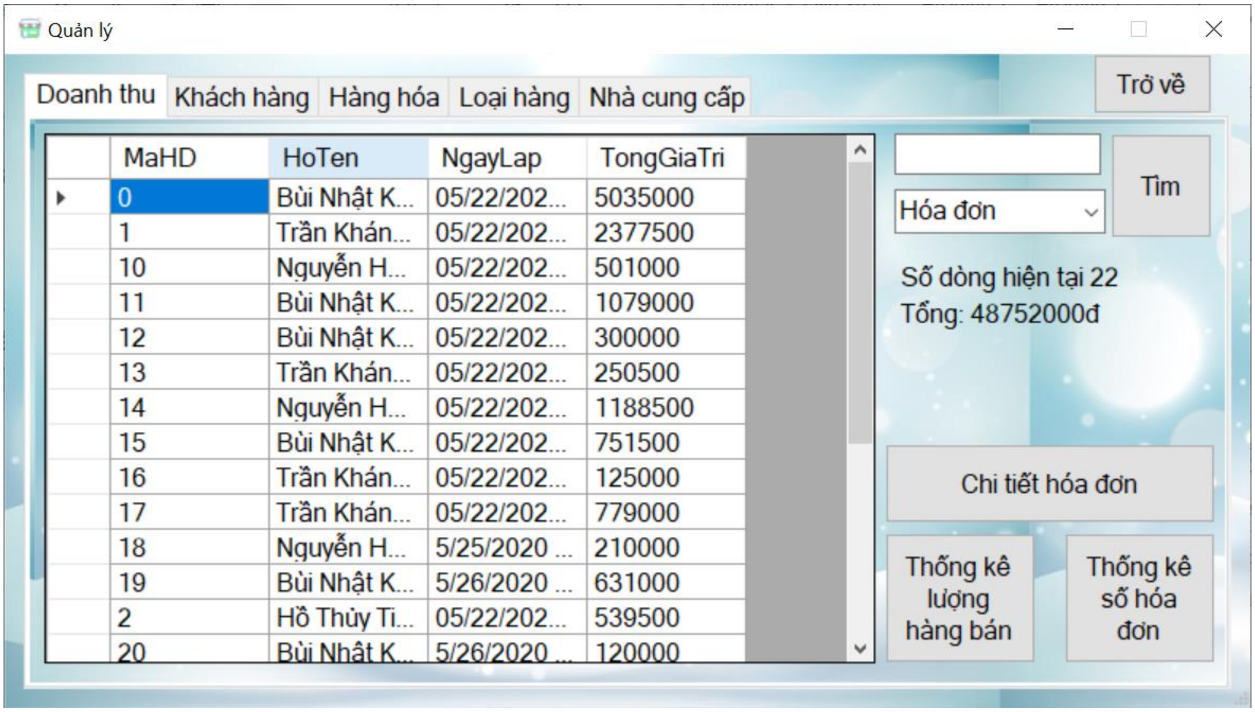
- To enter the management function, press the Tab Control named "Quản lý". In this process, the owner can statistic, add, find, delete revenue, information of customers, inventory, and suppliers.



Xin chào admin
6/9/2020 4:24:14 PM

❖ ***Revenue***

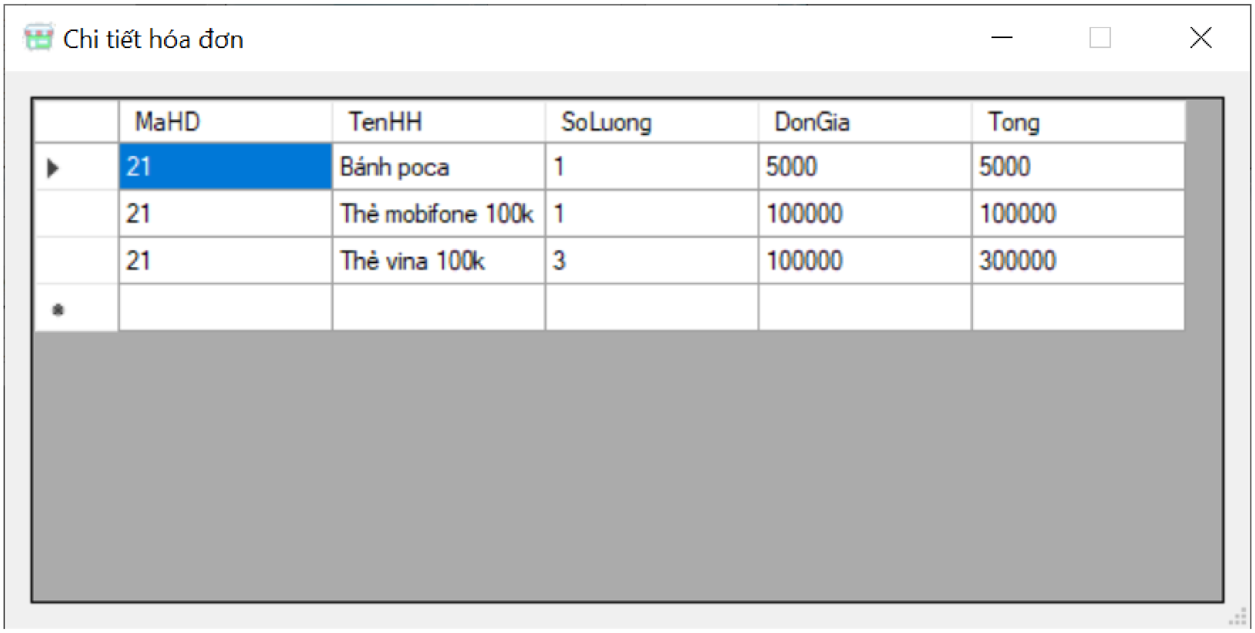
- In the Tab Control "Doanh thu", all of the invoices are displayed. This application also exhibits the revenue until then and how many invoices were sold.



