

DATABASES (2)

List of Microsoft Access objects:

- **Tables** - hold the raw data
- **Queries** - extract some of the data in order to answer questions
- **Forms** - user-friendly layouts to display data on the screen (either in a table or from a query)
- **Reports** - output files, ready for printing

Creating a Database:

Let's assume that your hobby is collecting old 45 rpm records from the classic rock era of the 50s and 60s. You decide to create a database to help you manage your collection. We will create an Access database to store the following information about your collection:

Label	Number	Artist	A-Side	B-Side	Condition	Price
Swan	4152	Beatles	She Loves You	I'll Get You	Excellent	\$150.00
Swan	4152	Beatles	She Loves You	I'll Get You	Fair	\$75.00
Swan	4152	Beatles	She Loves You	I'll Get You	Poor	\$10.00
Capitol	5555	Beatles	We Can Work it Out	Day Tripper	Good	\$50.00
Soma	1137	Fendermen	Muleskinner Blues	Torture	Good	\$8.50
Soma	1137	Fendermen	Muleskinner Blues	Torture	Fair	\$5.00
Decca	29791	Haley, Bill and the Comets	See You Later Alligator	The Paper Boy	Excellent	\$12.00
Mercury	71032	Platters	I'm Sorry	He's Mine	Fair	\$15.00
Volt	157	Redding, Otis	(Sittin' On) The Dock of the Bay	Sweet Lorene	Good	\$6.50

Notice the duplication in several fields in this table (for example, in the first three Beatles records). To remove the duplications, we will construct the

database with more than one table. In this case we will use two tables, one to store information about each 45 record and one to store information about the copies of that record that you have... Recall that each table must have a primary key field. We will add unique IDs as primary keys in the two tables. ID45 will identify a 45 rpm record that was issued. IDSpecific will identify a specific copy you own. Instead of storing a word for the condition, we will use one letter (e.g., "E" for "Excellent") to specify the condition, which will make data entry easier.

tblIssue

ID45	Label	Number	Artist	A-Side	B-Side
1	Swan	4152	Beatles	She Loves You	I'll Get You
2	Capitol	5555	Beatles	We Can Work it Out	Day Tripper
3	Soma	1137	Fendermen	Muleskinner Blues	Torture
4	Decca	29791	Haley, Bill and the Comets	See You Later Alligator	The Paper Boy
5	Mercury	71032	Platters	I'm Sorry	He's Mine
6	Volt	157	Redding, Otis	(Sittin' On) The Dock of the Bay	Sweet Lorene

tblVALUE

IDSpecific	ID45	Condition	Price
1	1	E	\$150.00
2	1	F	\$75.00
3	1	P	\$10.00
4	2	G	\$50.00
5	3	G	\$8.50
6	3	F	\$5.00
7	4	E	\$12.00
8	5	F	\$15.00
9	6	G	\$6.50

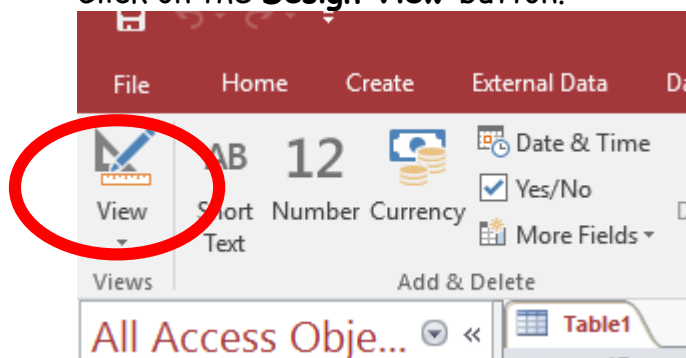
Having figured out the tables we need, we are ready to create our database.

Creating a New Database

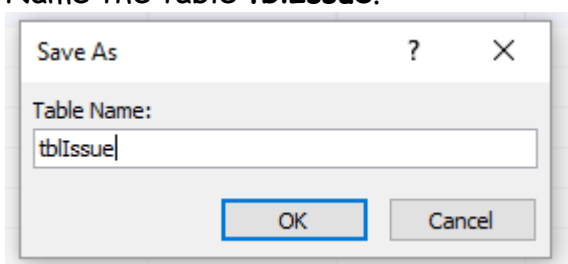
Choose **Blank database** from the New File menu at the right. In the **Blank Database** section that appears on the right side of the screen, click on the **Folder icon** to choose where you want to save the database.

Choose the name Records (Replacing the words Database1) for your database. Click on **Create**.

