DRAFT

INFORMATION AND COMMUNICATION TECHNOLOGY

LEARNING MODULE

INFORMATION SYSTEMS

Pusat Perkembangan Kurikulum
Kementerian Pelajaran Malaysia
2006

1. What is it?

This is a learning module for a specific Learning Outcome as stipulated in the HSP that is:

6.3 Database Development

2. Who is it for?

This module is for students who are taking the ICT subject as their elective and for those who are interested in ICT.

3. What can be achieved?

Upon completion of this module, you should be able to:

- describe the phases of system development.
- follow the correct steps in developing a database project.

4. Is previous knowledge necessary?

Yes. Before using this module, you should have learnt about features in database such as primary and foreign keys and the importance of relationship in database. You also should know about database objects/tools which include table, form, query, and report.

TOPIC : 6.3 DATABASE DEVELOPMENT

SUBTOPIC : 6.3.2 Develop A Database Project

LEARNING OUTCOMES

You will be able to:

6.3.2.1 identify a project.

6.3.2.2 identify the project requirements.

6.3.2.3 design database tables.

6.3.2.4 classify and design project requirements into two tables.

6.3.2.5 create a database.

6.3.2.6 create two tables that include the primary key in each table.

6.3.2.7 build a relationship between the two tables.

6.3.2.8 enter data into the tables.

6.3.2.9 create a form that is related to the tables.

6.3.2.10 create a query to retrieve required information with one or more conditions.

6.3.2.11 generate a report.

6.3.2.12 gather all the documents from the above phases.

DURATION : 18 periods

REFERENCES

A. Books

1. Capron H.L, J.A. Johnson (2005) *Computers: Tools For An Information Age.* Complete. Eighth Edition.

2. Shelly G.B, Cashman T.J, Vermaat M.E, Walker T.J. (2006) *Discovering Computers 2007 : A Gateway to Information*, Course Technology.

3. Bryan Pfaffenberger, Bill Daley (2003) *Computers In Your Future*, Prentice Hall.

B. Requirements

1. Microsoft Access 2000/2003

C. Websites Addresses

1. http://www.fgcu.edu/support/office2000/access/index.html
2. http://www.bcschools.net/staff/AccessHelp.htm
3. http://office.microsoft.com/en-us/FX010857911033.aspx
4. http://en.wikipedia.org/wiki/Microsoft_Access
5. http://en.wikipedia.org/wiki/Relational_database
6. http://www.functionx.com/access

D. Other sources

1. Windows Help and Support Center.

SUBTOPIC: 6.3.2 Develop A Database Project

LEARNING OUTCOMES:

You will be able to:

6.3.2.1 identify a project.

6.3.2.2 identify the project requirements.

6.3.2.3 classify project requirements.

DURATION: 4 periods

A. ANALYSIS PHASE

INSTRUCTIONS:

1. Read the scenario below.
2. Understand the steps taken to identify the project and data.
3. Look on how data is classified and how a database is designed.

SITUATION A:

You want to create a database of your friends' telephone numbers. Majority of your friends have more than one telephone numbers. The data that you will store in your database are Friend ID, Name, Address, Phone Numbers and Date of Birth.

STEP 1: Identifying project title.

Based on the above situation, the most suitable **title** for this project is

PERSONAL PHONEBOOK.

Reason : The telephone numbers belong to your personal friends.

<u>STEP 2:</u> Identifying project requirements.

The **data** from the above scenario are:

No.	Data
1	Friend ID
2	Name
3	Address
4	Phone Numbers
5	Date of Birth

<u>STEP 3</u>: Classifying project requirements.

Consider the following issues:

a. many of your friends have more than one telephone numbers

b. existing telephone numbers of your friends may change

c. your friends may also add or cancel their telephone numbers

Consider the following information in Figure 1.

Field names

FriendID	Name	Address	Phone Numbers	Date of Birth
A001	Azhar Mansor	123, Tmn. Laksamana, Lrg. Kuching 3/C	03-9872345, 012-3127849, 03-9873409	24-08-1989
A002	Ahmad Rajiee Abdullah	88, Tmn Salak Tinggi, BB Salak Tinggi	03-9650923, 013-7893421	20-06-1990
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jln Raya	03-9978793, 03-9978794 012-3678912, 013-7629087	29-12-1985
D001	Darus Sasdan Azali	231, Lrg Mata Ayer, Tmn Berlian Dua	03-9651298, 013-7891241	15-11-1981
D002	Darus Sasdan Azali	923, Tmn. Mas 2,Lrg Mas 1 2/B	03-9651238, 012-7891241	20-06-1985

Record

B001	Joshua Anderson	230 Jalan SS1/4 Subang Jaya	03-41221222, 012-3248970	13-09-1990
B002	Mohd Azriel Rasdi	303 Block A8, Section 5, Wangsa Maju	03-41420777, 019-3462213	25-05-1988
A003	Azhar Mansor	119, Lrg. 6/9, Taman Desa Indah, Sg. Petani	04-4223123, 012-4223123, 019-4223123	10-3-1968
N002	Nasihah Kassim	56A, Kg. Haji Hashim, Kepala Batas	04-5647890, 013-5234567, 017-5234568	03-01-1970
K001	Ku Shamsinar Ku Saad	125, Lrg. 3/12, Tmn. Sinar Suria, Ipoh	05-6543217, 017-6589076	17-09-1978

Data

Figure 1 : Friends' Information

There are five fields being used to store information: Friend ID, Name, Address, Phone Numbers and Date of Birth. Note that the field names correspond to the data identified from the Situation A. Notice that Phone Numbers field has the maximum of four phone numbers. Therefore, we will create four fields for phone numbers - PhoneNum1, PhoneNum2, PhoneNum3 and PhoneNum4.

FriendID	Name	Address	PhoneNum1	PhoneNum2	PhoneNum3	PhoneNum4	Date of Birth
A001	Azhar Mansor	123, Tmn.Laksamana, Lrg. Kuching 3/C	03-9872345	012-3127849	03-9873409		24-08-1989
A002	Ahmad Rajiee Abdullah	88, Tmn Salak Tinggi, BB Salak Tinggi	03-9650923	013-7893421			20-06-1990
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jln Raya	03-9978793	03-9978794	012-3678912	013-7629087	29-12-1985
D001	Darus Sasdan Azali	231, Lrg Mata Ayer, Tmn Berlian Dua	03-9651298	013-7891241			15-11-1981
D002	Darus Sasdan Azali	923, Tmn. Mas 2,Lrg Mas 1 2/B	03-9651238	012-7891241			20-06-1985
B001	Joshua Anderson	230 Jalan SS1/4 Subang Jaya	03-41221222	012-3248970			13-09-1990
B002	Mohd Azriel Rasdi	303 Block A8, Section 5, Wangsa Maju	03-41420777	019-3462213			25-05-1988
A003	Azhar Mansor	119, Lrg. 6/9, Taman Desa Indah, Sg. Petani	04-4223123	012-4223123	019-4223123		10-03-1968

N002	Nasihah Kassim	56A, Kg. Haji Hashim, Kepala Batas	04-5647890	013-5234567	017-5234568		03-01-1970
K001	Ku Shamsinar Ku Saad	125, Lrg. 3/12, Tmn. Sinar Suria, Ipoh	05-6543217	017-6589076			17-09-1978

Consider the following issues:

a) If Chan Teng Hock has a fifth number, where can we store the extra phone number?
b) If there are only two phone numbers, will we be wasting the phone number fields?

We have allocated four fields for the phone numbers and as such it will be difficult to add in or delete a field from the table. Since we cannot add more fields or delete fields, it is advisable to put the phone numbers in another table.

Notice also that there are two types of data in the table: **data which seldom change** and **data which is frequently changed** as classified below:

Seldom changed data: Friend ID, Name, Address, Date of Birth
Frequently changed data: Phone numbers

ACTIVITY 1: DO IT YOURSELF

PROJECT SITUATION:

Instructions:

1. Study the situation given below.

> Every year, Puan Jamilah, the Senior Assistant of Co-curriculum SMK Sungai Sala, has to prepare a report of the co-curriculum membership according to each class. She has problems in collecting and processing data such as name, identity card number, school registration number, class, society, sport/games and uniform unit.
>
> The students can also change their society and sport/games membership every year. Thus, Puan Jamilah has to double-check manually the latest membership of each student in order to produce a valid report.

2. Discuss what the project is about and do the following steps to help Puan Jamilah to prepare a report.

<u>STEP 1:</u> Identifying project title.

Suggest a suitable title for this project.

_____

State your reason.

_____

<u>STEP 2:</u> Identifying project requirements.

List all the data that you have identified from the above situation.

No.	Data
1	
2	
3	
4	
5	
6	
7	

<u>STEP 3</u>: Classifying project requirements.

Field names

Fill in the field names and relevant data in the table below.

Briefly write on how you are going to classify your data to be used in your database.

Issues:

_____

_____

_____

_____

_____

_____

_____

Seldom changed data : _____

Frequently changed data: _____

SUBTOPIC: 6.3.2 Develop A Database Project

LEARNING OUTCOMES:

You will be able to:

6.3.2.4 Designing database tables.

DURATION: 2 periods

B. DESIGN PHASE

STEP 4: Designing database tables.

In this step, you must be able to identify two tables. In the Analysis Phase, we have classified the data into two types:

a) seldom changed data and

b) frequently changed data.

We shall classify the different types of data into two tables: Table 1 and Table 2.

a) TABLE 1: Information about your friends, such as Friend ID, name, address and date of birth (seldom changed data).

FriendID	Name	Address	Date of Birth
A001	Azhar Mansor	123, Tmn. Laksamana, Lrg. Kuching 3/C	24-08-1989
A002	Ahmad Rajiee Abdullah	88, Tmn Salak Tinggi, BB Salak Tinggi	20-06-1990
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jln Raya	29-12-1985
D001	Darus Sasdan Azali	231, Lrg Mata Ayer, Tmn Berlian Dua	15-11-1981
D002	Darus Sasdan Azali	923, Tmn. Mas 2,Lrg Mas 1 2/B	20-06-1985
B001	Joshua Anderson	230 Jalan SS1/4 Subang Jaya	13-09-1990
B002	Mohd Azriel Rasdi	303 Block A8, Section 5, Wangsa Maju	25-05-1988
A003	Azhar Mansor	119, Lrg. 6/9, Taman Desa Indah, Sg. Petani	10-3-1968
N002	Nasihah Kassim	56A, Kg. Haji Hashim, Kepala Batas	03-01-1970
K001	Ku Shamsinar Ku Saad	125, Lrg. 3/12, Tmn. Sinar Suria, Ipoh	17-09-1978

Table 1

b) TABLE 2: Information about phone numbers (frequently changed data).