	MaHD	HoTen	NgayLap	TongGiaTri
▸	0	Bùi Nhật K...	05/22/202...	5035000
	1	Trần Khán...	05/22/202...	2377500
	10	Nguyễn H...	05/22/202...	501000
	11	Bùi Nhật K...	05/22/202...	1079000
	12	Bùi Nhật K...	05/22/202...	300000
	13	Trần Khán...	05/22/202...	250500
	14	Nguyễn H...	05/22/202...	1188500
	15	Bùi Nhật K...	05/22/202...	751500
	16	Trần Khán...	05/22/202...	125000
	17	Trần Khán...	05/22/202...	779000
	18	Nguyễn H...	5/25/2020 ...	210000
	19	Bùi Nhật K...	5/26/2020 ...	631000
	2	Hồ Thủy Ti...	05/22/202...	539500
	20	Bùi Nhật K...	5/26/2020 ...	120000

Số dòng hiện tại 22
Tổng: 48752000đ

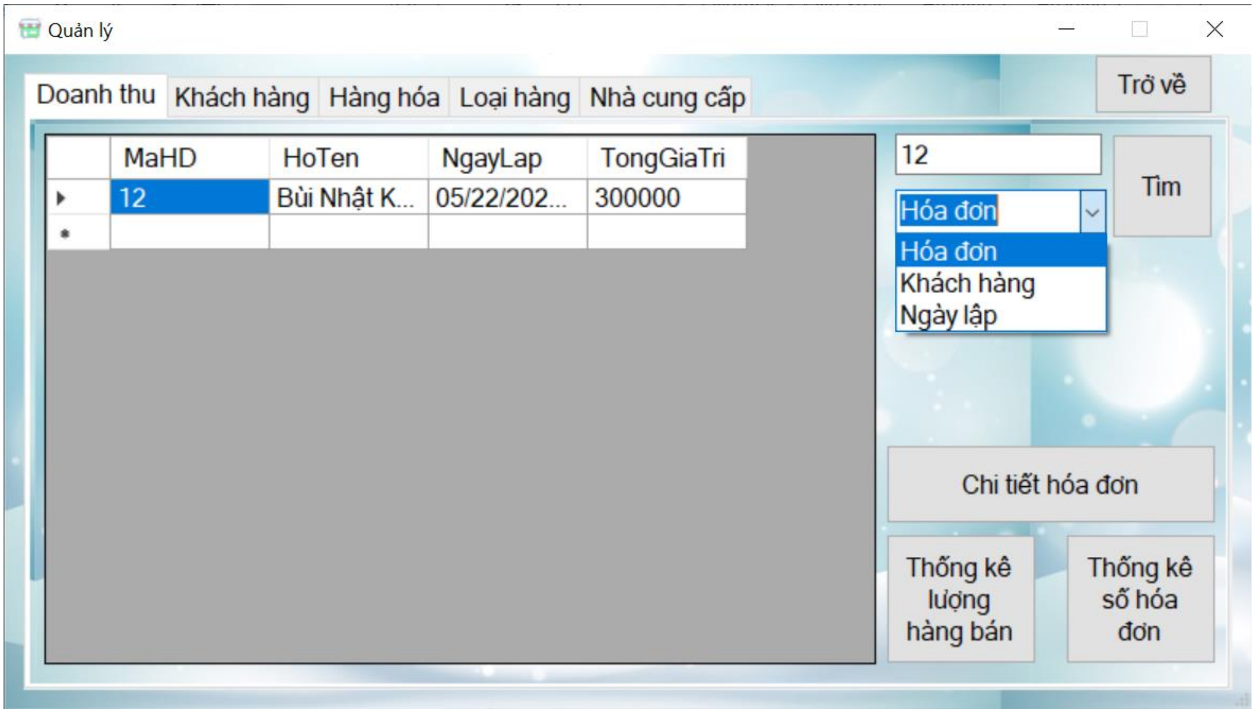
– On the other hand, you can show invoice details such as number, unit price, etc. when clicking on “Chi tiết hóa đơn”.



