NEAR EAST UNIVERSITY

Faculty of Engineering

Department of Computer Engineering

PHARMACY SHOP APPLICATION

Graduation Project
COM-400

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ABSTRACT

As the information age has effected every aspect of our life, the need for computerizing many information systems has raised.

Once of the important branches that are effected by information revolution is the computer programming languages.

This project is concerned about using compueter program in Pharmacy management system . It is written using Borland Delphi 7 programming language and used ACCESS Database language for databases. Delphi is one easy programming languages.

This project is Pharmacy Shop Application program, that covers all services needed in most Pharmacy, such as computer related information,madicine, goods and many other Pharmacy management related services.

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INTRODUCTION

As a Pharmacy program is necessary for all pharmacies, in the project it was aimed to write a program considering the problems that we were faced till today in pharmacies. The main structure of the program was designed to apply to the medicine stock control and sales control. The program is user friendly and very simply adapted to the different stock programs with simple changes.Using the enormous advantages of Delphi program gives the chance to update this code in future due to pharmacy needs. In the following chapters the main structures and menus of the program are explained in details and finally the source code of the program is presented.

In chapter one, I summarize to integrated development environment of delphi sortly.

On next chapter, chapter two I brief to database desing with Access. How to create database and how to work?.

In chapter three, I would like pripare to follow charts of pharmacy shop application.

On last chapter, chapter four, I summarize to development of program modules of pharmacy shop application.

CHAPTER ONE

Integrated Development Environment of DELPHI

1.1.What Is Delphi?

By now you know that Delphi is Borland's best-selling rapid application development(RAD) product for writing Windows Applications.With Delphi,you can write Windows programs more quickly and more easily than was ever possible before.You can create Win32 console applications or Win32 graphical user interface(GUI) programs.When creating Win32 GUI applications with delphi,you have all the power of a true compiled programming language(Object Pascal) wrapped up in a RAD environment.What this means is that you can create the user interface to a program (the user interface means the menus,dialog boxes,main window,an so on) using drag-and-drop techniques for true rapid application development. You can also drop ActiveX controls on forms to create specialized programs such as Web browsers in a metter of minutes.Delphi gives you all this,and at virtually no cost:You don't sacrifice program execution speed because Delphi generates fast compiled code.

1.2.Look at the Delphi IDE

This section contains a Delphi integrated development environment(IDE).You will get the IDE a once-over noew and examine it in more detail on day 4,"The Delphi IDE Explored." Because you are tackling Windows Programming ,I'll assume you are advanced enough to have figured out how to start Delphi.When you first start the program,you are presented with both a blank form and the IDE,as shown in Figure 1.1.

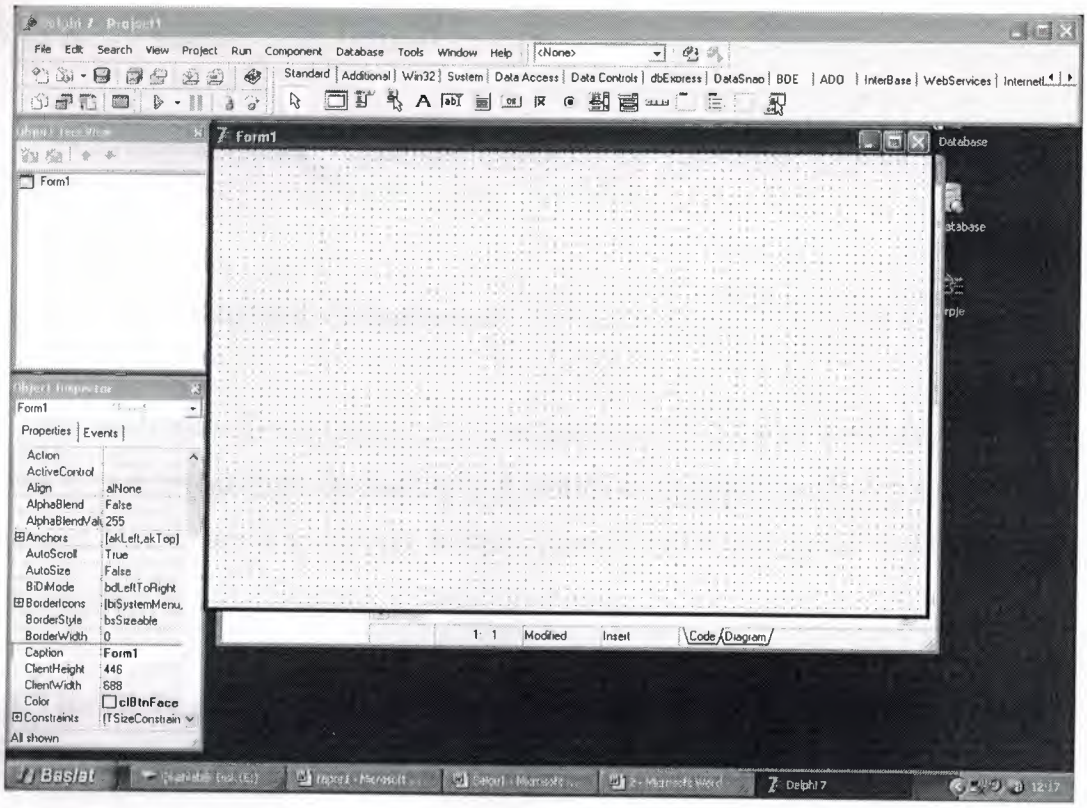

Figure 1.1The IDE and the initial blank form

Example easy a program "Hello World" in Figure 1.2

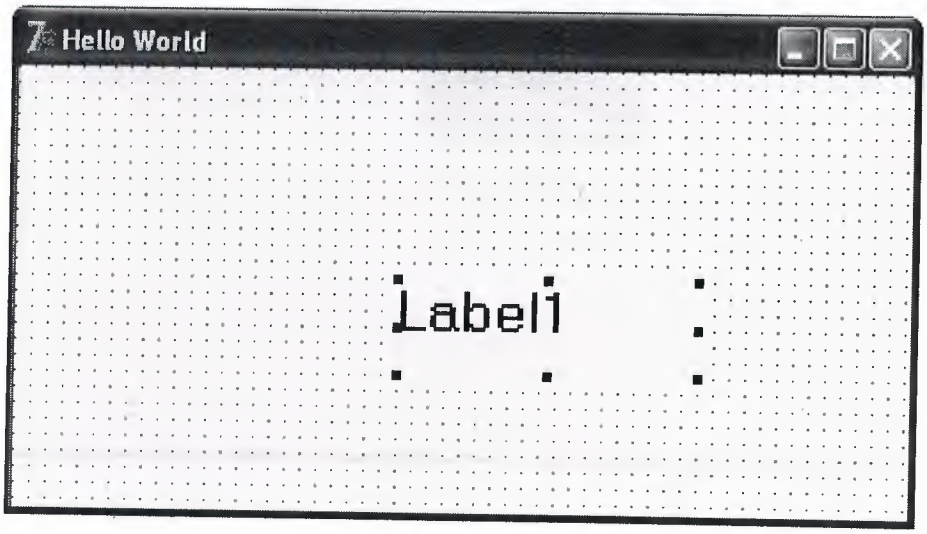

Figure 1.2

Added a label and change caption and bold in object inspector with "Hello world".

1.3.VCL Component of Delphi

VCL means Visiual Component Library.You'll see used various component in my Project.

1.3.1.The SpeedButton Component

The SpeedButton component was designed to be used with Panel component to build toolbars.It is different from the Button and BitBtn components in that it is not a windowed component.This means that a speed button connot receive input focus and cannot be tabbed to.

1.3.2.The BitBtn Component

The BitBtn component is a perfect example of how a component can be extended to provide additional fuctionality.In this case,the Standard Button component is extended to enable a Bitmap to be displayed on the face of button.

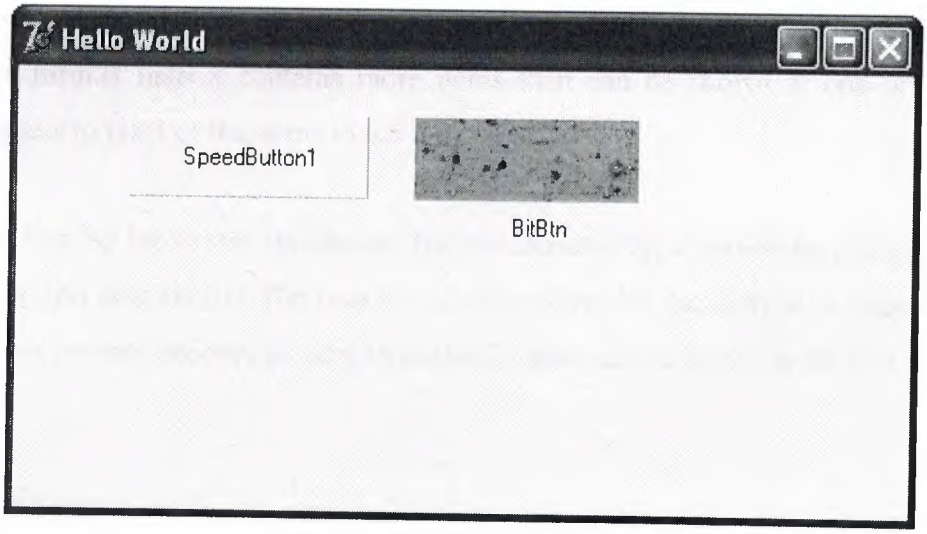

Figure 1.3 SpeedButton and BitBtn

1.3.3 Label Component

The label component is used to display text on a form.Sometimes the label text is determined at design time and never changed.In other cases,the label is dynamic and is changed at runtime as the program dictates.Use label's caption property to set the label at runtime.The label component has no specialized methods or event beyond what is avaible with other components.in Figure 1.2 we added a label.

1.3.4 Edit Component

The edit component encapsulates the basic single-line edit control.This component has no Align or Alignment property.It has no Alignment propert because the text in a single-line edit control can only be left-justified.The Edit component has no Align property because it cannot (or more accurately,should not) be expanded to fill the client are of window.

1.3.5 Listbox and Combobox Components

The Listbox and Combobox components are olsa widely used.The Listbox component represents a Standard Windows list box,which simply present a list of choices that the user can choose form.If listbox contains more items than can be shown at one time,scrollbars provide Access to reset of the items in the list box.

The Combo boxes are specialized list boxes.Actually, a combo box is a combination of a list box and edit control.The user can choose from the list or type in value in the edit partion.When the user chooses an item from the list,that item is placed in the edit control.

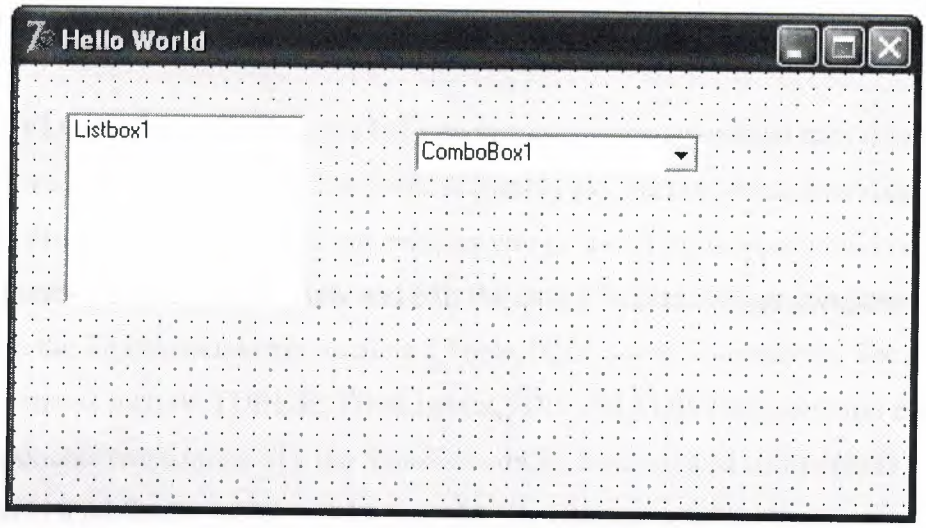

Figure 1.4 Listbox and Combobox

1.3.6. Database Component

The VLC database components fall into two catagories:nonvisual data Access components and visual data-aware components.Simply put,the nonvisual data Access components provide the mechanism that enables you go get at the data,and the visual data-aware components enable you to view and edit the data.The data Access components are derived from the Tdataset class and include TTable,TQuery,and TStoredproc.The visual data-aware components include TDBEdit,TDBListbox,TDBGird,TDBNavigator, and more. These components work much like the Standard edit,lis box,and grid components expect that they are tied to a particular table or field in a table.By editingone of the data-aware components,you are actually editing the underlying database as well.