Phone Numbers
03-9872345, 012-3127849, 03-9873409
03-9650923, 013-7893421
03-9978793, 03-9978794, 012-3678912, 013-7629087
03-9651298, 013-7891241
03-9651238, 012-7891241
03-41221222, 012-3248970
03-41420777, 019-3462213
04-4223123, 012-4223123, 019-4223123
04-5647890, 013-5234567, 017-5234568
05-6543217, 017-6589076

Table 2

c) You can name TABLE 1 as **FRIEND_INFO** and TABLE 2 as **PHONE_NUM**.

d) Notice from the data displayed, there are two friends with the same name. We need to identify each friend using a **unique identifier**. We cannot use the name field because there are similar names in the table. As such we use the Friend ID as the unique identifier for each friend. The field Friend ID is already in Table 1 and thus the friend's data can easily be identified.

e) But it is difficult to identify which phone numbers belong to which friend in Table 2. Thus we may use the same identifier, Friend ID, in Table 2 to identify the phone numbers.

f) These two tables are also now related by the field, Friend ID, as shown in Figure 1. Friend ID field is thus the primary key in **FRIEND_INFO** table.

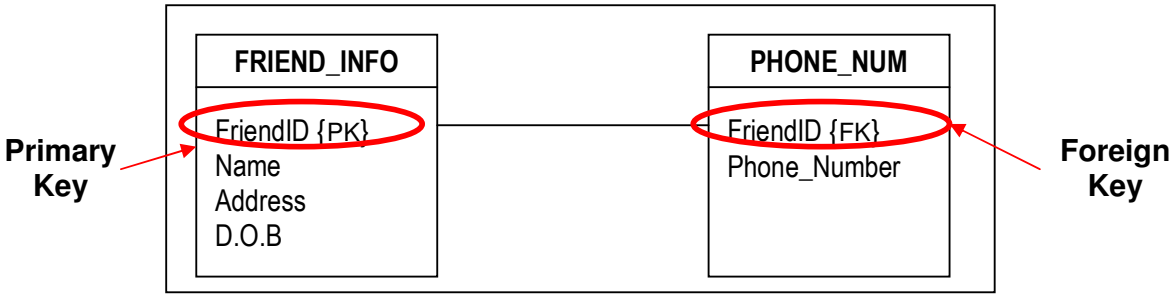


Figure 1: Relationship between Table 1 and Table 2

Note: PK – Primary Key
FK – Foreign Key

g) The new **PHONE_NUM** table will be as shown in Figure 5.

FriendID	Phone Numbers
A001	03-9872345
A001	012-3127849
A001	03-9873409
A002	03-9650923
A002	013-7893421
C001	03-9978793,
C001	03-9978794
C001	013-7629087
C001	012-3678912
D001	03-9651298
D001	013-7891241
D002	03-9651238
D002	012-7891241
B001	03-41221222
B001	012-3248970
B002	03-41420777
B002	019-3462213
A003	04-4223123
A003	012-4223123
A003	019-4223123
N002	04-5647890
N002	013-5234567
N002	017-5234568
K001	05-6543217
K001	017-6589076

Figure 2: New PHONE_NUM table

e) Now there are two tables which have been identified:

TABLE 1: FRIEND_INFO

TABLE 2: PHONE_NUM

<u>ACTIVITY 2:</u> DO IT YOURSELF

1. Identify the tables.

   TABLE 1: _____

   TABLE 2: _____

2. Show the design of tables that include:
   a. Fields
   b. Relationship
   c. Primary key
   d. Foreign key

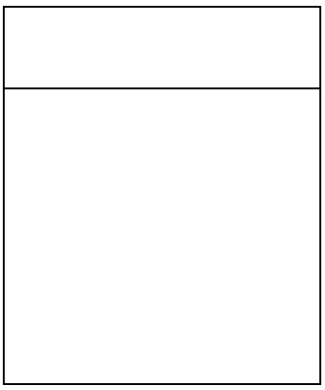


TABLE 1: _____

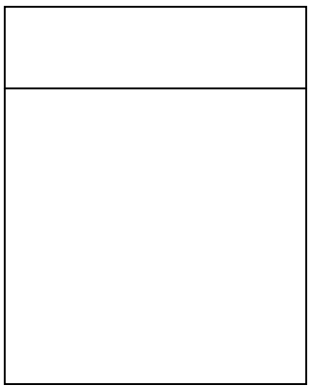


TABLE 2: _____

SUBTOPIC: 6.3.2 Develop a database project

LEARNING OUTCOMES:

By using this module, you will be able to:

6.3.2.5 create a database.

6.3.2.6 create two tables that include the primary key and foreign key.

DURATION: 2 periods

C. IMPLEMENTATION PHASE

C.1) Create a database and two tables

Now, you need to create your database based on Situation A. Make sure your computer has database software e.g. Microsoft Access 2000/2003. Carefully follow the steps in this module.

1. Click **Start** button, then click **Programs**. Click **Microsoft Office** and select **Microsoft Access 2000/2003** (Figure 1).

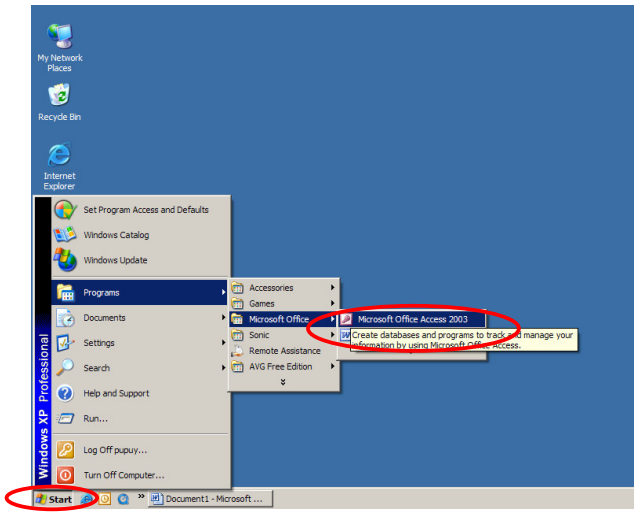


Figure 1: Opening Microsoft Access

2. Click **File** and then **New**. (Figure 2)

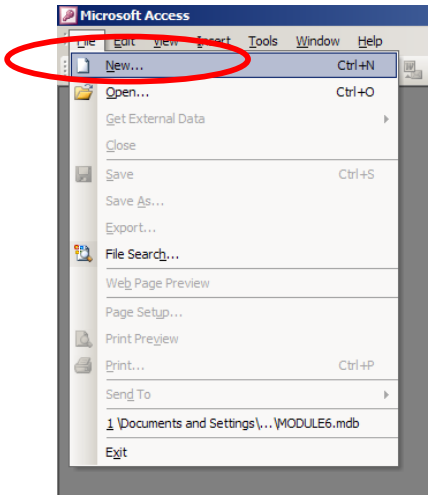


Figure 2: Opening a new database window

3. A **File New Database** window will pop out. Then type **Personal Phonebook** in the File Name field and click the **Create** button.

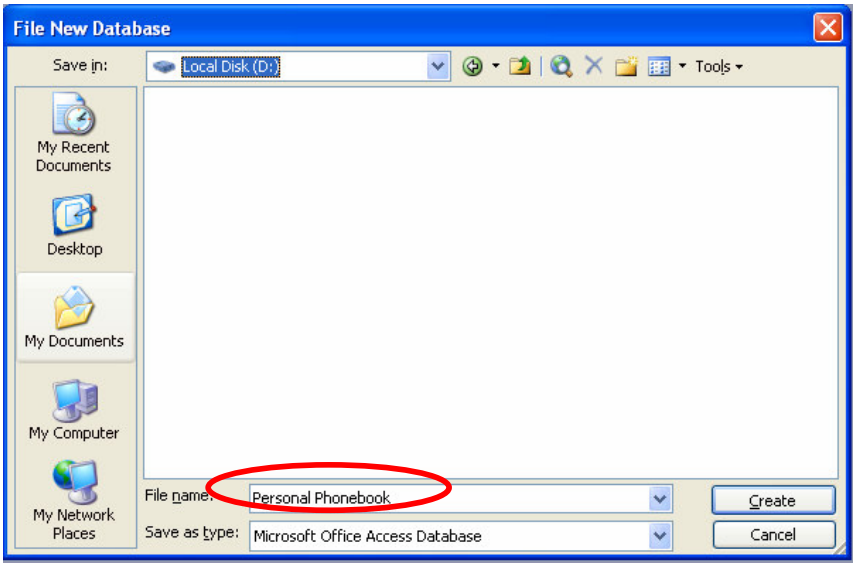


Figure 3: Naming the database

4. Click at the **Tables** tab, then select **Create table in Design view**.

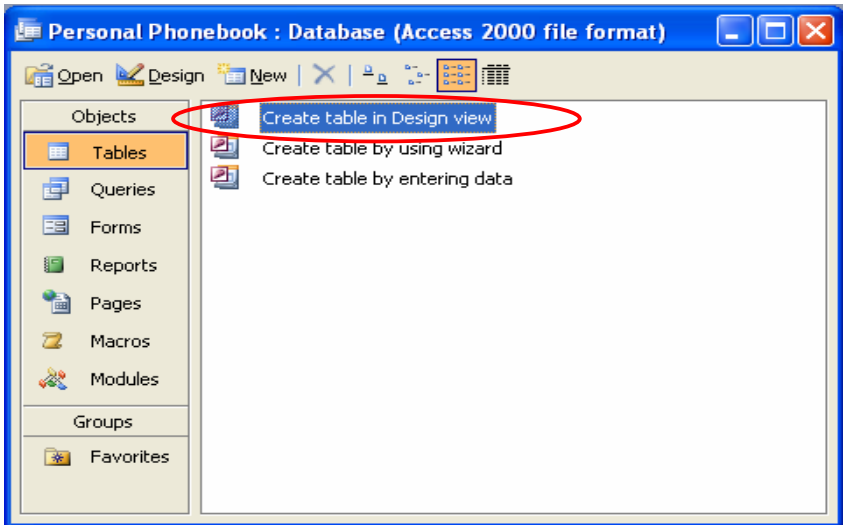


Figure 4: Creating table

Key in the field names related to your tables.