Chi tiết hóa đơn

	MaHD	TenHH	SoLuong	DonGia	Tong
▶	21	Bánh poca	1	5000	5000
	21	Thẻ mobifone 100k	1	100000	100000
	21	Thẻ vina 100k	3	100000	300000
*					

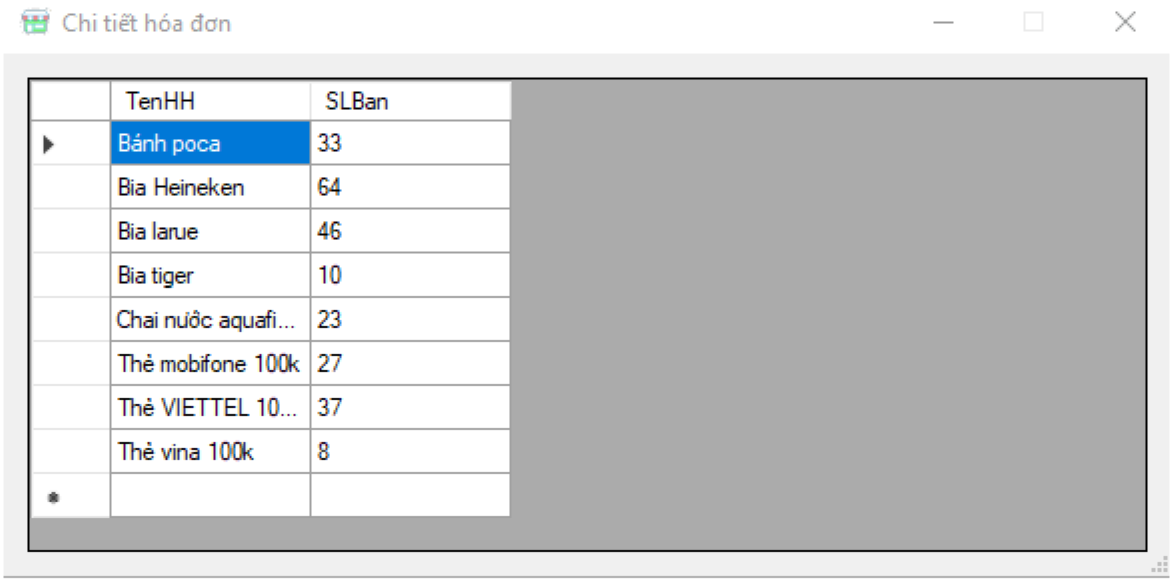
– For a specific purpose, the owner can find out which invoice he/ she wants with a key search like ID, customer, or date.



	MaHD	HoTen	NgayLap	TongGiaTri
▶	12	Bùi Nhật K...	05/22/202...	300000
*				

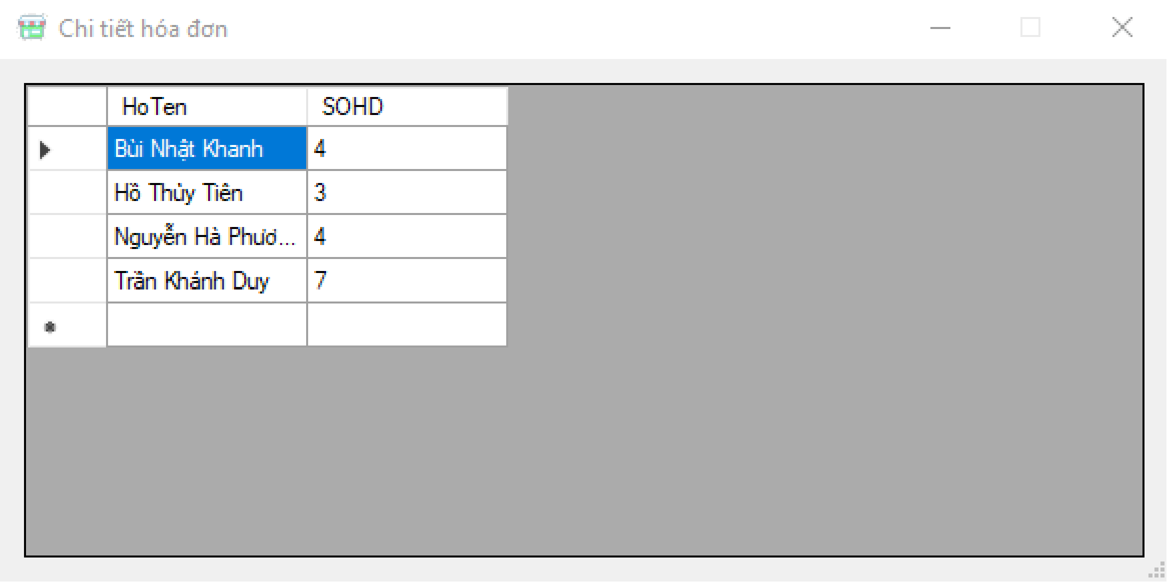
Search box: 12 — Hóa đơn

- Another function is statistic the quantities of all products which the grocery has sold since the grand opening. The sales situation will be shown clearly and can help the owner give right and a timely decision like promotion, how many units need to import, so on.