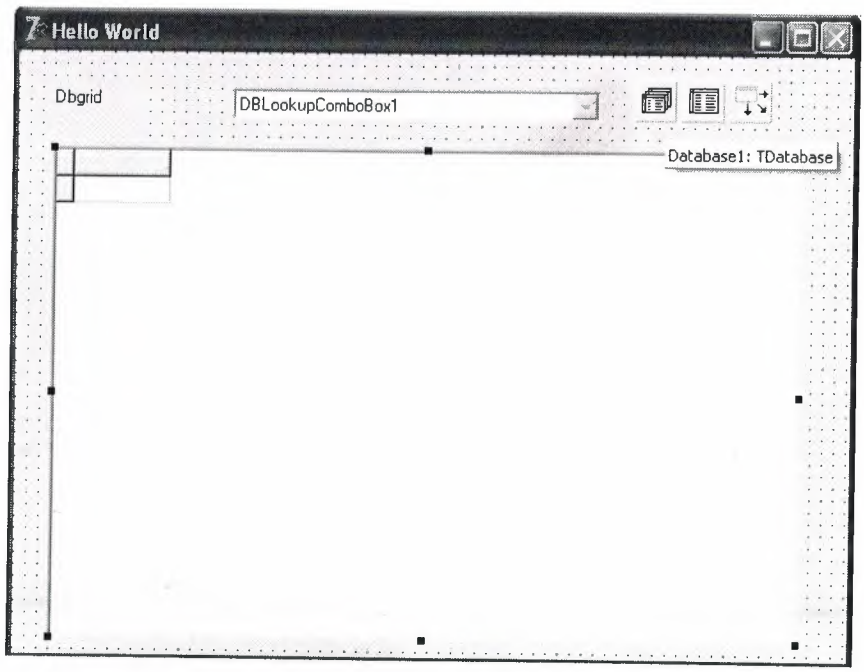

Figure.1.5 Database Component

1.3.7. Query Component

The BDE API enables the client to use SQL or Query by Example (QBE) to access dBASE, FoxPro, Access, and Paradox tables (standard databases) as well as server-based SQL tables.

A group of BDE query interface functions is provided for passing either SQL Queries or QBE queries to both server-based and PC-based sources.

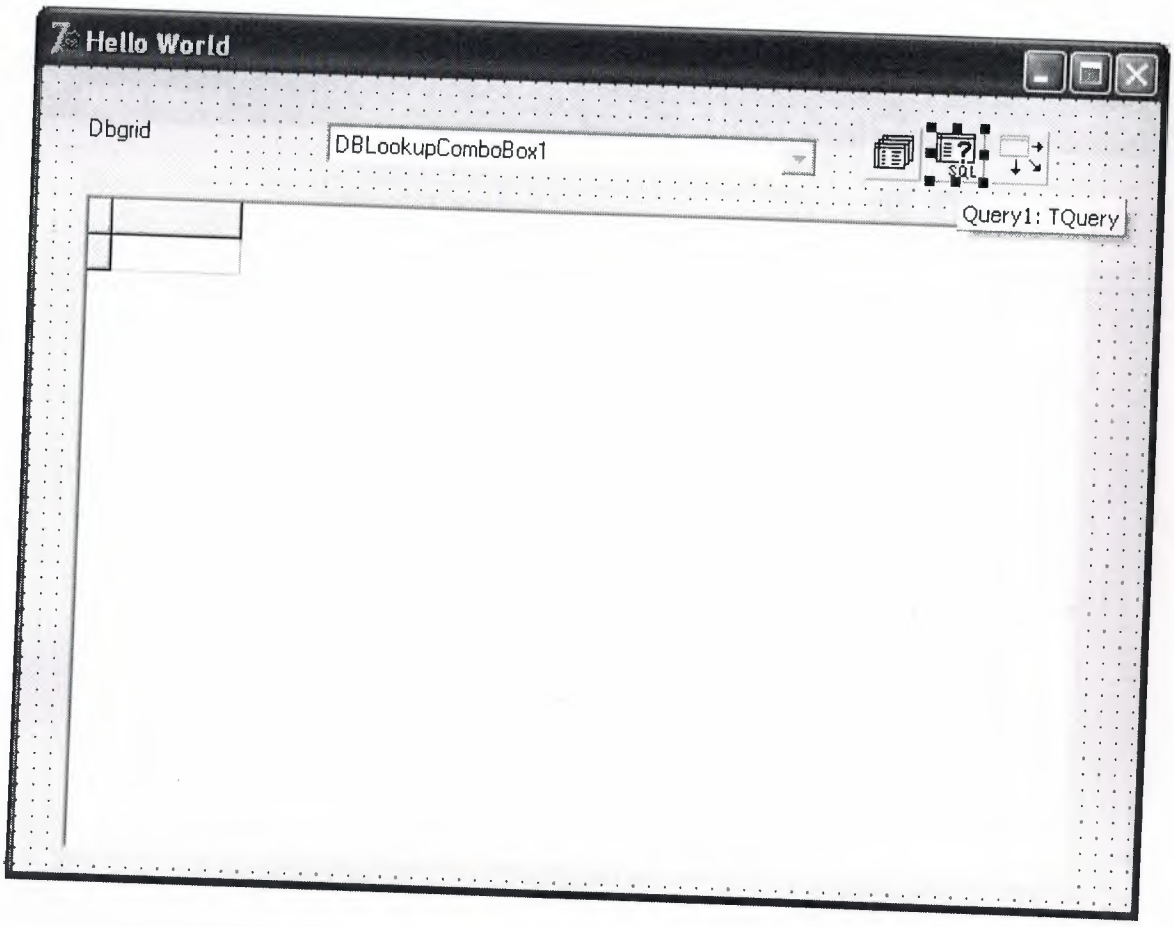

Figure.1.6 Query Component

1.3.8.DataSource Component

The Datasource component provides a mechanism to hook dataset components(Table, Query, or StoredProc) to the visiual components that display the data (Dbgrid ,Dbedit , Dblistbox ,and so on).The primary purpose of Datasource is to enable making changes to your applications easier.All the data components on a form are hooked up to the DataSource,which is then hooked up to the dataset.

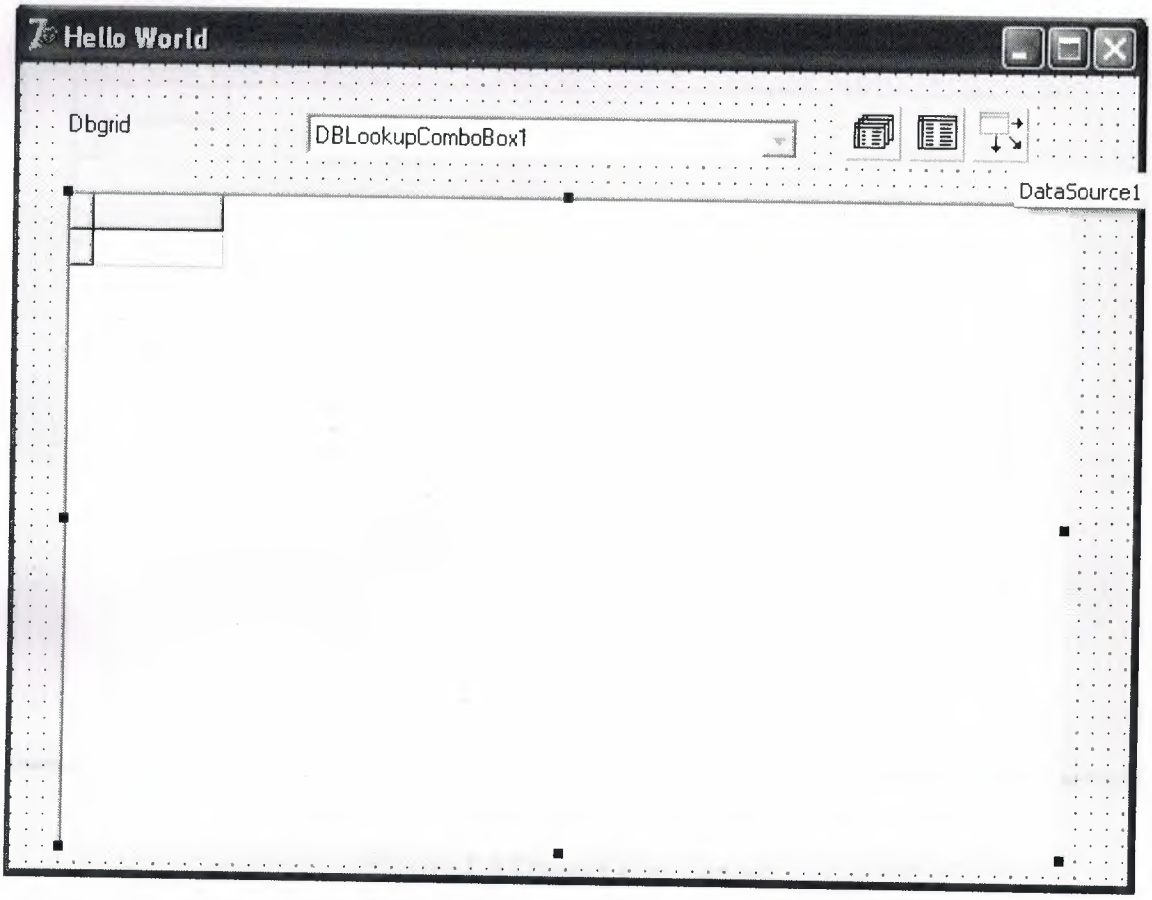

Figure.1.7.Datasource Component

1.3.9. Dbgrid Component

The Dbgrid component displays a dataset in tabular, or spreadsheet,format.One of the most important properties of the Dbgrid is the Colomns property.This property enables you to change the number and order of the colomns that appear in the grid.You can add,remove,and order colomns using the Colomns Editor.