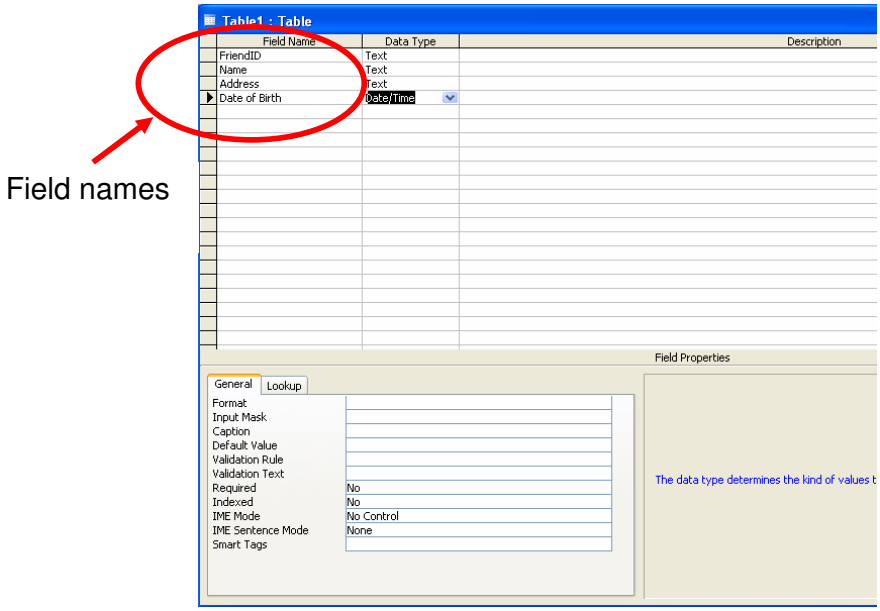


Figure 5: Field names for table FRIEND_INFO

6. Friend ID field will be set as a primary key. Click primary key icon.
   The key icon will appear next to the field that you have chosen.

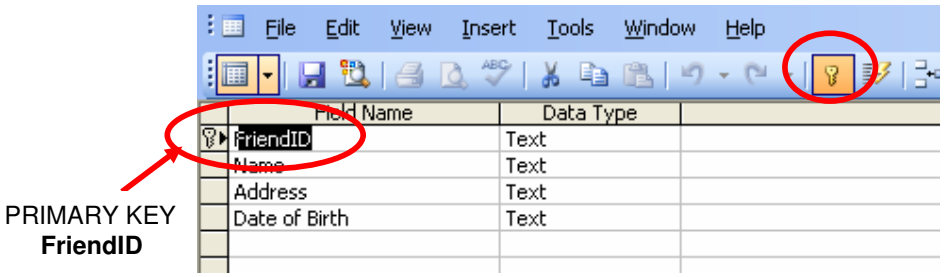


Figure 6: Setting Primary Key

7. Click **File** and select **Save as**, then name your table **FRIEND_INFO** and click **OK** button.

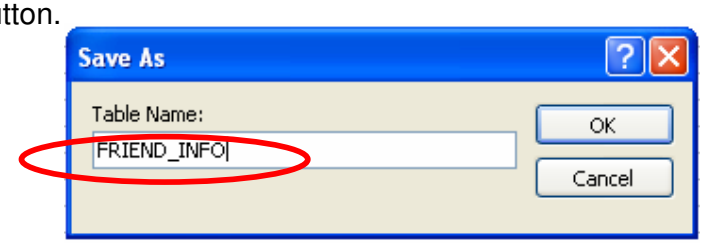


Figure 7: Naming the table

8. To create the second table **PHONE_NUM**, follow steps 4 and 5.

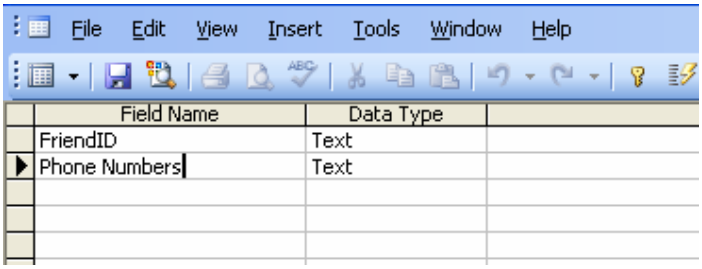


Figure 8: Field names for table PHONE_NUM

9. Click **File** and select **Save as**, then name your table **PHONE_NUM** and click **OK** button.

Figure 9: Naming the table

10. You will be prompted to create a primary key. Click **NO** button. **FriendID** will become a foreign key since it has been declared as the primary key in **FRIEND_INFO** table.

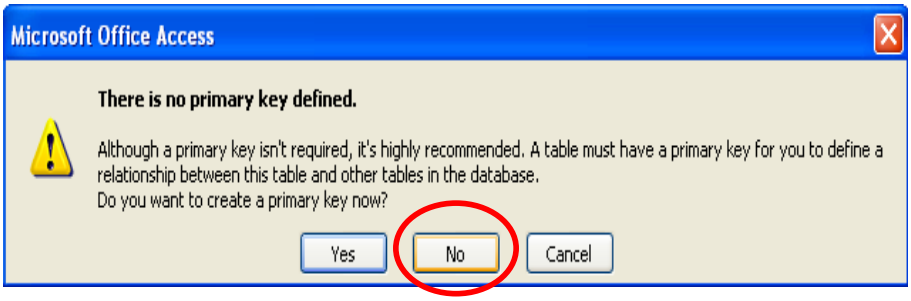


Figure 10: Primary Key prompt window

11. Click **File** and then **Exit** to end this activity.

ACTIVITY 3: DO IT YOURSELF

INSTRUCTIONS:

Using the situation in Activities 1 and 2, do the following:

1. Create the database
2. Create the two identified tables

SUBTOPIC: 6.3.2 Develop a database project

LEARNING OUTCOMES:

By using this module, you will be able to:

6.3.2.7 build a relationship between the two tables.

6.3.2.8 enter data into the tables.

DURATION: 4 periods

C.2) Build a relationship between the two tables

You need to build a relationship between the two tables from the Implementation Phase. Carefully follow the steps in this module.

1. Click **Start** button, then click **Programs**. Click **Microsoft Office** and select **Microsoft Access 2000/2003** (Figure 16).