TenHH	SLBan
Bánh poca	33
Bia Heineken	64
Bia larue	46
Bia tiger	10
Chai nước aquafi...	23
Thẻ mobifone 100k	27
Thẻ VIETTEL 10...	37
Thẻ vina 100k	8

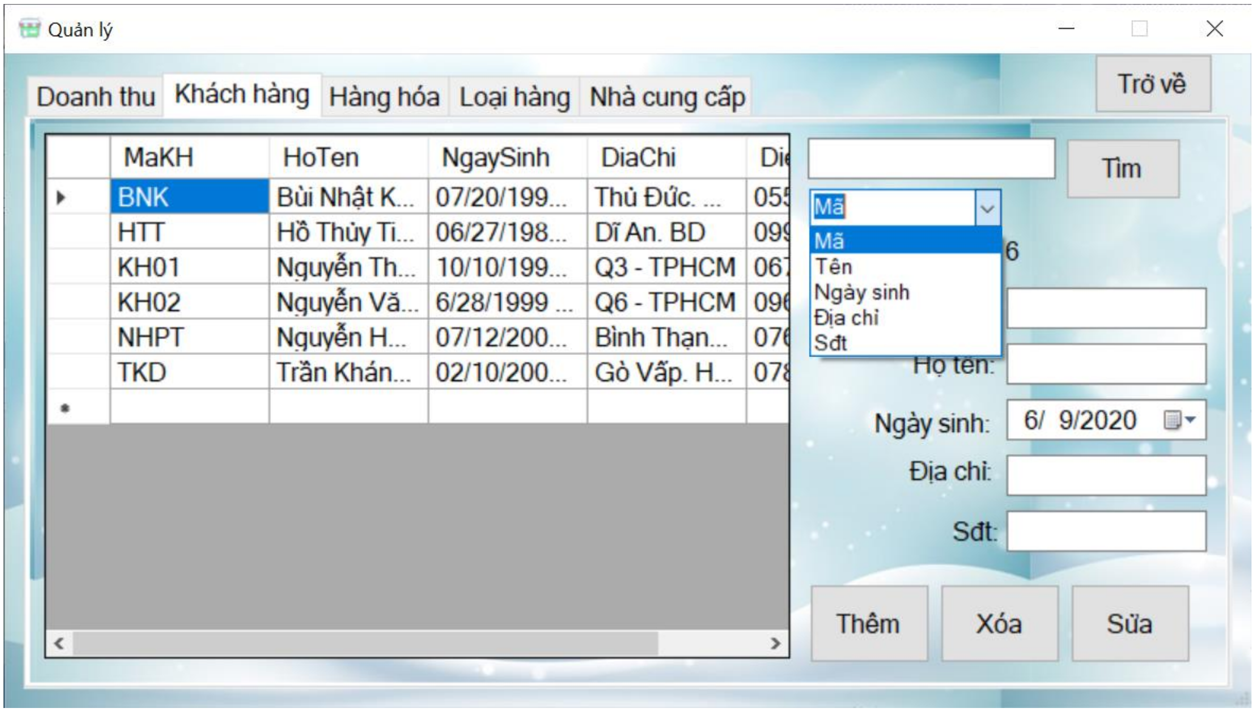
- The statistic of the number of invoices is the same purpose as quantities of product.



HoTen	SOHD
Bùi Nhật Khanh	4
Hồ Thủy Tiên	3
Nguyễn Hà Phướ...	4
Trần Khánh Duy	7

❖ ***Customers***

– The same as Revenue, this process also has a display, search information of customers with ID, name, phone number, address, etc.



	MaKH	HoTen	NgaySinh	DiaChi	Di
▸	BNK	Bùi Nhật K...	07/20/199...	Thủ Đức. ...	055
	HTT	Hồ Thủy Ti...	06/27/198...	Dĩ An. BD	099
	KH01	Nguyễn Th...	10/10/199...	Q3 - TPHCM	067
	KH02	Nguyễn Vă...	6/28/1999 ...	Q6 - TPHCM	096
	NHPT	Nguyễn H...	07/12/200...	Bình Thạn...	076
	TKD	Trần Khán...	02/10/200...	Gò Vấp. H...	078
*					