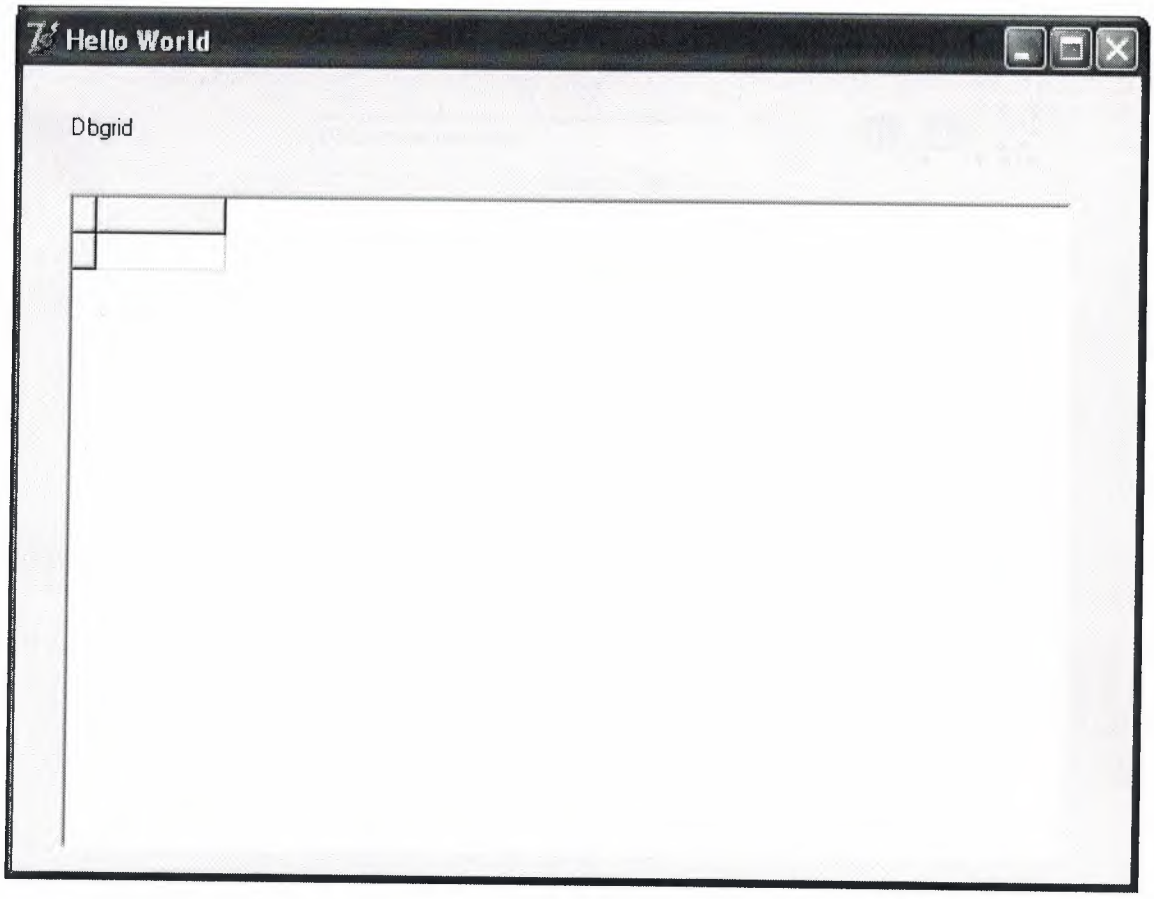

Figure.1.8.Dbgrid Component

1.3.10. Dblookupcombobox Component

The Dblookupcombobox work just like the Dblookuplistbox.In addition,the DropDownAlign,DropdownRows, and DropDownWidth properties control how the drop-down list appears.

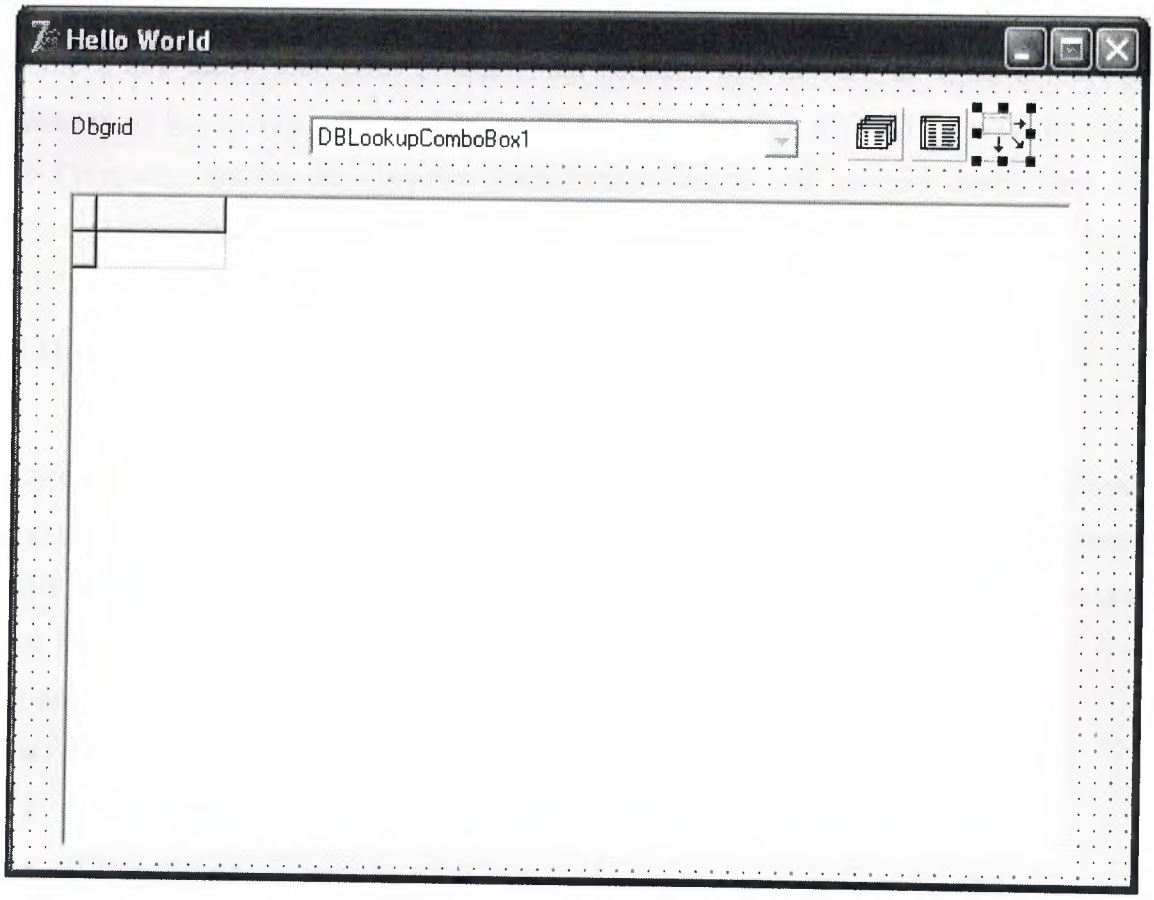

Figure.1.9.Dblookupcombobox Component

CHAPTER TWO

DATABASE DESIGN USING BY ACCESS

2.1.Why is the computer necessary in our life

Computer software has become a driving force; it is a powerful force that set Decision-making and serves as a basis for modern investigation and problem solving. Computers have become a key factor that gives products and services that modern look, its embedded in systems of all kinds; medical, industrial, military, entertainment, even office-based products.

A Computer system in a service management record can promise better speed and efficiency with almost no change of effors.

2.2.How to develop a database application

The steps involved in database application development any relational data base application there are always the same basic steps to follow. Access is a relational data base management system because all data is stored in an Access data base in the form of simple tables. Another name for a table is relation.

The steps of Access database design like this

- Database design
- Tables design
- Forms design
- Query design

2.3.Relational database

DBMS(Database Management System) has established themselves as one of the primary means for data storage for information based systems ranging from large business applications to simple pc based programs. However a relational database management system (RDBMS) is the system used to work with data management operations more than 15 years, and still improving, providing more sophisticated storage, retriaval systems.Relational database management systems provides organisations with ability to handle huge ammount of data and changing it into meaningful information.

2.4.The facilities of Access

Access is relational DBMS(Database Management System) with all the features necessary to develop and use a data base application.The facilities it offers can be found on most modern relational DBMS and Access.

- Tables are where all the data is stored. They are usually linked by relationships.
- Queries are the way you extract data from the database
- Forms are the method used for input and display of database data.
- Reports are used to display nicely formatted data on paper.

2.5.Delphi and Access

Access is the DBMS(Database Management System) Delphi and Access in developing data base applications is that for non-trivial database applications, Delphi offers more flexibility to the developper then the Delphi comes with Access. Access database using Delphi program code and setting properties.

First method of linking Delphi forms to Access databases called the data control. The data control is a simple Delphi control that you drag on to a Delphi form to link it to your choosen database. The data can be displayed and updated using tied text boxes, list boxes, combo boxes, and grids.

2.5.1.BDE(The Borland Database Engine)

The Borland Database Engine (BDE) includes an API for directly using its functionality. The API consists of a set of functions that can be called from any programming language capable of loading Windows DLLs and using functions contained in them. BDE functions are optimized for calling from C or C++; however, Delphi Pascal syntax is also provided in the function reference.

Over the years, two different types of database systems have developed that traditionally supported different data access approaches:

- PC-based database systems (such as Paradox, dBASE, and B-Trieve) have supported the indexed sequential access method (ISAM) type of data access. However, these systems have supported different kinds of APIs.
- Server-based database systems (such as InterBase, Sybase, Oracle, and DB2) have supported the ANSI standard SQL language. However, an industry standard for an API is just emerging: X/Open SQL Call Level Interface (CLI). This standard addresses only SQL-based database needs, and does not fully address ISAM type data source requirements.

2.5.1.1. Database Drivers

Each driver is implicitly loaded by the system when an application first requests a service from that driver. At that time, any configurable settings found in the Windows Registry or the Borland Database Engine (BDE) configuration file (IDAPI.CFG) related to this driver are used to initialize it. Examples of configurable settings are the default table level and the language driver to be used when the table is created.

Drivers are owned by the client or the system; once a driver is loaded, all other clients registered with BDE have access to it.

The application developer can also inquire about driver capabilities, such as whether or not the driver supports transactions.

dBASE, Paradox, Access, FoxPro, and text drivers

The standard drivers for Paradox, dBASE, Access, FoxPro, and text databases are shipped with BDE.

SQL drivers

For server-based SQL database systems such as Informix, DB2, InterBase, Oracle, and Sybase separate native BDE SQL drivers are available.

ODBC drivers

Any ODBC driver can be used with BDE, because BDE has an ODBC connectivity socket. The rich features of BDE, such as navigational access to data, bi-directional cursors, and cross-database operations, are also automatically enabled even when an ODBC driver is in use. Enhanced ODBC connectivity. BDE functions like DbiAddAlias and DbiOpenDatabase automatically add ODBC drivers and data sources as BDE aliases to the active session when they aren't currently stored in the configuration file. The BDE also supports ODBC 3 drivers.

2.5.2.DAO(Data Access objects)

The DAO approach to database programming often requires more code ,but like SQL compared to the Qury Design View,offers greater control to the database programmer over what's going on his/her application.

Data Access Objects are things like databases,recordsets,table and query definitions, and fields,Rather than tying a recor set to a data control when we use DAO we shall allow our programs to create and manipulate recordsets.

2.5.3.ADO(Active X Data Objects)

The ADO programming is in principle very similar to DAO programming but cointains some new commands.ADO is Microsoft's new approach to database programming which aims to give the programmer a more consistent way of connecting to a broad range of different types of data source.

2.6.The Application of Access

Microsoft Access provides relational database power to give you the information you need to make better decisions and manage your business. It integrates data from spreadsheets and other databases and is the easy way to find answers, share information over intranets and the Internet, and build faster more robust business solutions.

Whether you have an existing application that needs modification or require one built from scratch, your browser has pointed you in the right direction. With my programming experience and the knowledge you have of your business operation, you are guaranteed an extremely powerful and user friendly application.

Dbclick Ms Office Access buton and starting database.

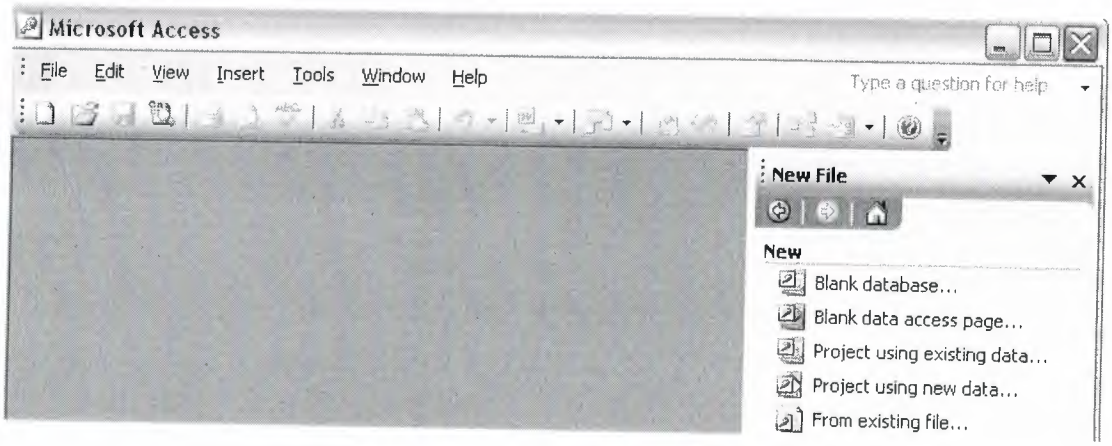

Figure2.1. Creating Database

And we have blank database and click blank database…Later we choose a name and saving database.