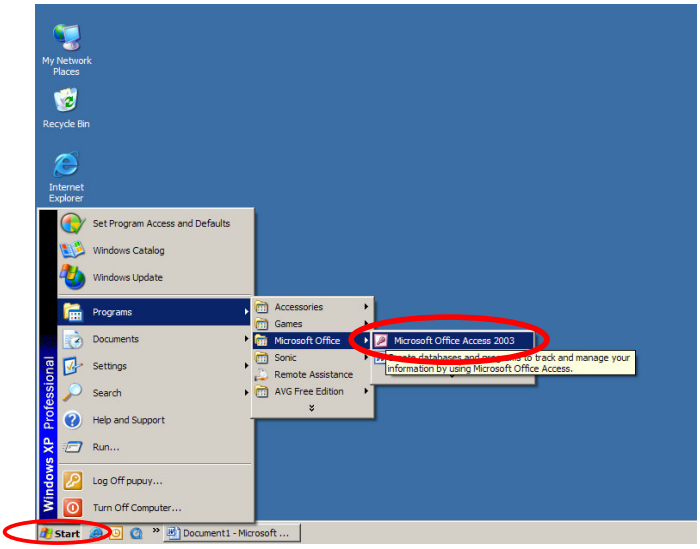


Figure 1: Opening Microsoft Access

2. Click **File** and then **Open**. (Figure 2)

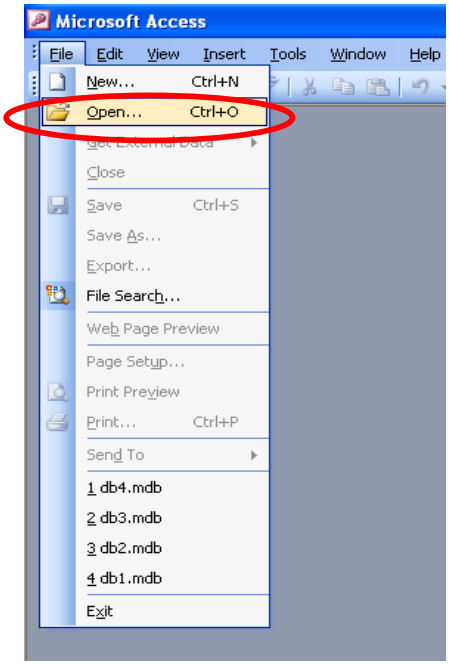


Figure 2: Opening a database

3. Click **PERSONAL PHONEBOOK** database and click **Open** button.

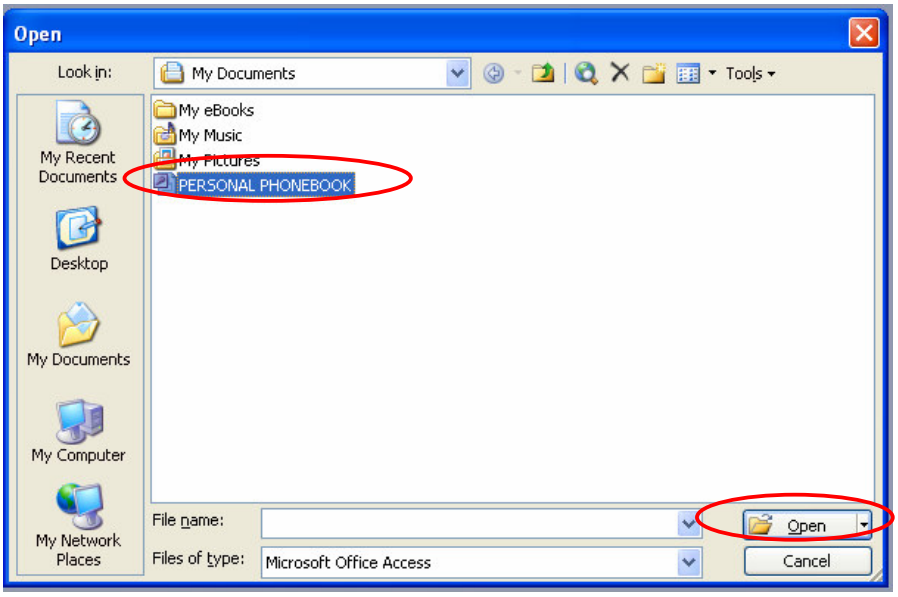


Figure 3: Selecting the database

4. Click **Tools** and select **Relationships** (Figure 4).

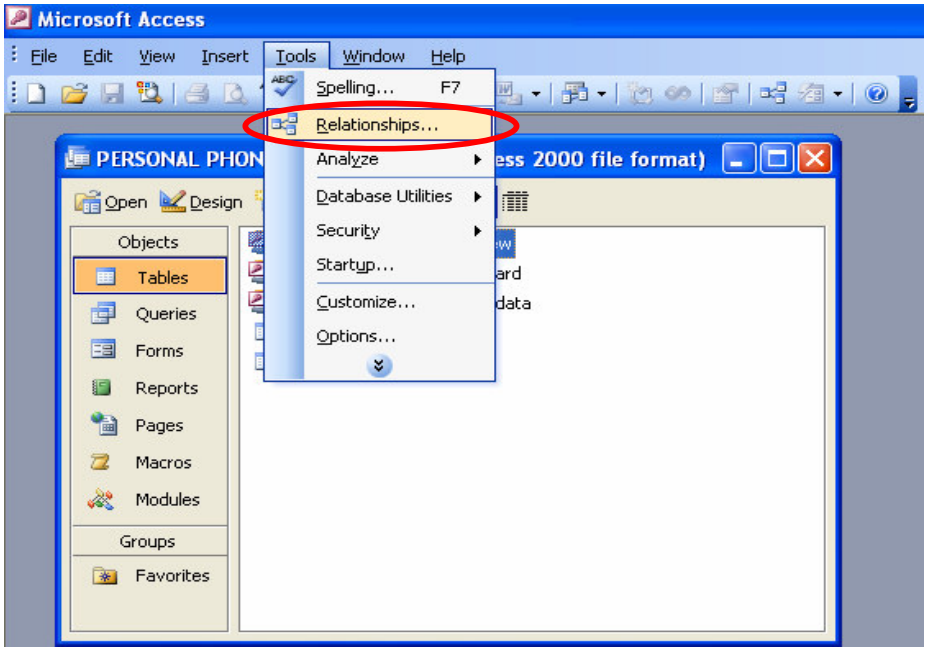


Figure 4: Selecting relationship tables

5. Click **Show Table** icon. Select the **FRIEND_INFO** table. Click **Add** button.

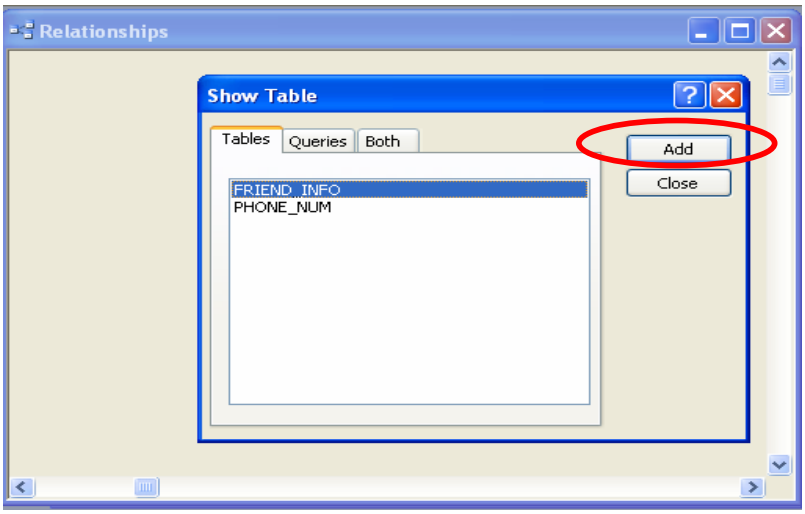


Figure 5: Selecting table FRIEND_INFO

6. Select **PHONE_NUM** table and click **Add** button. Then click **Close** button.

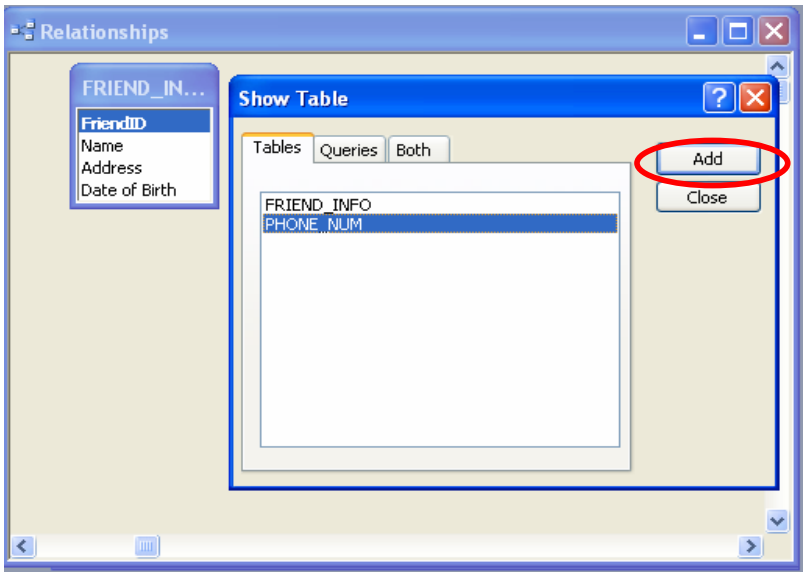


Figure 6: Selecting table PHONE_NUM

*Notice that Microsoft Access will automatically detect the common field name for both tables, FRIEND_ID, which is the primary key for table FRIEND_INFO.

7. Click **Relationships** and then Edit **Relationships**. Next select **FRIEND_INFO** table. Tick **Enforce Referential Integrity** then click **Create** button.

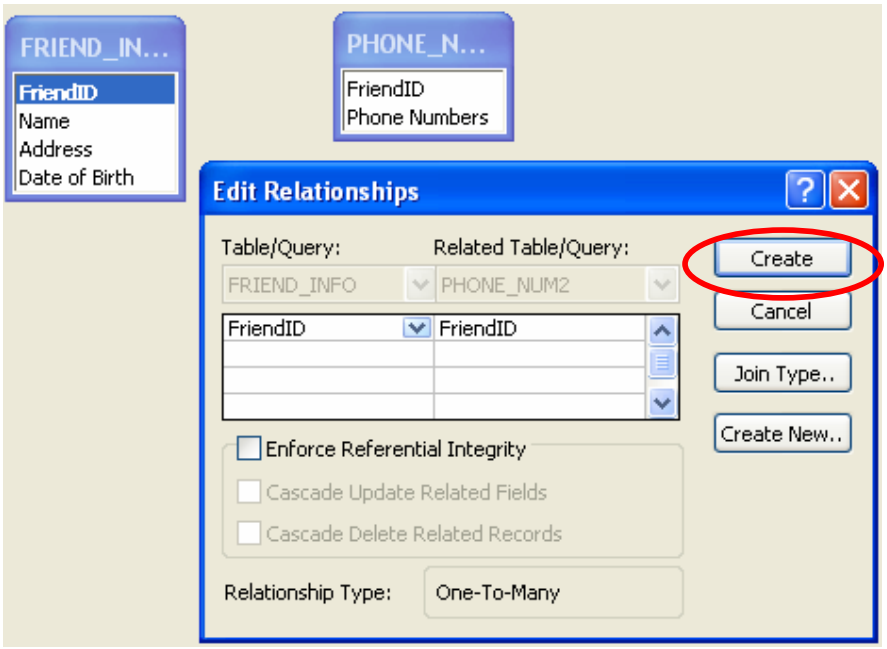


Figure 7: Setting the relationship

8. Figure 8 shows the relationship between **FRIEND_INFO** and **PHONE_NUM** (Join type: One-to-Many)

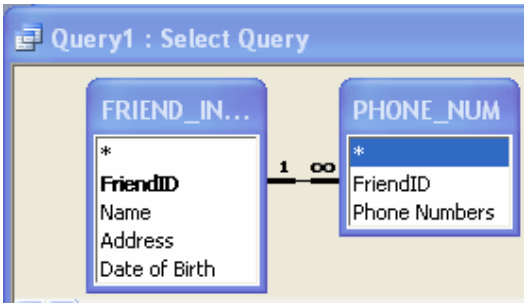


Figure 8: Graphic representation of the relationship

9. Click **File** and then **Close**.

C.3) Enter data into tables

10. Click the **Tables** tab and double click **FRIEND_INFO** table.

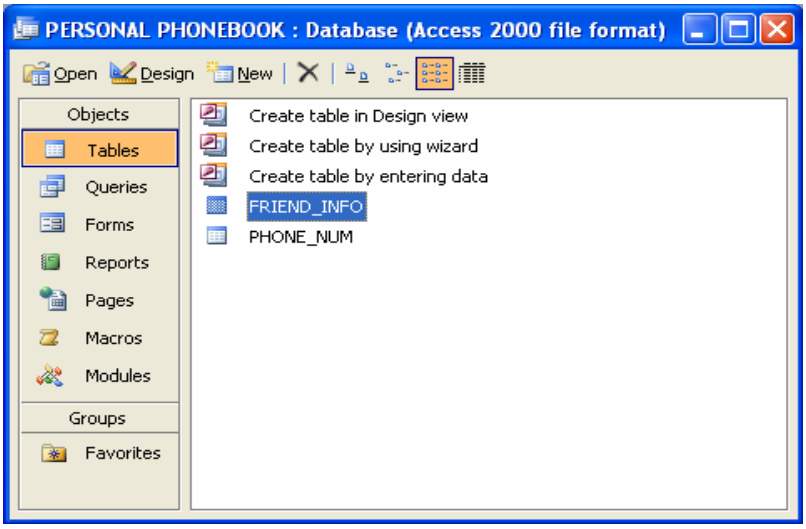


Figure 9: Selecting table FRIEND_INFO

11. Fill all the data given below into the **FRIEND_INFO** table. After entering all the data, click **File** and then **Close**.

FRIEND_INFO : Table

FriendID	Name	Address	Date of Birth
A001	Azhar Mansor	123, Tmn Laksamana, Lrg Kuching 1	24-08-1989
A002	Ahmad Rajiee Abdullah	88, Tmn Salak Tinggi, BB Salak Tin	20-6-1990
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jala	29-12-1985
D001	Darus Sasdan Azali	231 Lrg Mata Ayer, Tmn Berlian Du	15-11-1981
D002	Darus Sasdan Azali	923 Tmn Mas 2, Lrg Mas 1 2/B	20-6-1985
B001	Joshua Anderson	230 Jln SS1/4 Subang Jaya	13-9-1990
B002	Mohd Azriel Rasdi	303 Block A8, Section 5 Wangsa M	25-5-1988
A003	Azhar Mansor	119 Lrg 6/9, Tmn Desa Indah, Sg. P	10-3-1968
N002	Nasihah Kassim	56 A, Kg Hj Hashim, Kepala Batas	3-1-1970
K001	Ku Shamsinar Ku Saad	125 Lrg 3/12, Tmn Sinar Suria, Ipoh	17-9-1978

Figure 10: Data for table FRIEND_INFO

Click the **Tables** tab and double click **PHONE_NUM** table.