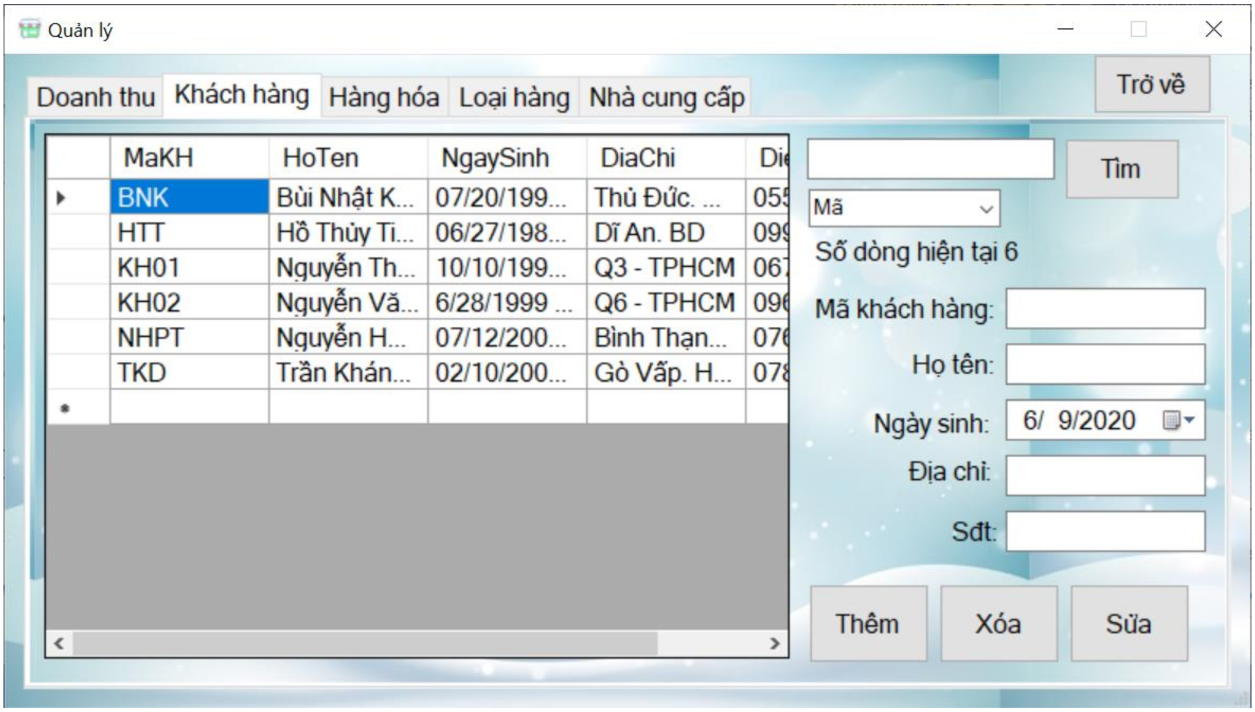
Họ tên:

Ngày sinh: 6/ 9/2020

Địa chỉ:

Sđt:

– Furthermore, the system has a function to add, change, or remove customers. After filling the necessary data in the textbox, the table will be updated speedily.



	MaKH	HoTen	NgaySinh	DiaChi	Di
▸	BNK	Bùi Nhật K...	07/20/199...	Thủ Đức. ...	055
	HTT	Hồ Thủy Ti...	06/27/198...	Dĩ An. BD	099
	KH01	Nguyễn Th...	10/10/199...	Q3 - TPHCM	067
	KH02	Nguyễn Vă...	6/28/1999 ...	Q6 - TPHCM	096
	NHPT	Nguyễn H...	07/12/200...	Bình Thạn...	076
	TKD	Trần Khán...	02/10/200...	Gò Vấp. H...	078
*					

Mã

Số dòng hiện tại 6

Mã khách hàng:

Họ tên:

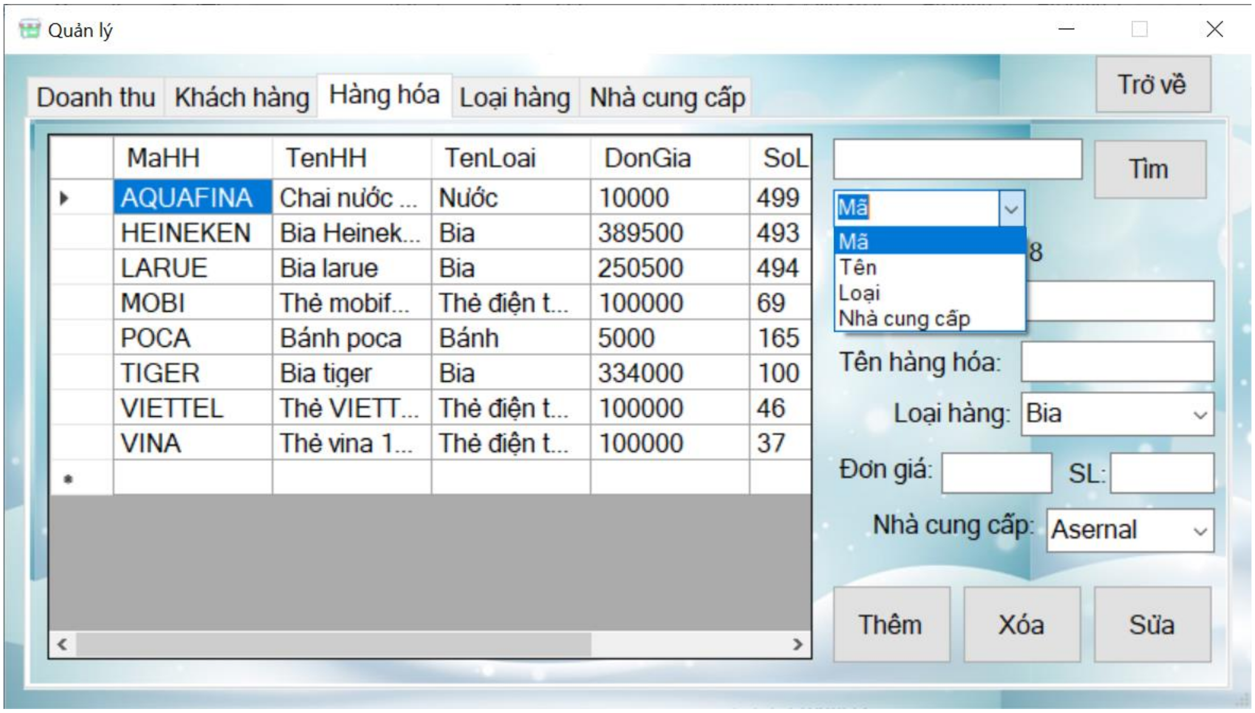
Ngày sinh: 6/ 9/2020

Địa chỉ:

Sđt:

❖ ***Products***

– This process is used the same as inventory. It means that the owner can see the stock-in-trade of each product. Otherwise, when the owner imports good, he can also update here.



	MaHH	TenHH	TenLoai	DonGia	SoL
▸	AQUAFINA	Chai nước ...	Nước	10000	499
	HEINEKEN	Bia Heinek...	Bia	389500	493
	LARUE	Bia larue	Bia	250500	494
	MOBI	Thẻ mobif...	Thẻ điện t...	100000	69
	POCA	Bánh poca	Bánh	5000	165
	TIGER	Bia tiger	Bia	334000	100
	VIETTEL	Thẻ VIETT...	Thẻ điện t...	100000	46
	VINA	Thẻ vina 1...	Thẻ điện t...	100000	37
*					

Mã

Mã
Tên
Loại
Nhà cung cấp

8

Tên hàng hóa:

Loại hàng: Bia

Đơn giá:

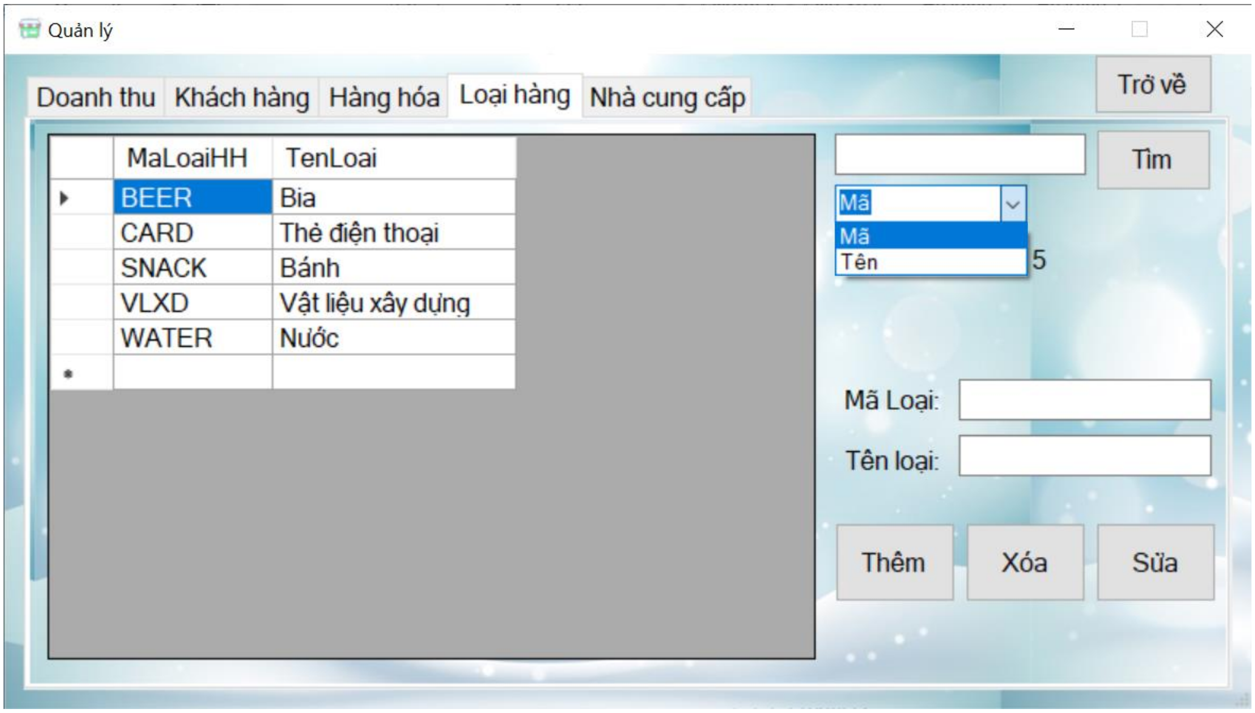
SL:

Nhà cung cấp: Asernal

– The search function helps users easier in finding something for specific purposes.