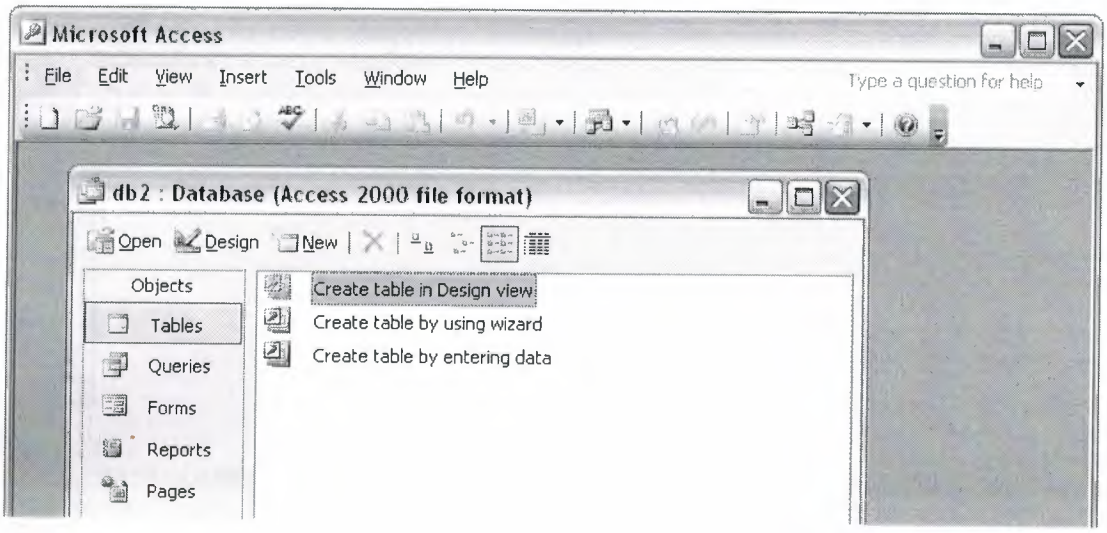

Figure2.2. The window of Database

This window shows that there are notables in database yet.Click create table in Design view.

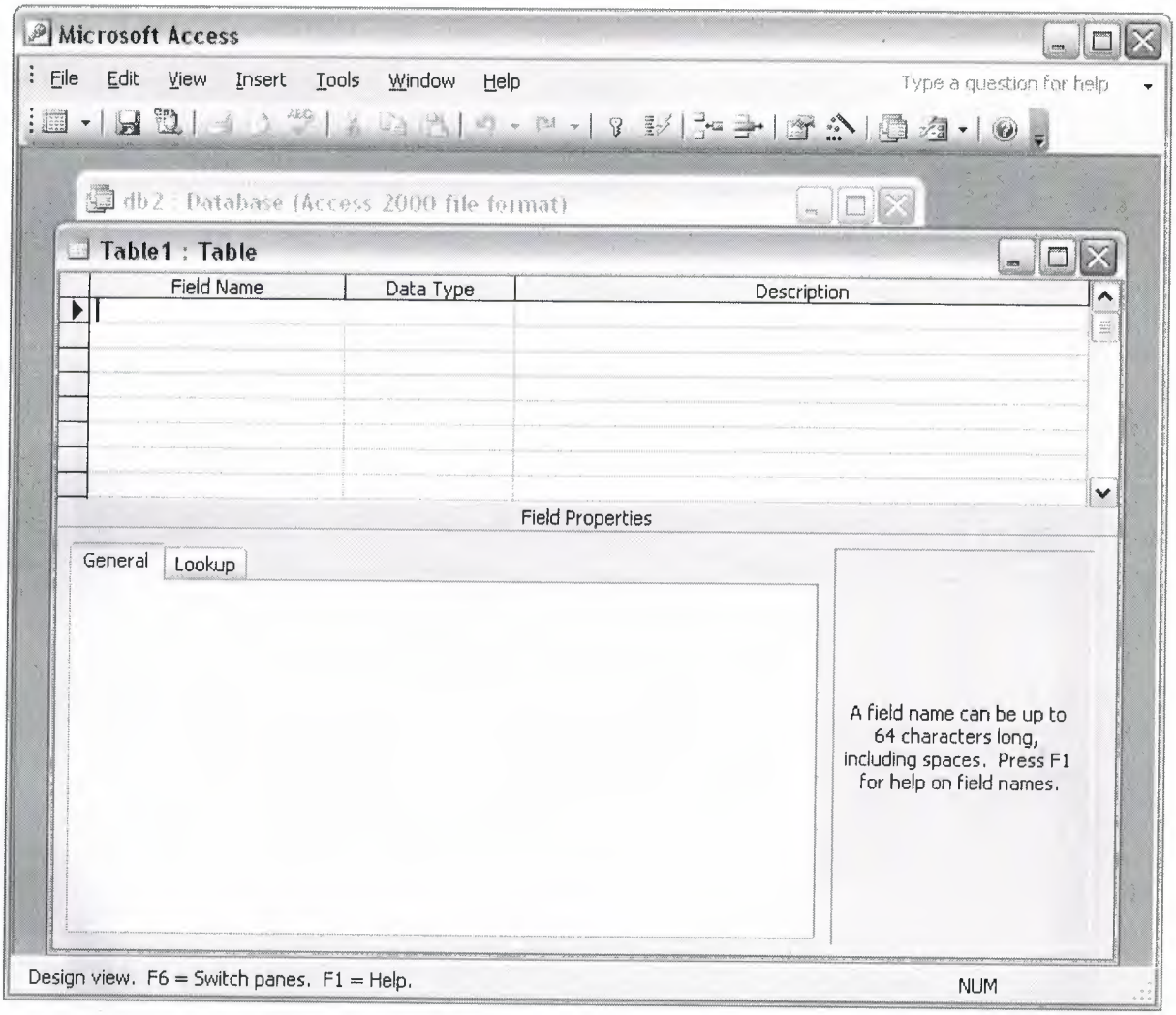

Figure 2.3. The window is type of table design

Now we have blank database and we'll join field name and data type and General.

2.6.1. Tables Design

When we right click to in column name choosing column name .And click data type choosing what kind of data type(number,char,date,text etc..)

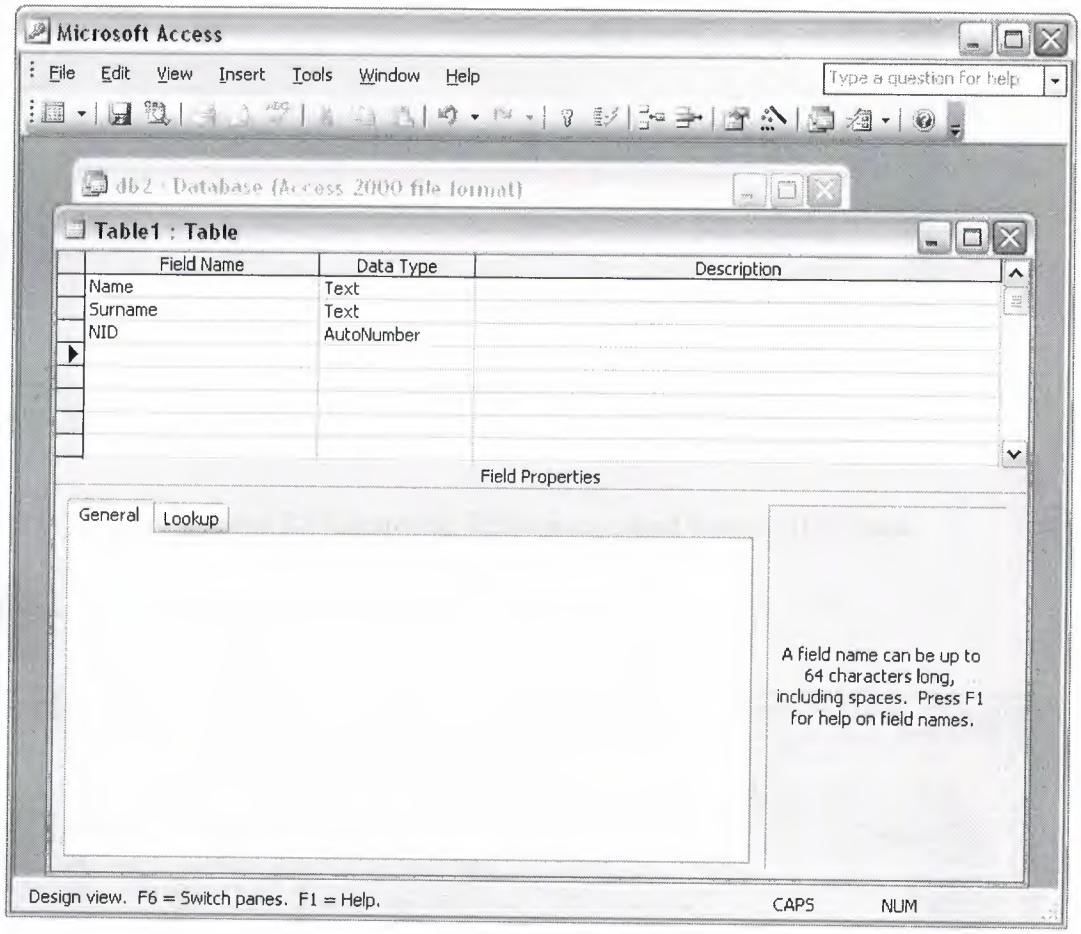

Figure 2.4 The Table

As you see, from these form, we decide the table name, fields name and fields types,length,nullable

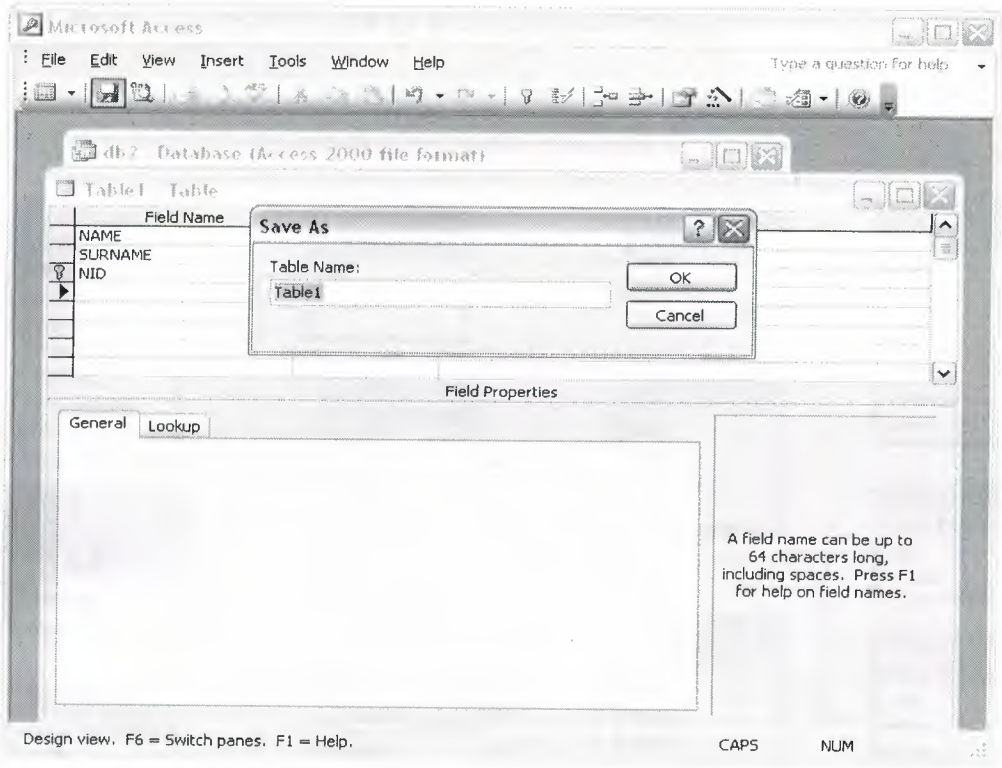

Figure 2.5 Choosing Table name and Saving Database

Finally we can see our table;