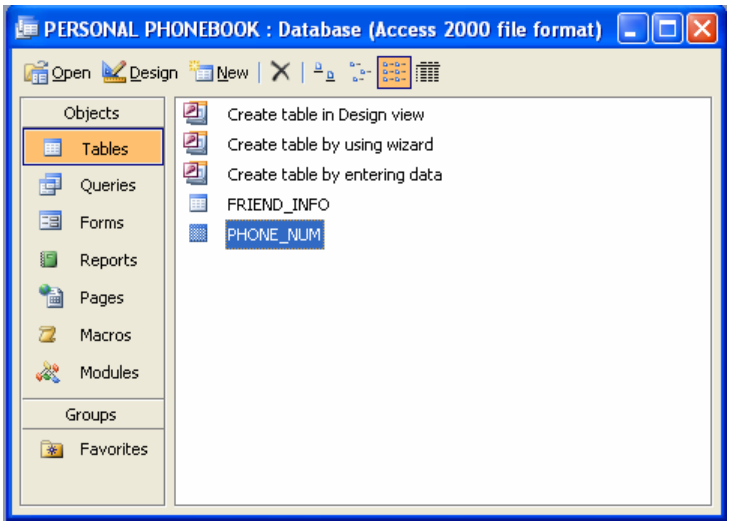


Figure 11: Selecting table PHONE_NUM

13. Next, fill all the data given below into the **PHONE_NUM** table. After entering all the data, click **File** and then **Close**.

PHONE_NUM : Table

FriendID	Phone Numbers
A001	03-9872345
A001	012-3127849
A001	03-9873409
A002	03-9650923
A002	013-7893421
A003	04-4223123
A003	012-4223123
A003	019-4223123
B001	03-41221222
B001	012-3248970
B002	03-41420777
B002	019-3462213
C001	03-9978793
C001	03-9978794
C001	013-7629087
C001	012-3678912
D001	03-9651298
D001	013-7891241
D001	03-9651238
D001	012-7891241
K001	05-6543217
K001	017-6589076
N002	04-5647890
N002	013-5234567
N002	017-5234568

Figure 12: Data for table PHONE_NUM

14. Click **File** and then **Exit** to end this activity.

ACTIVITY 4: DO IT YOURSELF

INSTRUCTIONS:

Refer to Activity 3 to continue this task:

1. Build a relationship between two tables.
2. Enter your own data in the fields.

SUBTOPIC: 6.3.2 Develop a database project

LEARNING OUTCOMES:

By using this module, you will be able to:

6.3.2.9 create a form that is related to tables.

6.3.2.10 create a query to retrieve required information with one or more conditions.

6.3.2.11 generate a report.

DURATION: 4 periods

D. TESTING

Form, Query and Report

From the database and tables created, we can do test retrieval of the data entered using forms, queries, and reports.

D.1) Creating forms

For this activity, you need to create a form and query based on the **Implementation phase**. After that, you have to generate a report regarding your database.

1. Click **Start** button, and then **All Programs**. Click **Microsoft Office** and select **Microsoft Access 2000/2003** (Figure 1).

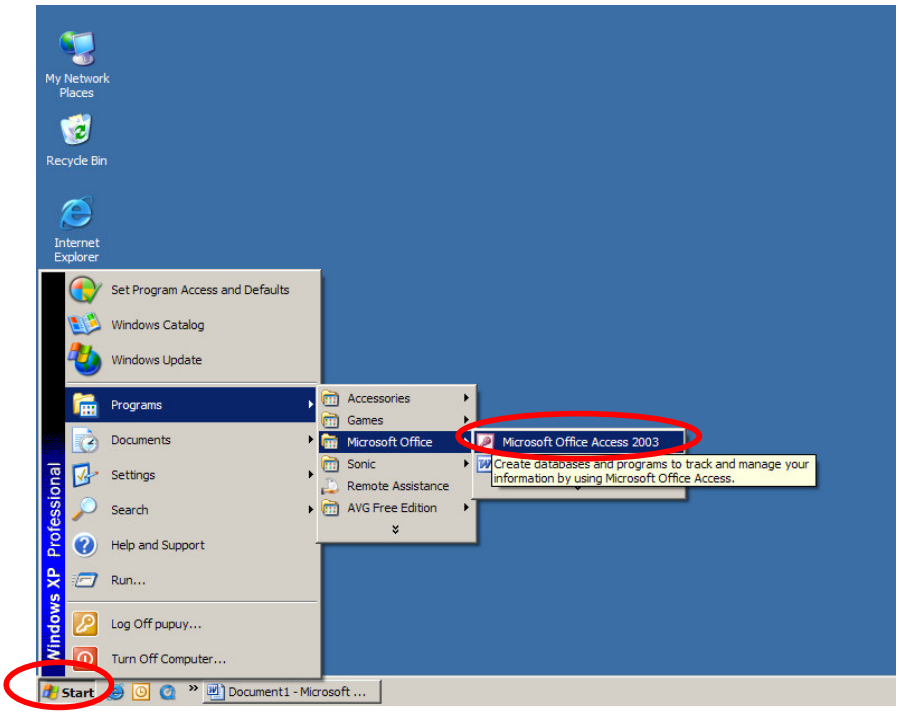


Figure 1: Opening Microsoft Access

2. Click **File** and then **Open**. (Figure 2)

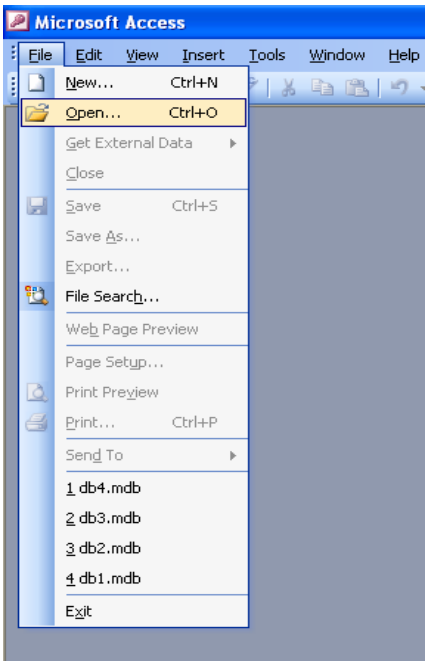


Figure 2: Opening database

3. Click **PERSONAL PHONEBOOK** and click **Open** button. (Figure 3)

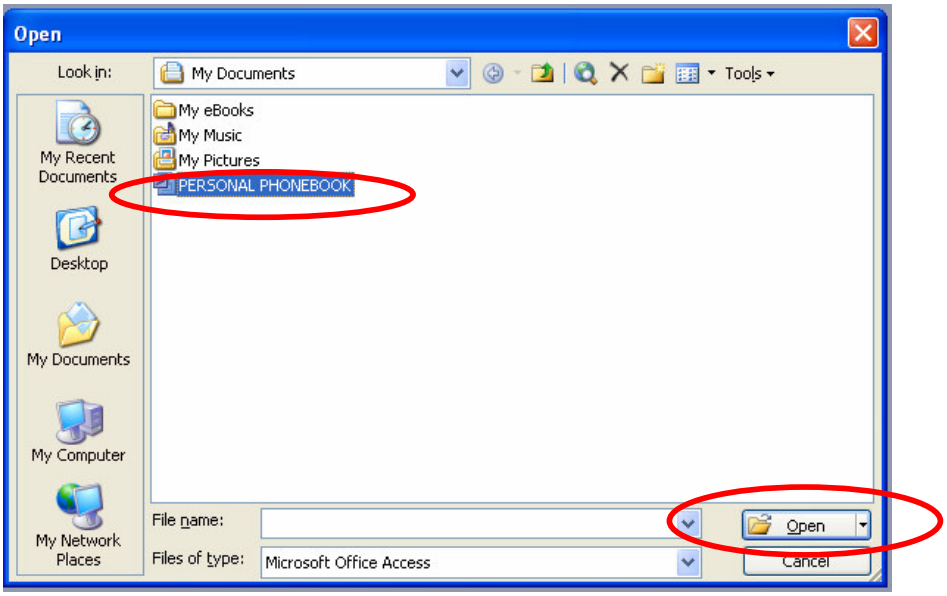


Figure 3: Opening PERSONAL PHONEBOOK database

4. Click the **Forms** tab then select **Create form by using wizard**. The following **Form Wizard** will appear. Then choose **FRIEND_INFO** table and move all the fields in the **Available Fields** section into the **Selected Fields** section by using this icon . . (>> **xt**.