❖ ***Category***

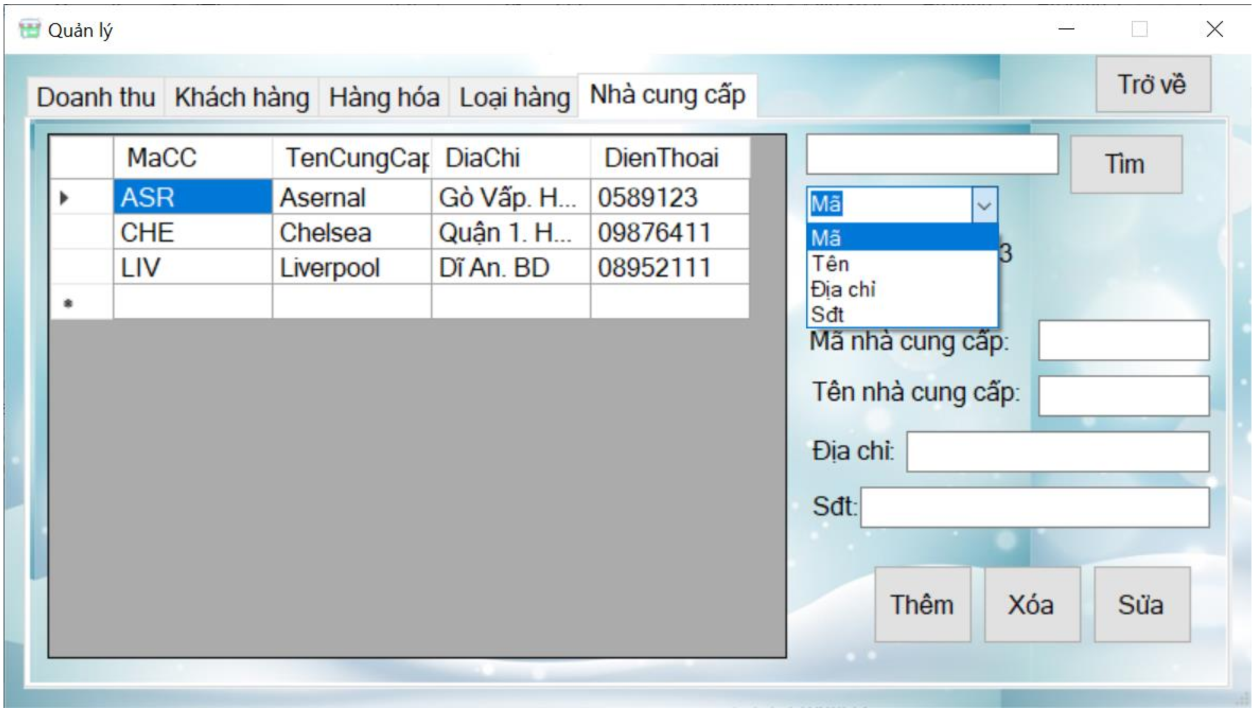
– To systemize the information of grocery, products are divided into classes. Through the revenue of each class, the owner can arrange products in a suitable situation of grocery to promote sales effectively.



MaLoaiHH	TenLoai
BEER	Bia
CARD	Thẻ điện thoại
SNACK	Bánh
VLXD	Vật liệu xây dựng
WATER	Nước

❖ ***Suppliers***

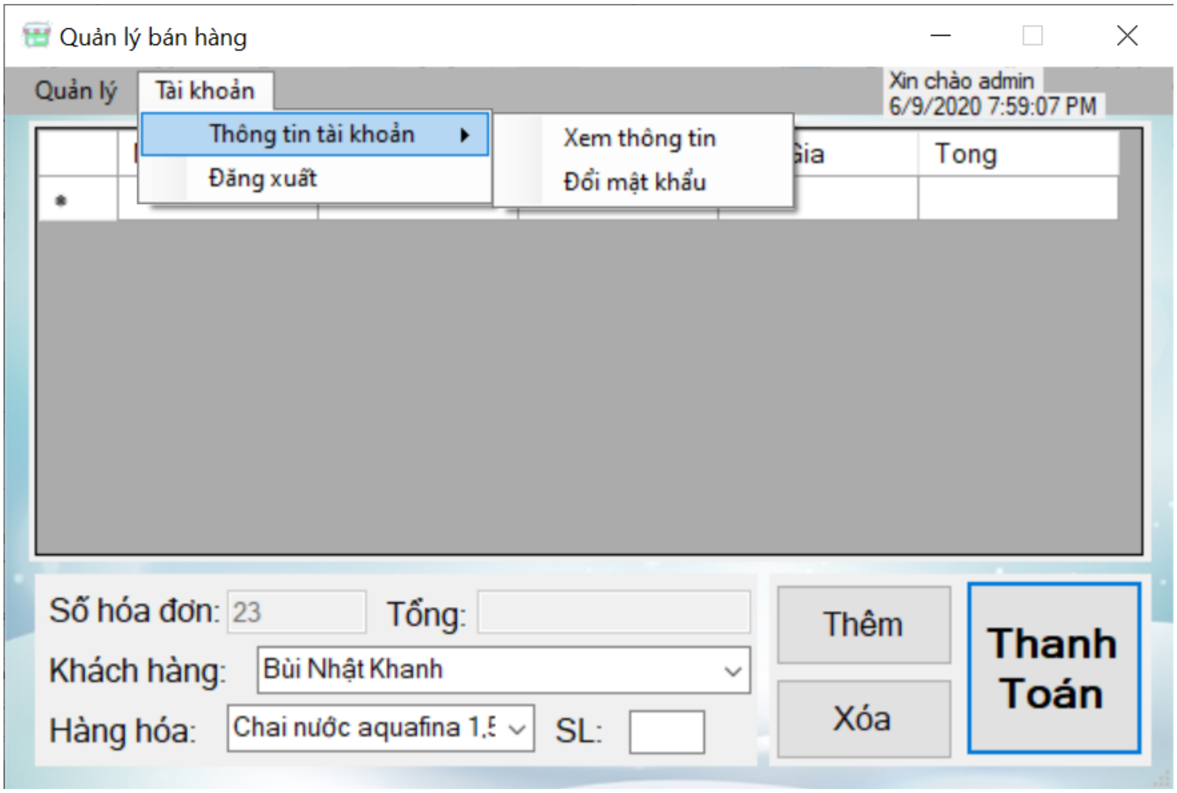
– The list of suppliers is displayed in this step. The attributes are ID, name, the contact information.