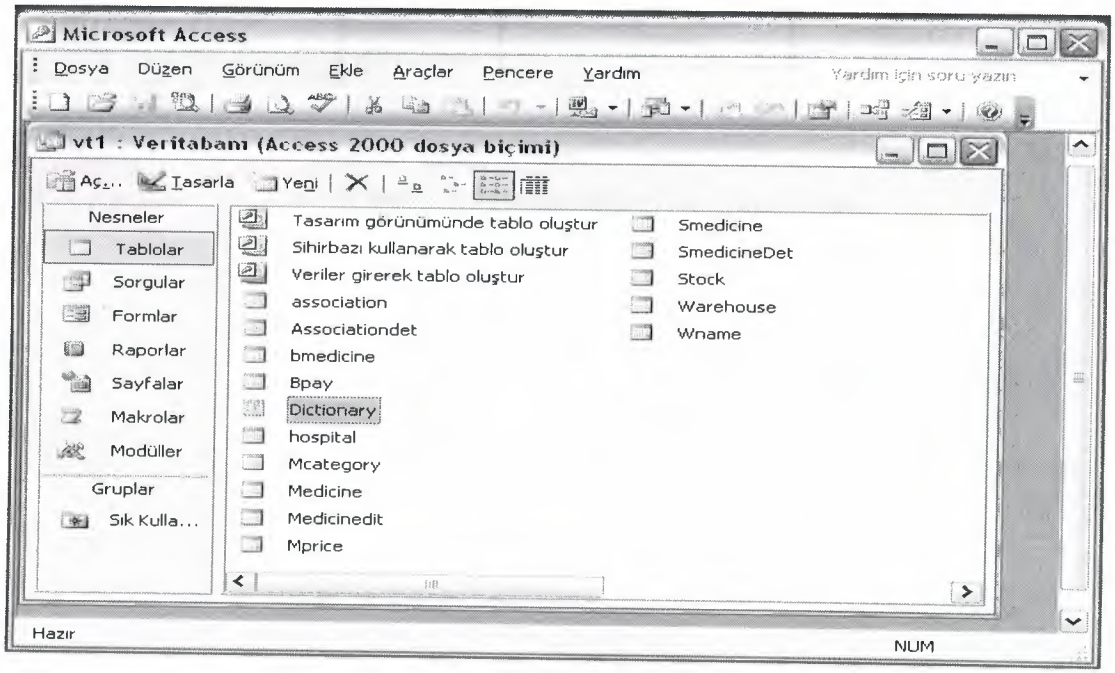

Figure 2.6 The Table

2.7. Defining Relationship Between the Tables

The structure and relation between tables are given in figure 2.6

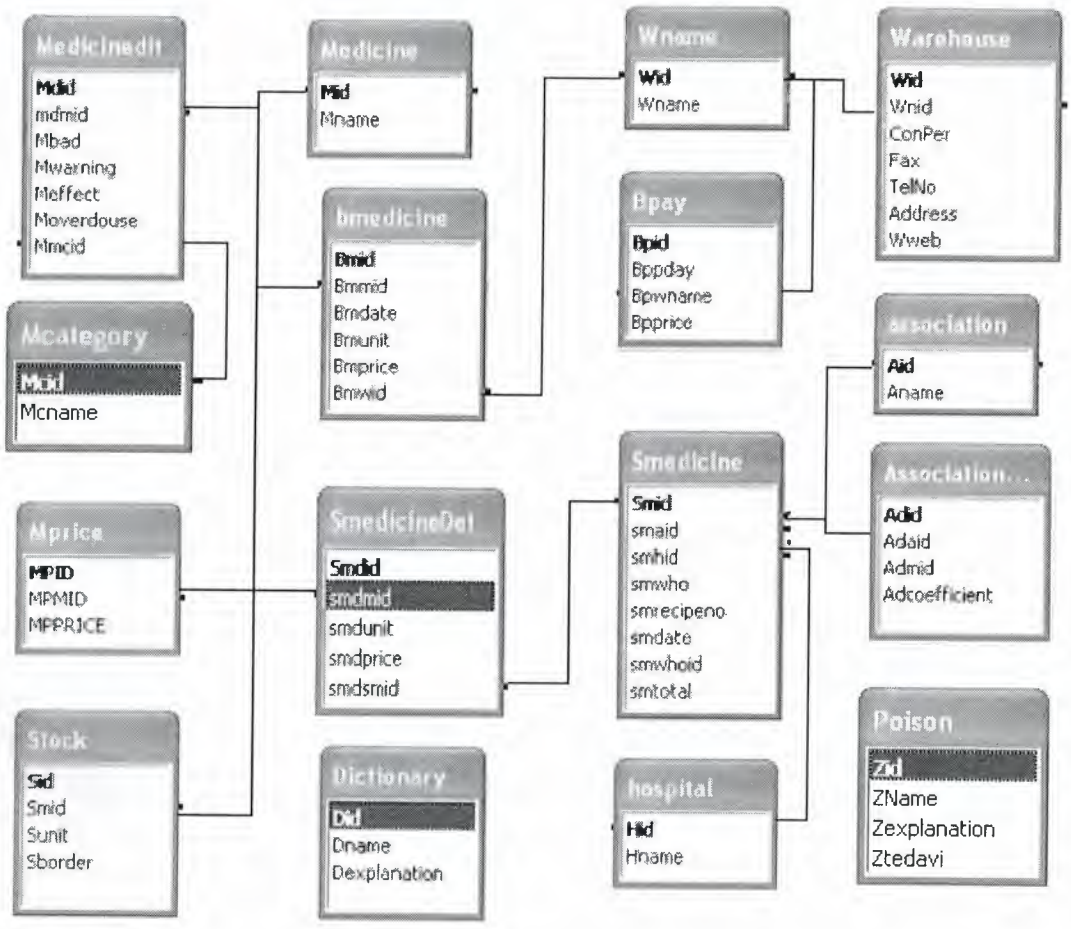

Figure 2.7 Relationship Between Tables

2.8. Database Structure

Program's database includes seventeen tables. Some tables are given below.

Medicine Table			
Field Name	**Type**	**Size**	**Key**
MID	int	5	*
MName	varchar	30	

Table 2.1 Medicine Table

MedicineDet Table			
Field Name	**Type**	**Size**	**Key**
MDID	int	5	*
MDMID	int	5	*
MBad	varchar	40	
MWarning	varchar	40	
MOverdouse	varchar	40	
MMCID	int	2	

Table 2.2 MedicineDet Table

MCategory Table			
Field Name	**Type**	**Size**	**Key**
MCID	int	2	*
MName	varchar	30	

Table 2.3 MCategory Table

Stock Table			
Field Name	**Type**	**Size**	**Key**
SID	int	5	*
SMID	int	5	*
SUnit	int	5	
Sborder	int	5	

Table 2.4 Stock Table

MPrice Table			
Field Name	**Type**	**Size**	**Key**
MPID	int	5	*
MPMID	int	5	*
MPrice	int	12	

Table 2.5 MPrice Table

BMedicine Table			
Field Name	**Type**	**Size**	**Key**
BMID	int	10	*
BMMID	int	5	*
BMDate	date		
BMUnit	int	5	
BMPrice	int	12	
BMWID	int	3	*

Table 2.6 BMedicine Table

SMedicine Table			
Field Name	**Type**	**Size**	**Key**
SMID	int	15	*
SMAID	int	2	*
SMHID	int	3	*
SMWho	varchar	40	
SMRecipeNo	varchar	15	
SMDate	Date		
SMWhoID	varchar	15	
SMTotal	int	15	

Table 2.7 SMedicine Table

SMedicineDet Table			
Field Name	**Type**	**Size**	**Key**
SMDID	int	20	*
SMDMID	int	5	*
SMDSMID	int	15	*
SMDUnit	int	5	
SMDPrice	int	12	

Table 2.8 SMedicineDet Table

Association Table			
Field Name	**Type**	**Size**	**Key**
AID	int	2	*
AName	varchar	20	

Table 2.9 Association Table

AssociationDet Table			
Field Name	**Type**	**Size**	**Key**
ADID	int	15	*
ADAID	int	2	*
ADMID	int	5	*
ADCoefficient	float		

Table 2.10 AssociationDet Table

Hospital Table			
Field Name	**Type**	**Size**	**Key**
HID	int	3	*
HName	varchar	35	

Table 2.11 Hospital Table

Warehouse Table			
Field Name	**Type**	**Size**	**Key**
WID	int	5	*
WNID	varchar	35	
WAddress	varchar	70	
WTel	int	15	
WFax	int	15	
WWeb	int	15	
WContact	varchar	35	

Table 2.12 Warehouse Table

Wname Table			
Field Name	**Type**	**Size**	**Key**
WID	int	5	*
WName	varchar	35	

Table 2.13 Warehouse Name Table

Poison Table			
Field Name	**Type**	**Size**	**Key**
ZID	İnt	5	*
ZName	varchar	35	
ZExplanation	varchar	100	
ZTedavi	varchar	150	

Table 2.14 Poison Table

Dictionary Table			
Field Name	**Type**	**Size**	**Key**
DID	int	5	*
DName	varchar	35	
DExplanation	varchar	100	

Table 2.15 Dictionary Table

Table 2.16 BPay Table

2.9. Working with SQL

SQL standards of structured Query Language. SQL is used to communicate with a database. According to ANSI (American National Standards Institute), it is the standard language for relational database management systems. SQL statements are used to perform tasks such as update data on a database, or retrieve data from a database. Some common relational database management systems that use SQL are: Oracle, Sybase, Microsoft SQL Server, Access, Ingress etc. Altough most database systems use SQL, most of them also have their own additional proprietary extensions that are usually only used on their system. However, the standard SQL commands such as "Select", "Insert", "Delete", "Create", and "Drop" can be used to accomplish almost everything that one needs to do with a database.

2.9.1. Table Basics

A relational database system contains one or more objects called tables. The data or information for the database are stored in these tables. Tables are uniquely identified by their names and are comprised of columns and rows. Columns contain the column name, data type, and an other attributes for the column. Rows contain the records or data for the columns. Here is a sample table called "weather".
City, state, high and low are the columns. The rows contain the data for this table:

Weather

City state high low

Phoenix Arizona 105 90

Tucson Arizona 101 92

Flagstaff Arizona 88 69

San Diego California 77 60

Albuquerque New Mexico 80 72

2.9.2. Selecting Data

The select statement is used to query the database and retrive selected data that match the criteria that you specify. Here is the format of a simple select statement:

Select "column1"[,"column2".etc] from "tablename"["where condition"];
[]=optional

The column names that follow the select keyword determine which columns will be returned in the results. You can select as many column names that you'd like, or you can use a "*" to select all columns.
The table name that follows the keyword from specifies the table that will be queried to retrieve the desired results.
The where clause (optinal) specifies which data values or rows will be returned or displayed, based on the criteria described after the keyword where.

2.9.3. Like

The like pattern matching operator can also be used in the conditional selection of the where clause. Like is very powerful operator that allows you to select only rows that are "like" what you specify. The percent sign "%" can be used as a wild card to match any possible character that might appear before or after the characters specified. For example:

Select first, last, city form empinfo where first LIKE 'Er%';

This SQL statement will match any first names that start with 'Er'. Strings must be in single quotes or you can specify,

Select first, last from empinfo where last LIKE '%s';

This statement will match any last names that end in a 's'.

Select * form empinfo where first='Eric';

This will only select rows where the first name equals 'Eric' exactly.

2.9.4. Updating Records

The update statement is used to update or change records that match a specified criteria. This is accomplished by carefully constructing a where clause.