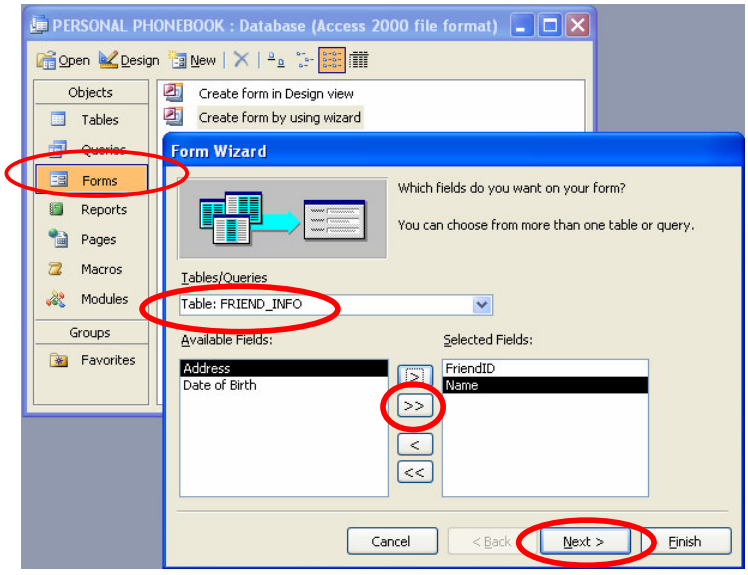


Figure 4: Selecting fields in table FRIEND_INFO

5. Choose any layout given and then click **Next**.

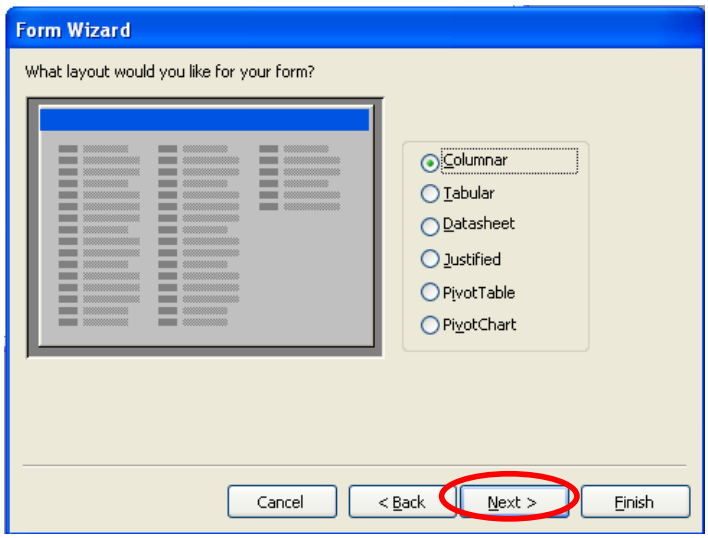


Figure 5: Selecting layout

6. Choose any style given and click **Next**.

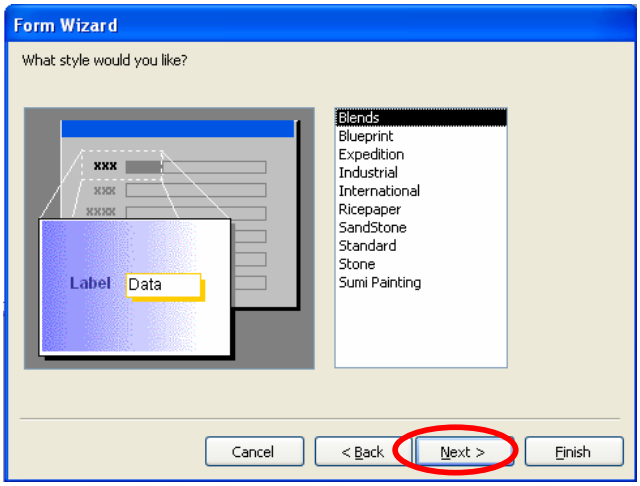


Figure 6: Selecting style

7. Type **PERSONAL PHONEBOOK** for your form title. Then click **Finish**.

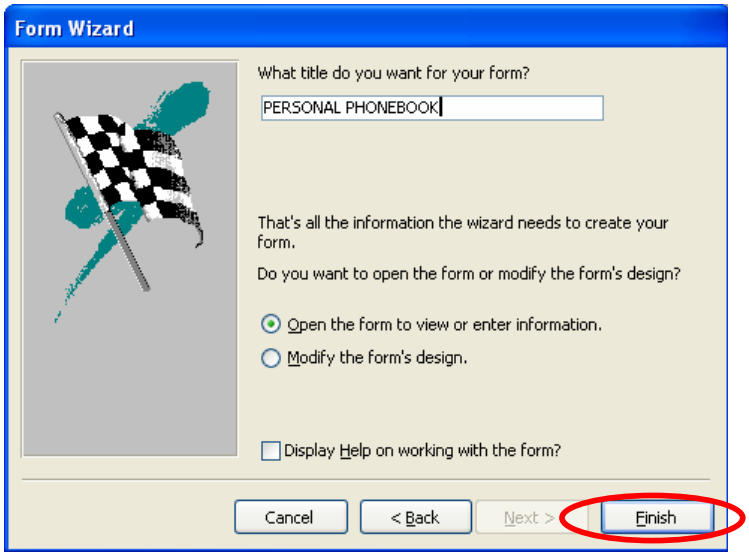


Figure 7: Naming the form

8. **Figure 8** as shown below will appear.

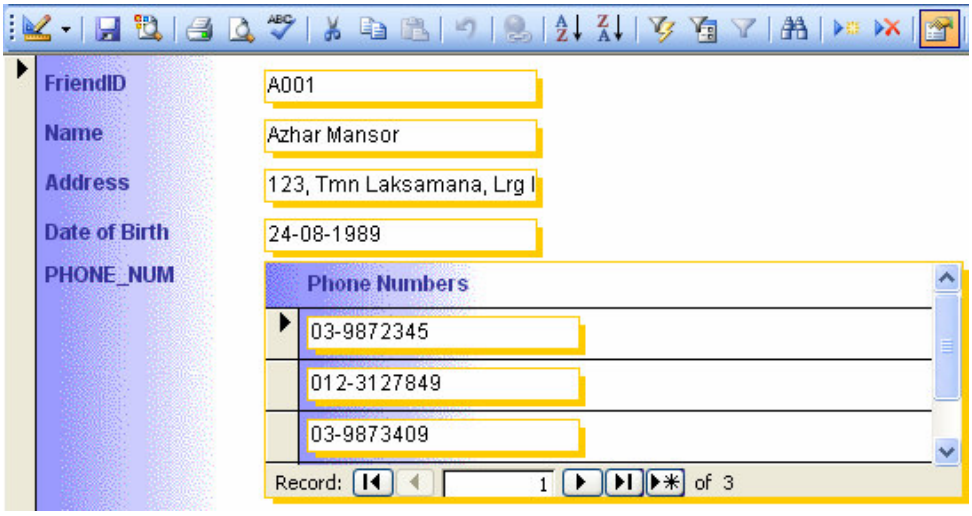


Figure 8: Data is displayed in form

D.2) Creating query

9. Click the **Queries** tab. Select **Create query by using wizard**.

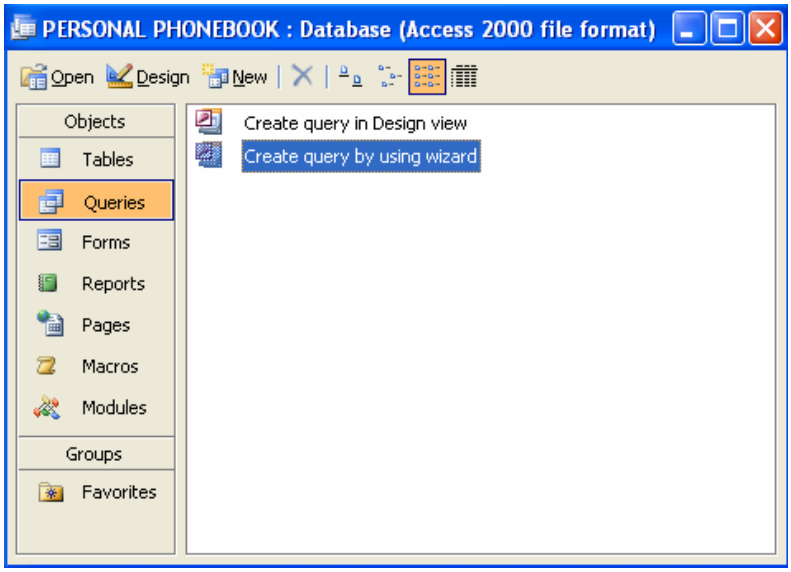


Figure 9: Creating query

10. Choose **FRIEND_INFO** table, move all fields in the **Available Fields** section by using this icon >> into the **Selected Fields** section. Then click **Next**.

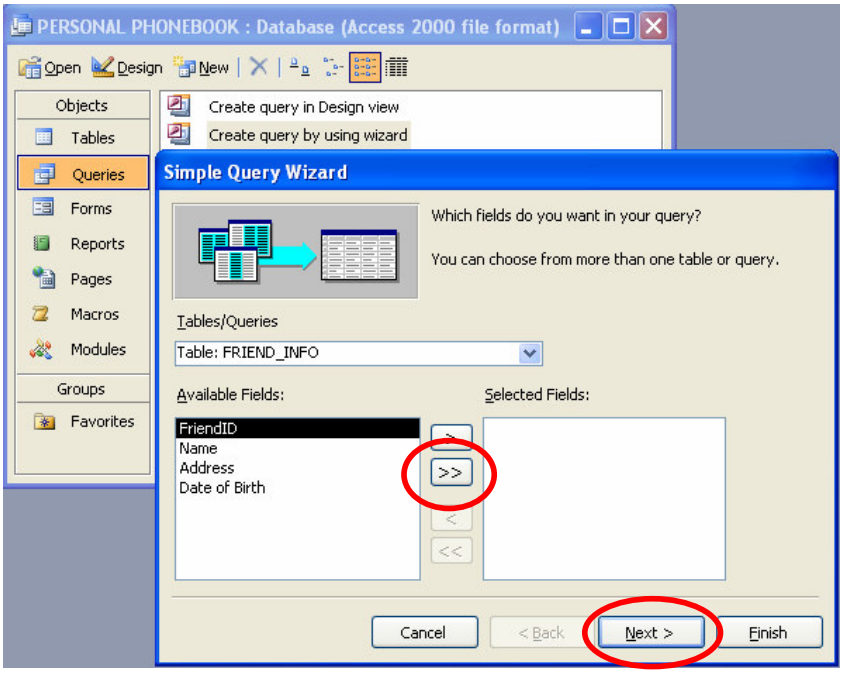


Figure 10: Selecting fields from table FRIEND_INFO

11. Choose **PHONE_NUM** table, then move **Phone Numbers** field in the **Available Fields** section into the **Selected Fields** section using this icon.

Click **Next**.