MaCC	TenCungCap	DiaChi	DienThoai
ASR	Asernal	Gò Vấp. H...	0589123
CHE	Chelsea	Quận 1. H...	09876411
LIV	Liverpool	Dĩ An. BD	08952111

5.2.4 *Manage user accounts*

❖ ***Information***



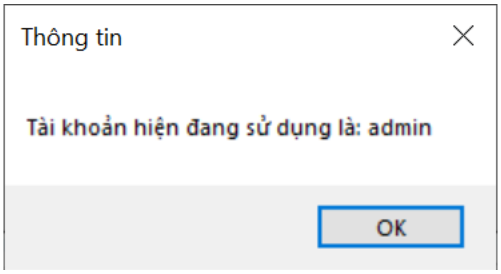
Xin chào admin
6/9/2020 7:59:07 PM

Số hóa đơn: 23

Khách hàng: Bùi Nhật Khanh

Hàng hóa: Chai nước aquafina 1.5

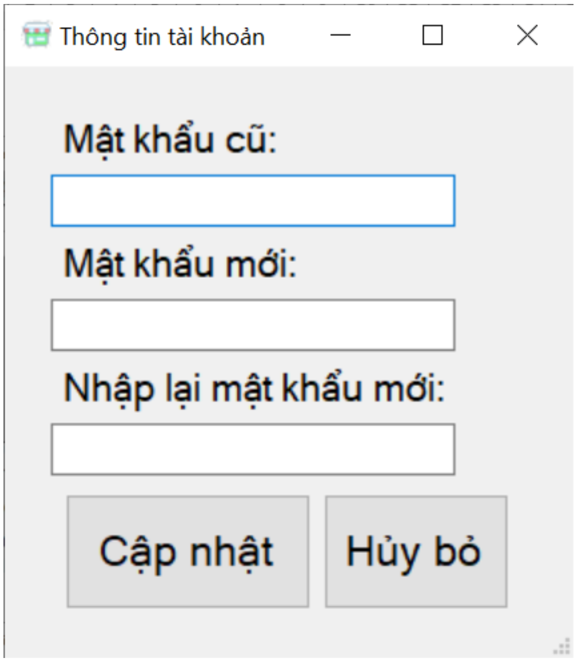
- To distinguish and recognize who is using this application, the Tab Control “Tài khoản” has a tab that exhibits information about users. The window “Thông tin” shows a message which provides username using at that moment.



Tài khoản hiện đang sử dụng là: admin

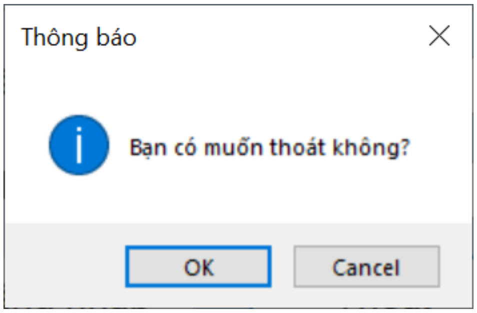
❖ *Change password*

- You can change your password whenever you want in “Đổi mật khẩu”. In this step, you need to fill the previous password to confirm this account is yours. After entering a new password, you press the button “Cập nhật” to update the database about users.



5.2.5 Log out

- After using this application, the owner can end all tasks with an exit button. To make sure you want to close this application, the system shows the message to confirm it.



Thông báo

Bạn có muốn thoát không?

CHAPTER 6: EVALUATION THE PROJECT

6.1 Advantage

- Building ERD and relational tables on SQL Server for this project improve our knowledge about this subject.
- Our group has identified the basic problem in the management process and recognized the data management object such as customer, invoice, product, etc. And then, we identified the information to be managed and build the ERD model based on the requirement of the data.
- The database structure of our project solved management issues of information for products, customers, suppliers, invoices, etc. Besides, there is some function to access and evaluate information such as calculation and statistics to help users' requirements in managing and deciding.

6.2 Disadvantage

- The user interface is still rudimentary, not really professional, and barely solved the issues related to management activities.
- Data solution and table structure construction help the administrator easily manage and help data structure more closely but bring complexity to users.
- The application is only suitable for a grocery store and needs to upgrade a lot to implementation for the larger business.