Update "tablename" set "columnname" = "newvalue" [, "nextcolumn" = "newvalue2"...] where "columnname" OPERATOR "value" [and/or "column" OPERATOR "value"];
[]=optional

Example: update phone_book set area_code=623 where prefix=979;

2.9.5. Deleting Records

The delete statement is used to delete records or rows from the table.

Delete from "tablename" where "columnname" OPERATOR "value" [and/or "column" OPERATOR "value"];
[]=optional

To delete an entire record/row from a table, enter "delete from" followed by the table name, followed by the where clause which contains the conditions to delete. If you leave off the where clause, all records will be deleted.

2.9.6. Drop a Table

The drop table command is used to delete a table and all rows in the table. The delete an entire table including all of its rows, issue the drop table command followed by the table name. Drop table is different from deleting all of the records in the table. Deleting all of the records in the table leaves the table including column and constraint information. Dropping the table removes the table defination as well as all of its rows.

Drop table "tablename";

Example: Drop table employee;

CHAPTER THREE
PHARMACY SHOP APPLICATION:
FLOW-CHARTS OF PROGRAM MODULES

3.1.Flow-Chart of Main Program

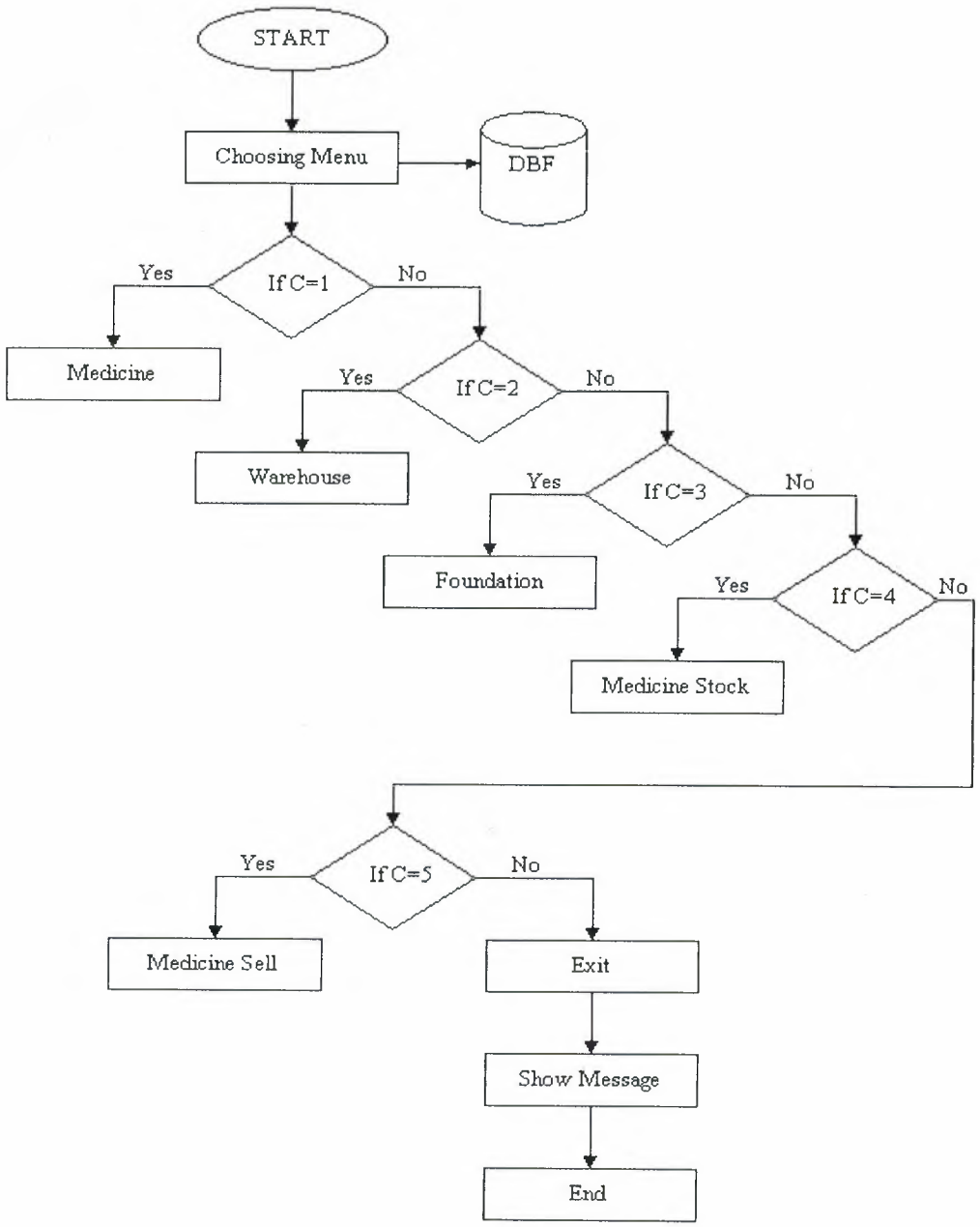

Figure 3.1 Main Menu Flow-Chart

3.2.Flow-Chart of Medicine Registration

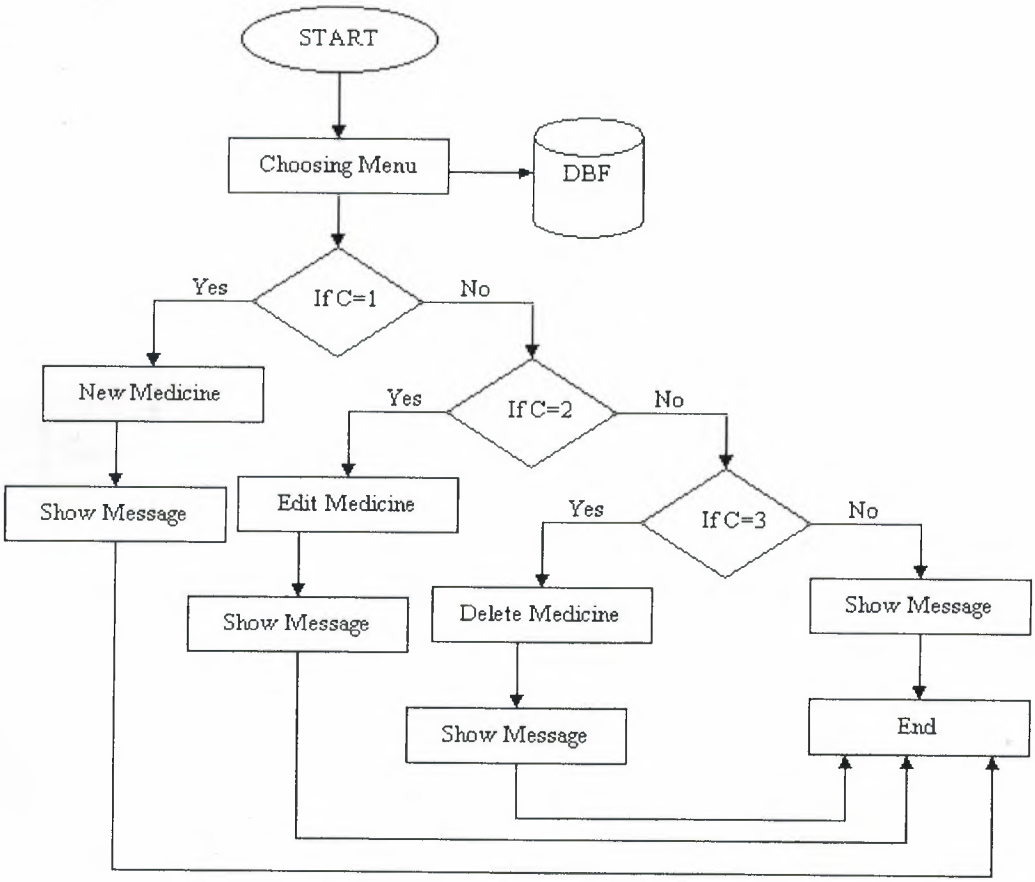

Figure 3.2 Medicine Menu Flow-Chart

3.3.Flow-Chart of Prescription Search

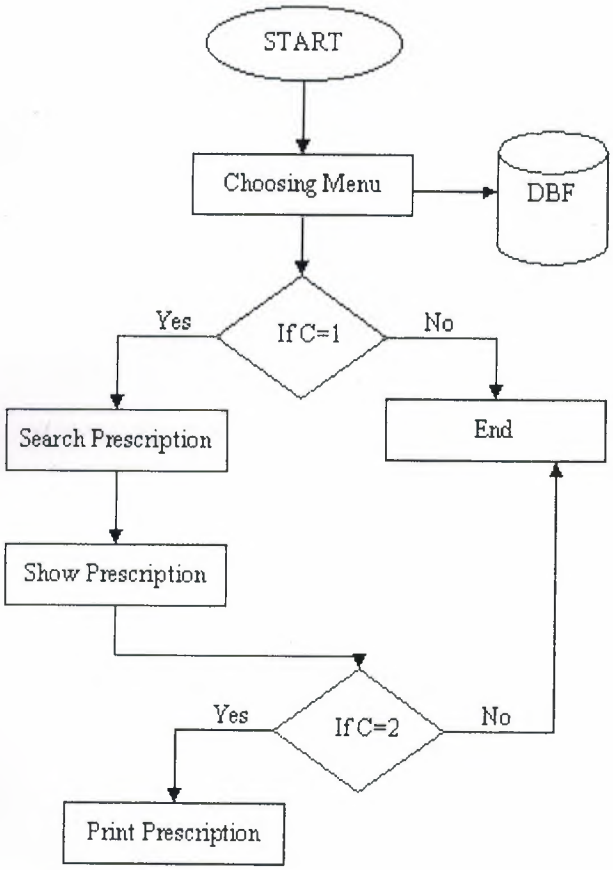

Figure 3.3 Prescription Search Flow-Chart

3.4.Flow-Chart of Warehouse Registration

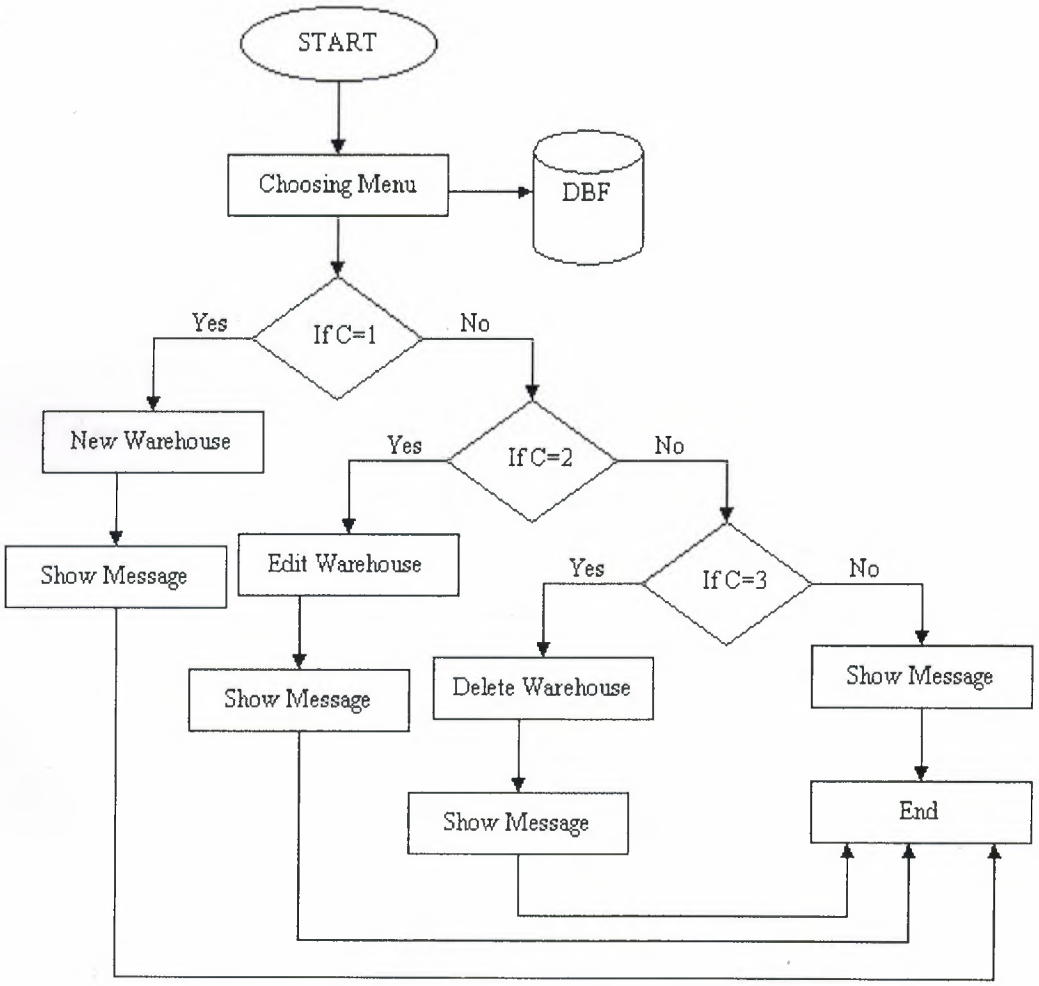

Figure 3.4 Warehouse Registration Flow-Chart

3.5.Flow-Chart of Medicine Selling

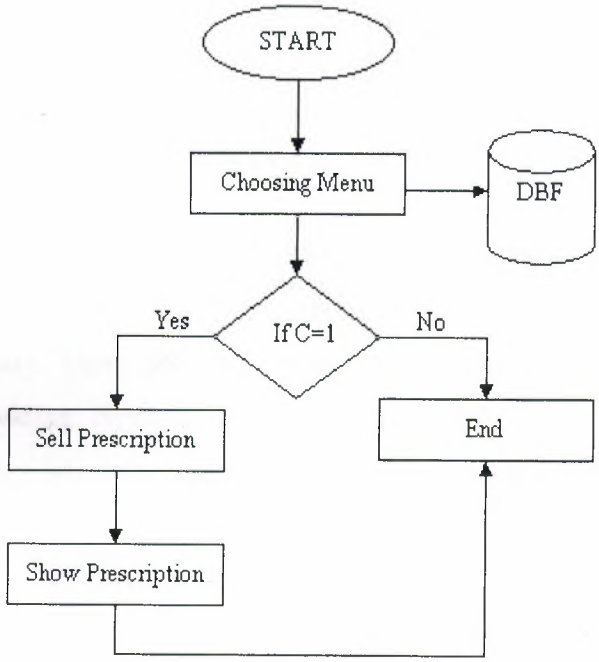

Figure 3.5 Medicine Selling Flow-Chart

CHAPTER FOUR
PHARMACY SHOP APPLICATION:
PROGRAM MODULES

4.1. Main Menu Screen