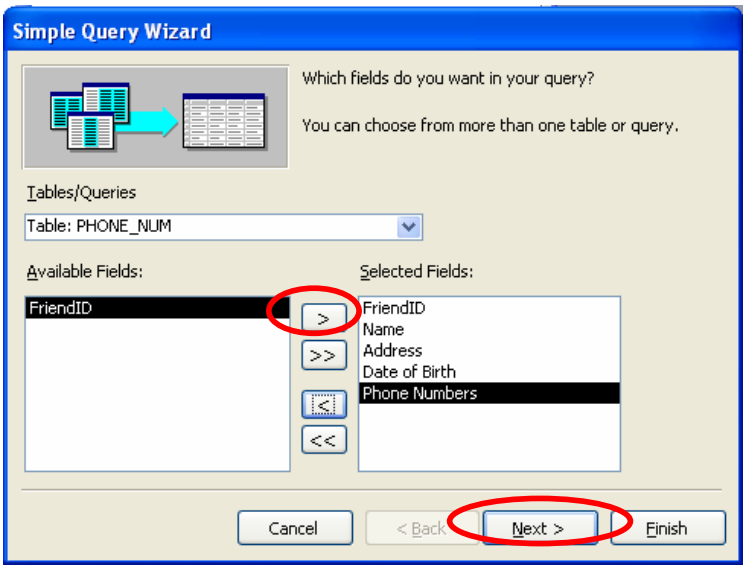


Figure 11: Selecting fields from table PHONE_NUM

12. Type **MY PHONEBOOK** for your query title. Then click **Finish**.

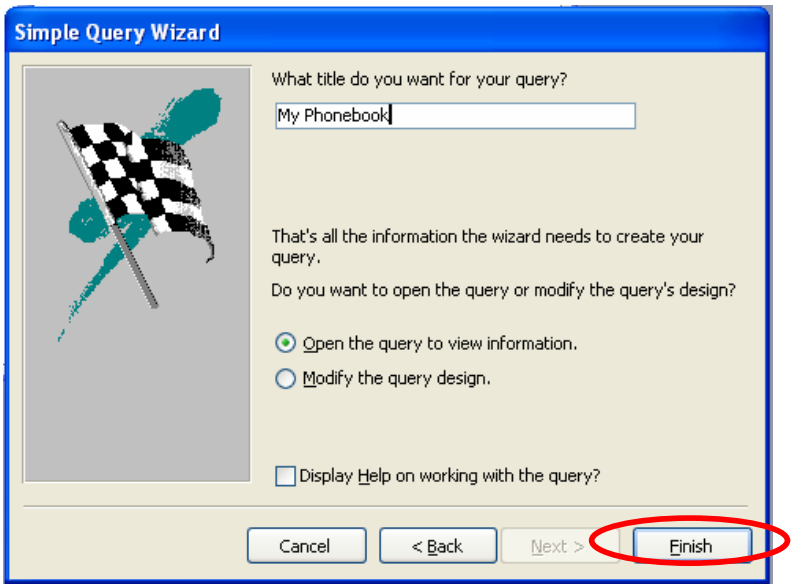


Figure 12: Naming query

13. Figure 13 as shown below will appear.

My Phonebook : Select Query

FriendID	Name	Address	Date of Birth	Phone Numbers
A001	Azhar Mansor	123, Tmn Laksamana, Lrg Kuching 3/C	24-08-1989	03-9872345
A001	Azhar Mansor	123, Tmn Laksamana, Lrg Kuching 3/C	24-08-1989	012-3127849
A001	Azhar Mansor	123, Tmn Laksamana, Lrg Kuching 3/C	24-08-1989	03-9873409
A002	Ahmad Rajiee Abdullah	88, Tmn Salak Tinggi, BB Salak Tinggi	20-6-1990	03-9650923
A002	Ahmad Rajiee Abdullah	88, Tmn Salak Tinggi, BB Salak Tinggi	20-6-1990	013-7893421
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jalan Raya	29-12-1985	03-9978793
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jalan Raya	29-12-1985	03-9978794
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jalan Raya	29-12-1985	013-7629087
C001	Chan Teng Hock	Lot 2189, Banglo Mewah Raya, Jalan Raya	29-12-1985	012-3678912
D001	Darus Sasdan Azali	231 Lrg Mata Ayer, Tmn Berlian Dua	15-11-1981	03-9651298
D001	Darus Sasdan Azali	231 Lrg Mata Ayer, Tmn Berlian Dua	15-11-1981	013-7891241
D001	Darus Sasdan Azali	231 Lrg Mata Ayer, Tmn Berlian Dua	15-11-1981	03-9651238
D001	Darus Sasdan Azali	231 Lrg Mata Ayer, Tmn Berlian Dua	15-11-1981	012-7891241
B001	Joshua Anderson	230 Jln SS1/4 Subang Jaya	13-9-1990	03-41221222
B001	Joshua Anderson	230 Jln SS1/4 Subang Jaya	13-9-1990	012-3248970
B002	Mohd Azriel Rasdi	303 Block A8, Section 5 Wangsa Maju	25-5-1988	03-41420777
B002	Mohd Azriel Rasdi	303 Block A8, Section 5 Wangsa Maju	25-5-1988	019-3462213
A003	Azhar Mansor	119 Lrg 6/9, Tmn Desa Indah, Sg. Petani	10-3-1968	04-4223123
A003	Azhar Mansor	119 Lrg 6/9, Tmn Desa Indah, Sg. Petani	10-3-1968	012-4223123
A003	Azhar Mansor	119 Lrg 6/9, Tmn Desa Indah, Sg. Petani	10-3-1968	019-4223123
N002	Nasihah Kassim	56 A, Kg Hj Hashim, Kepala Batas	3-1-1970	04-5647890
N002	Nasihah Kassim	56 A, Kg Hj Hashim, Kepala Batas	3-1-1970	013-5234567
N002	Nasihah Kassim	56 A, Kg Hj Hashim, Kepala Batas	3-1-1970	017-5234568
K001	Ku Shamsinar Ku Saad	125 Lrg 3/12, Tmn Sinar Suria, Ipoh	17-9-1978	05-6543217
K001	Ku Shamsinar Ku Saad	125 Lrg 3/12, Tmn Sinar Suria, Ipoh	17-9-1978	017-6589076

Record: 1 of 25

Figure 13: Display of data in query

14. Click **File** and then choose **Close**.

D.3) Generate report

15. Click the **Reports** tab. Choose **Create report by using wizard**.

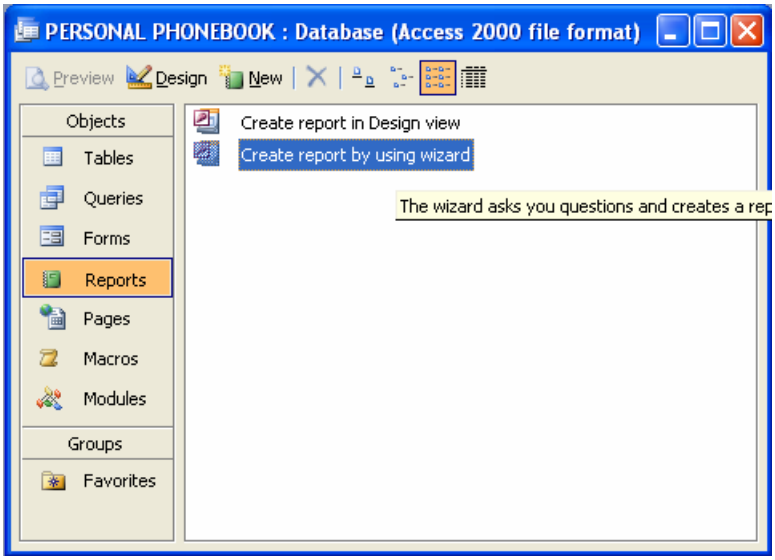


Figure 14: Generate report

16. Choose **MY PHONEBOOK** query, move all the available fields into the selected fields using this icon >> click **Next**.