This is the main menu of the program. There is also some sub menus on the top and under of the main menu. From the main menu we can go sub programs by using this sub menus. There are also some buttons. They are used to go to the sub programs. They are providing facilities for users of the program. We can see all sub programs on the main menu.

Medicines button is used to go record part of the program. In the part we enter medicine record information.

Warehouse button is used to record of medicines warehouses.

Foundation button is used for medine percentage about to foundation. If we don't give any percentage, program directly calculate it over hundred.

Enter Medicine Stock button is used for enter medicine stock.

Invoices button used for search prescriptions.

Dictionary and poison buttons are medical dictionary.

Search button used for search of database about medicines which we have in stock.

Save and Cancel buttons used for save or cancel the prescription.

Emergency Phones Button is used for emergency numbers.

The form and codes of the main menu is following down.

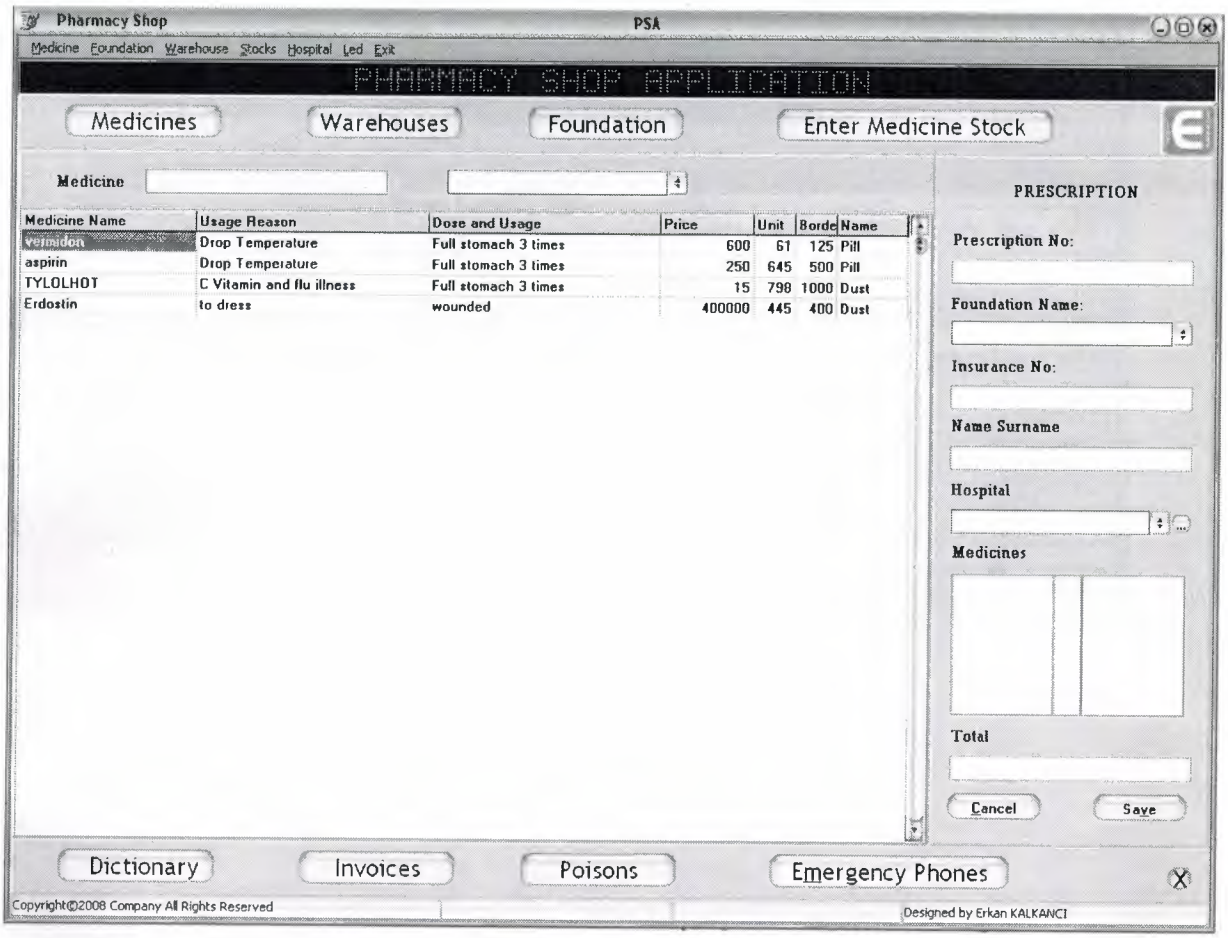

Figure 4.1. Main Menu

4.2. Record Of Medicine Screen

Section of showing the type of record. You can select to type of record with using record of medicine secreen .The type of record are searching, deleting, adding, finding, editining with this screen.

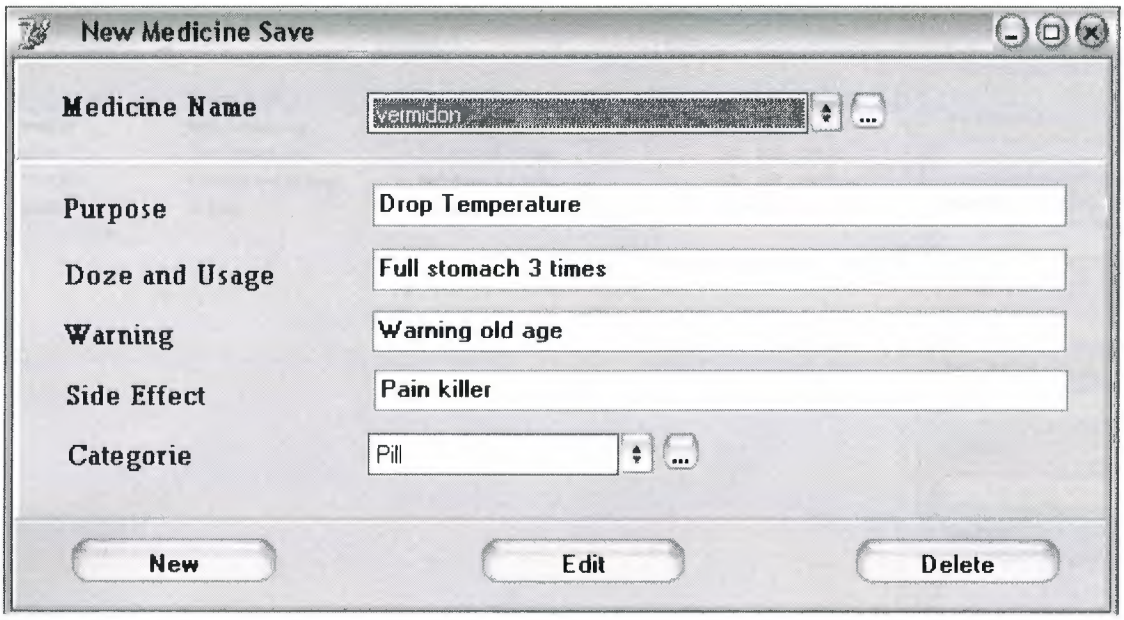

Figure 4.2. Record of Medicine

4.3. Medicine Selling

I think this screen is so important screen because of you sale your medicines from your stock. Easy to use this scren. After salling the medicine the medicine will dicrease from the stock. As you know medicine selling being from main manu. Firstly we should write prescription information. After that we can search the database for medicine which patient want. If we have it dbclicking medicine party, directly we add it to prescription.

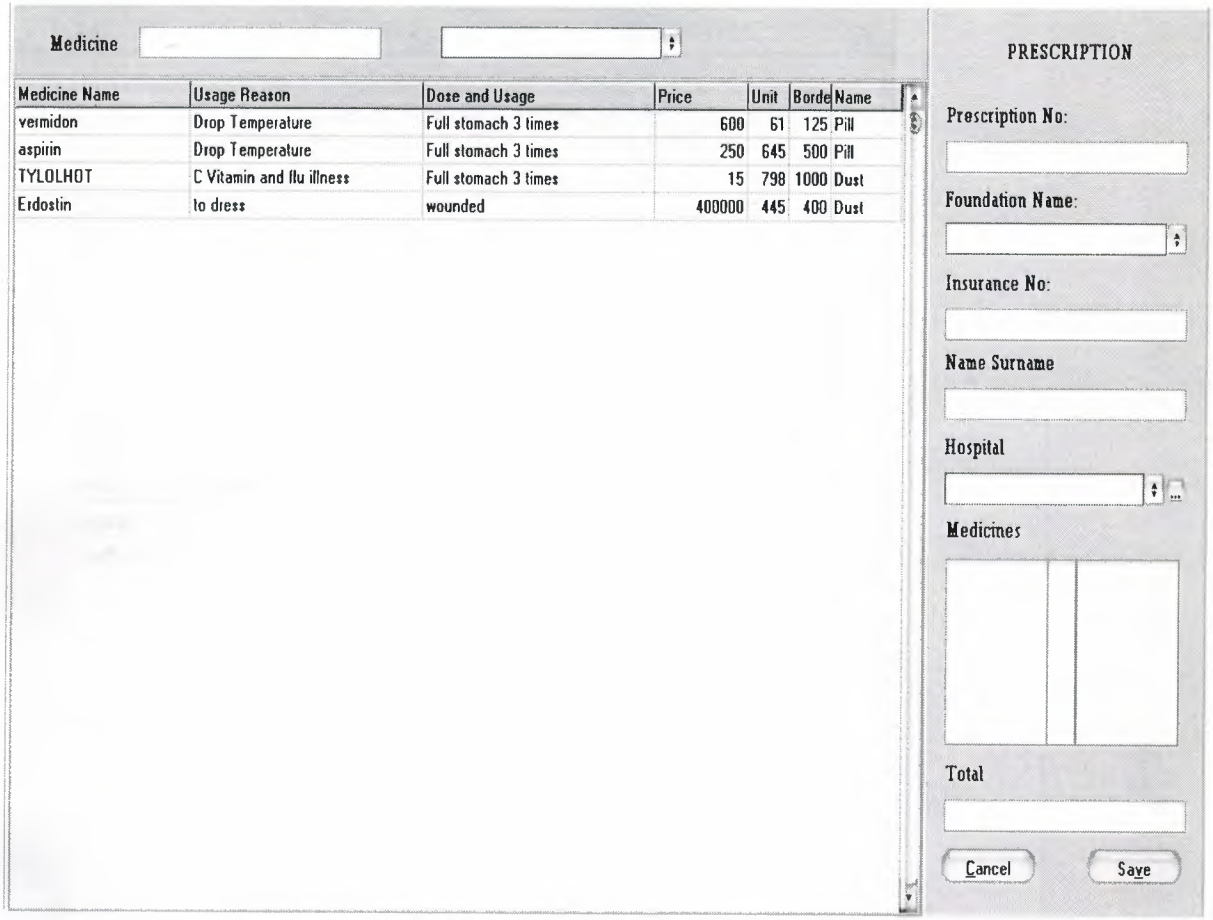

Figure 4.3. Prescription

4.4. Prescription Report Screen

The report of all sold medicine by prescription. Also we can print prescription which we want from these screan.

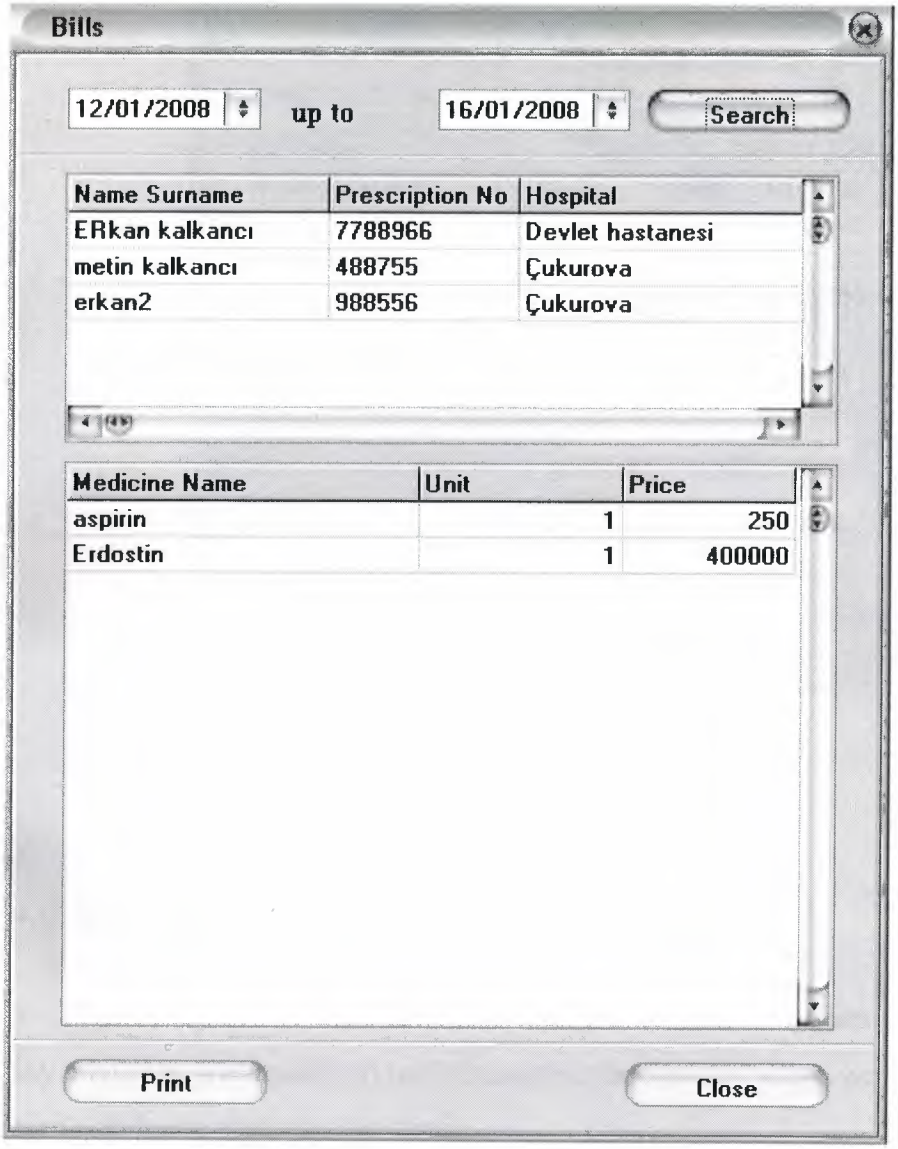

Figure 4.4. Prescription Search

4.5. Enter the Stock

For buying any medicine firstly sould we save its record to our database from medicine form. After that we can chouse medicine, medicine stock border, buyed unit, buyed place, buyed date and buying and selling price. Also we can see medicine how many we have.

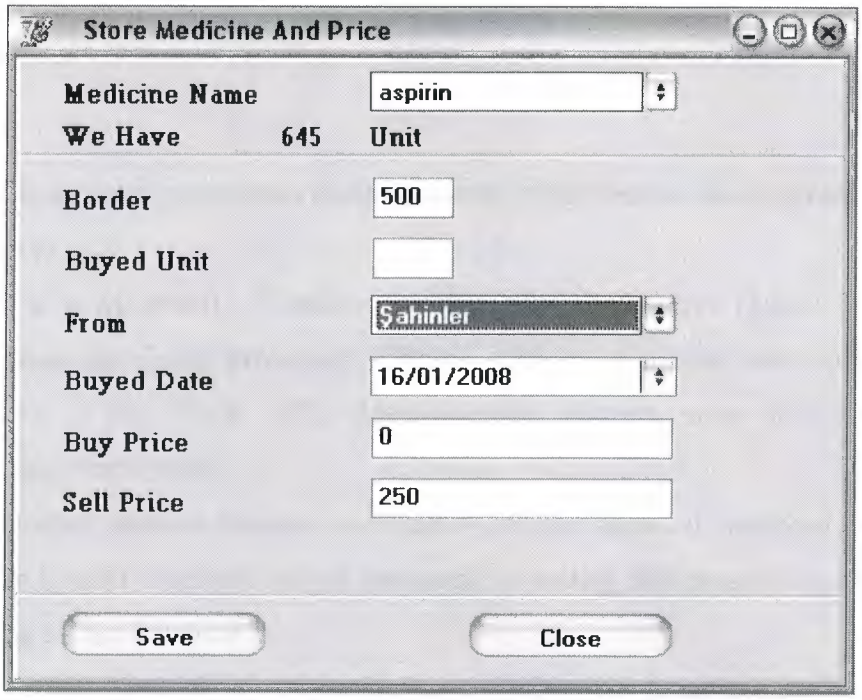

Figure 4.5. Stock Form

4.6. Record Of Warehouse Screen

With this form, we can save, edit and deleting to the warehouse record. When we need to buy any medicine, we should call to the medicine warehouses. When we buy medicine we should save warehouse name for our dept.

Figure 4.6. Warehouse Form

CONCLUSION

Delphi is an easy program to grasp. Because of this reason this program is decided to used by operators .

Delphi is a Microsoft Windows programming Language. Delphi is a distinctly different language providing powerfull features such as graphical user interfaces, even handling, access to the Win32 API, object-oriented features, error handling, structured programming, and much more.

In this project medice database was built by programmers.. It is easy to use and It can be used by most kind of drugstore. delphi was used for writing this programme.access was used for keeping all my database

In this study our main aim to put accross is that this program can be operated by someone who has never used it before.

In this program there is also menus to make your writting much simpler, It containing windows menus and also a facility to prepare reports.

REFERENCES

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4-)http://www.delphiturk.com/

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6-)www.delphiturkiye.com/

7-)Tandoğan Pharmacy. Faruk Tandoğan , ADIYAMAN/TURKEY

8-)Deva Chemist's ,Abdurrahman Özabacı, ADIYAMAN/TURKEY

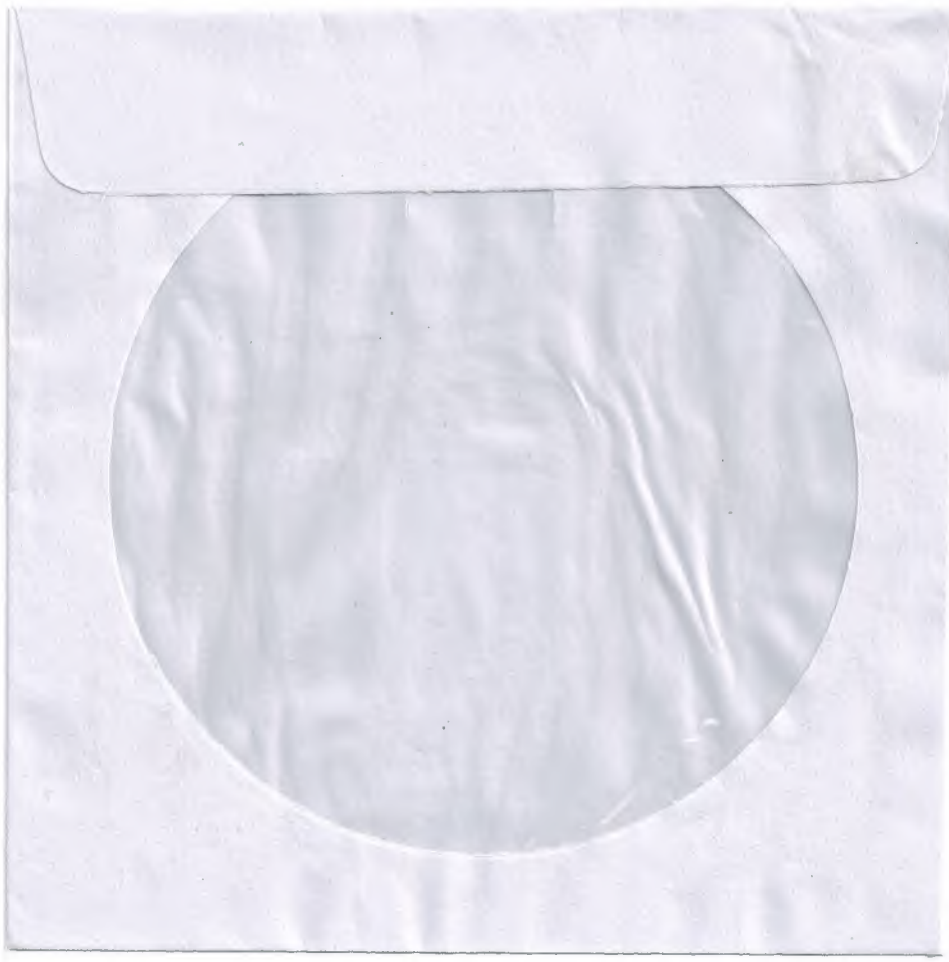
9-)Yalçın Pharmacy,İclal Yalçın, ADIYAMAN/TURKEY

10-)Hilal Drugstore, Girne/KKTC

11-) Macit Pharmacy, Lefkosa/KKTC

APPENDIX

PHARMACY SHOP APPLICATION



Program and all unit delphi source codes and delphi forms in cd.