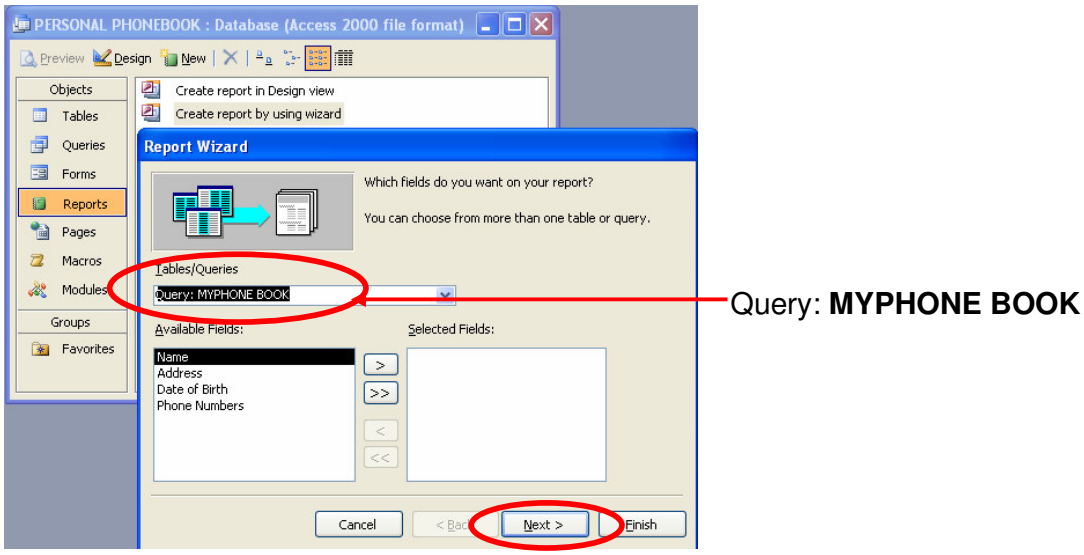


Figure 15: Selecting fields

17. Choose which view you want for your data. Click **Next**.

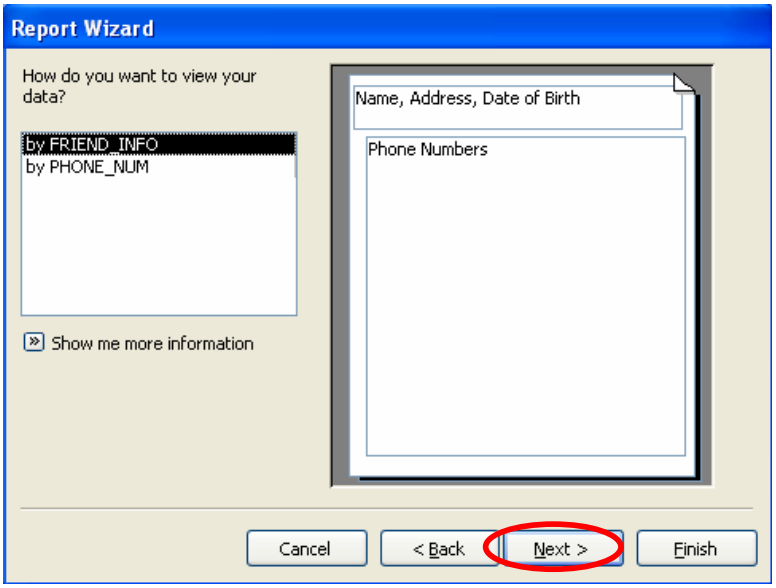


Figure 16: Selecting view

18. Click **Next**.

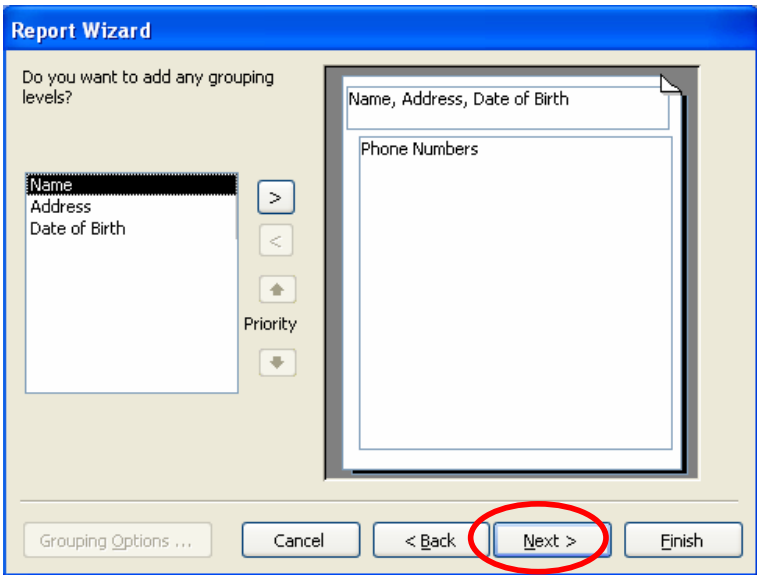


Figure 17: Grouping data

19. Click **Next**

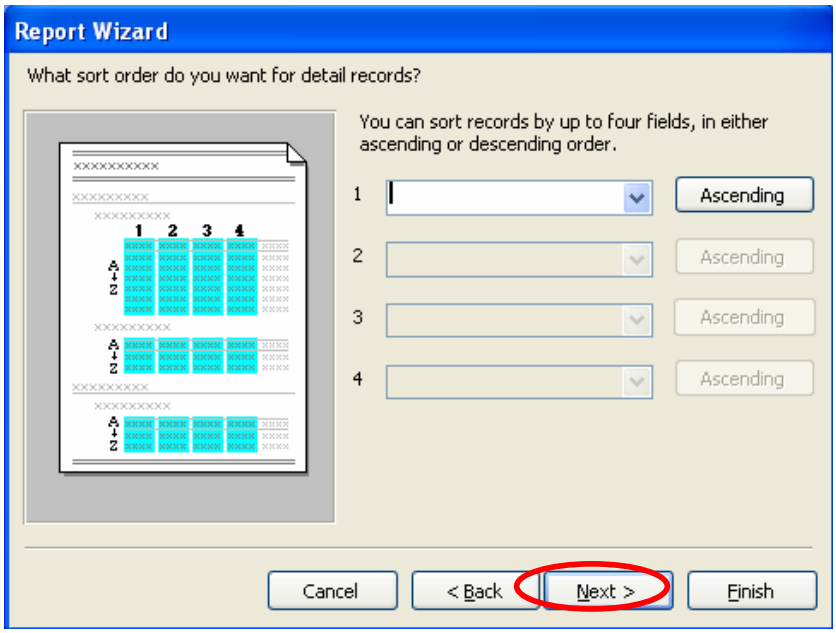


Figure 18: Sorting data

20. Choose a layout for your report, and then click **Next**. (You can choose any layout available)

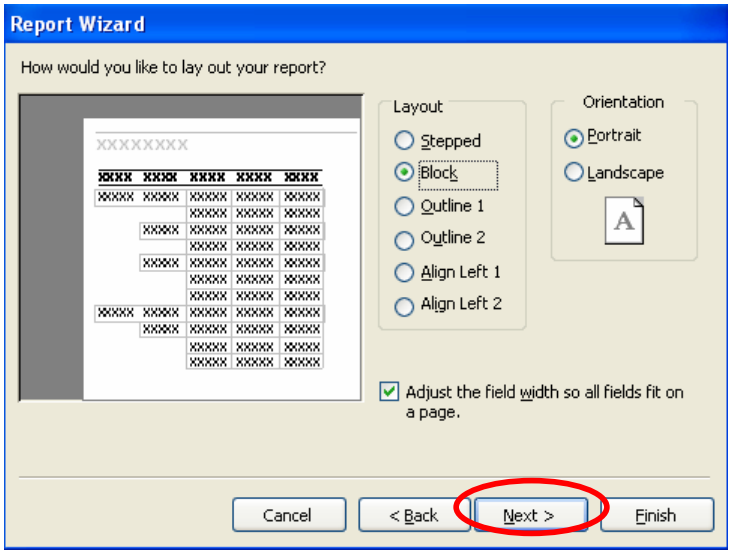
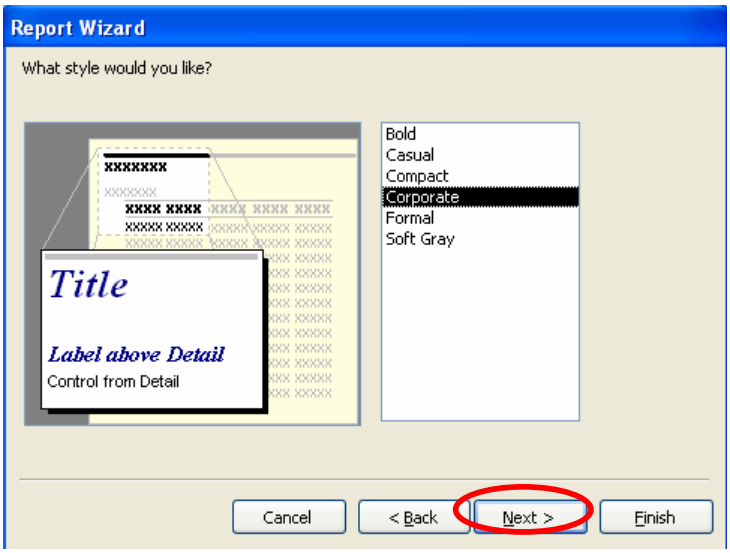


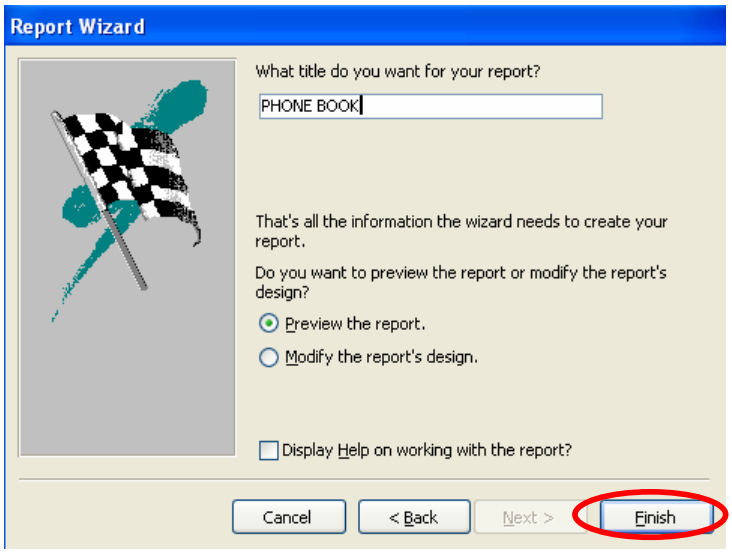
Figure 19: Choosing report layout

21. Choose any style for your report, and then click **Next**.



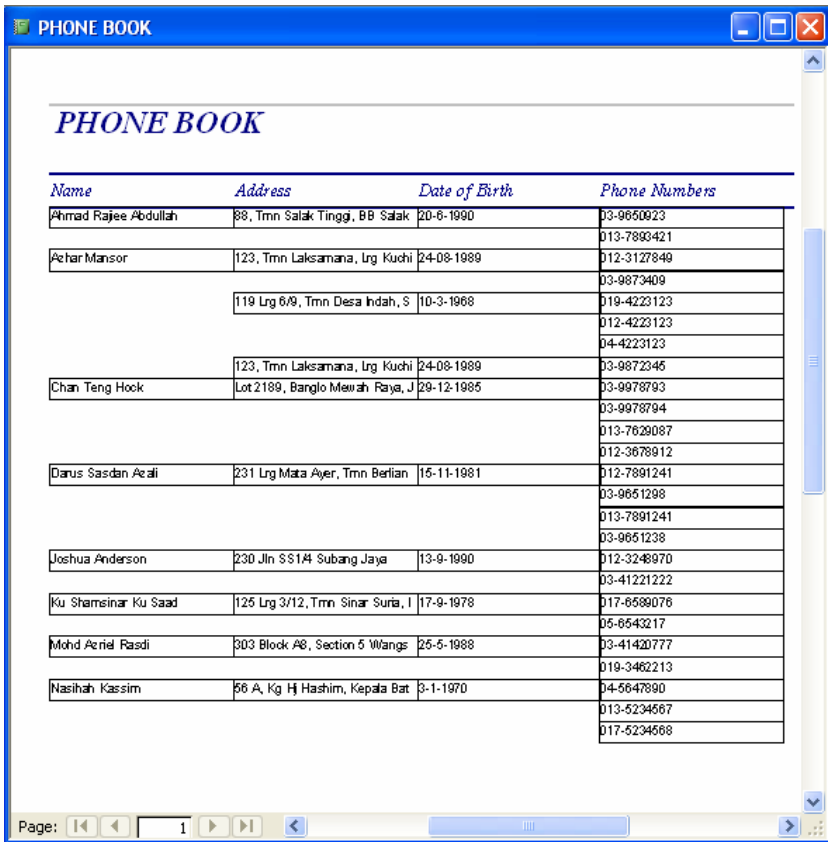
Figures 20: Choosing style for report

22. Type **PHONE BOOK** for your report title. Then click **Finish**.



Figures 21: Naming the report

23. Figure 22 as shown below will appear.



PHONE BOOK

Name	Address	Date of Birth	Phone Numbers
Ahmad Rajiee Abdullah	88, Tmn Salak Tinggi, BB Salak	20-6-1990	03-9650923
			013-7893421
Azhar Mansor	123, Tmn Laksamana, Lrg Kuchi	24-08-1989	012-3127849
			03-9873409
	119 Lrg 6/9, Tmn Desa Indah, S	10-3-1968	019-4223123
			012-4223123
			04-4223123
	123, Tmn Laksamana, Lrg Kuchi	24-08-1989	03-9872345
Chan Teng Hock	Lot 2189, Banglo Mewah Raya, J	29-12-1985	03-9978793
			03-9978794
			013-7629087
			012-3678912
Darus Sasdan Azali	231 Lrg Mata Ayer, Tmn Berlian	15-11-1981	012-7891241
			03-9651298
			013-7891241
			03-9651238
Joshua Anderson	230 Jln SS1/4 Subang Jaya	13-9-1990	012-3248970
			03-41221222
Ku Shamsinar Ku Saad	125 Lrg 3/12, Tmn Sinar Suria, I	17-9-1978	017-6589076
			05-6543217
Mohd Azriel Rasdi	303 Block A8, Section 5 Wangs	25-5-1988	03-41420777
			019-3462213
Nasihah Kassim	56 A, Kg Hj Hashim, Kepala Bat	3-1-1970	04-5647890
			013-5234567
			017-5234568

Page: 1

Figure 22: Data is displayed in the report

24. Click **File** and finally choose **Exit** to end this activity.

ACTIVITY 5: DO IT YOURSELF

Instructions:

Refer to Activity 4 and do the following:

1. Create a form which is related to tables.
2. Create a query to retrieve required information.
3. Generate a report.

SUBTOPIC: 6.3.2 Develop a database project

LEARNING OUTCOMES:

By using this module, you will be able to:

6.3.2.12 gather all the documents from the above phases into a folio.

DURATION: 2 periods

ACTIVITY 6: DO IT YOURSELF

Instructions:

1. All documents resulting from Activities 1 to 5 must be compiled into a folio.
2. Arrange your documents according to the following format:
   a. Project title
   b. Project background
   c. Analysis phase
   d. Design phase
   e. Implementation phase
   f. Testing phase