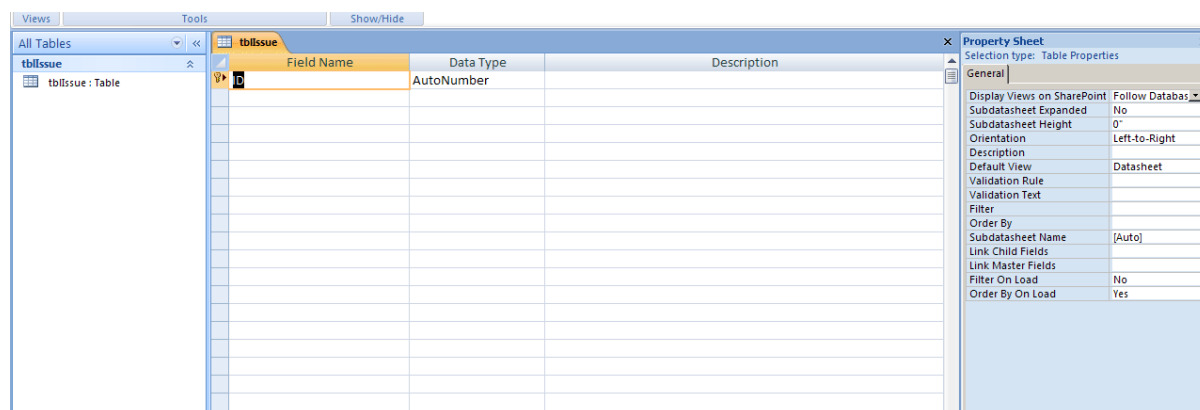
Click on the **Design View** button.

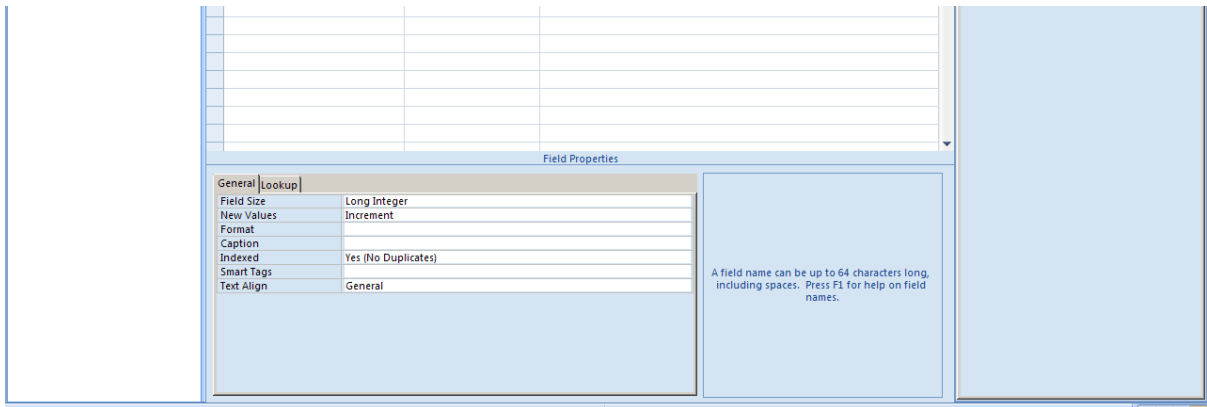


Name the table **tblIssue**.



You now should see the **Design View** of the table - the view we use when we want to work on the structure of the database, as opposed to the data stored in the database. The Design View allows you to enter names of the fields in the table and to specify their data types. A data type indicates the kind of data to be stored—for example, numbers, text, or dates. It is best to select the type that most closely matches the kinds of values you are storing in a field.

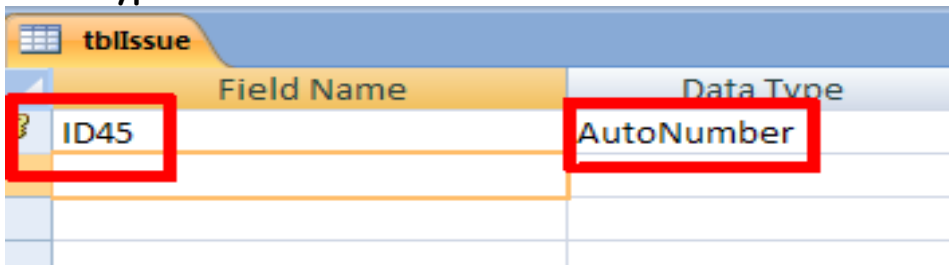




When you design a table, the first thing you do is to specify the **Field Names** and the **Data Types** - the type of data that is allowable for each field. A few common data types are listed below:

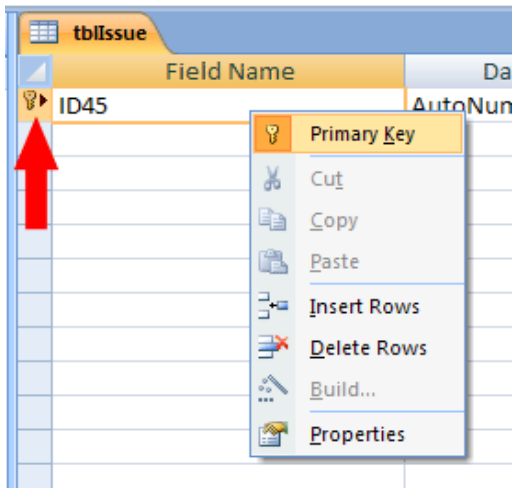
Data Type	Allowable Field Values	Number of Characters
Text (Default data type)	Letters and Numbers	Up to 255
Number	Numbers	Up to 64,000
AutoNumber	Numbers in Sequence	
Currency	Numbers	
Date and Time	Numbers	

The first **Field Name** we will enter is ID45, the field we will use as the primary key to uniquely identify each record. Enter "ID45" as the first field name. Its **Data Type** should be **AutoNumber**.

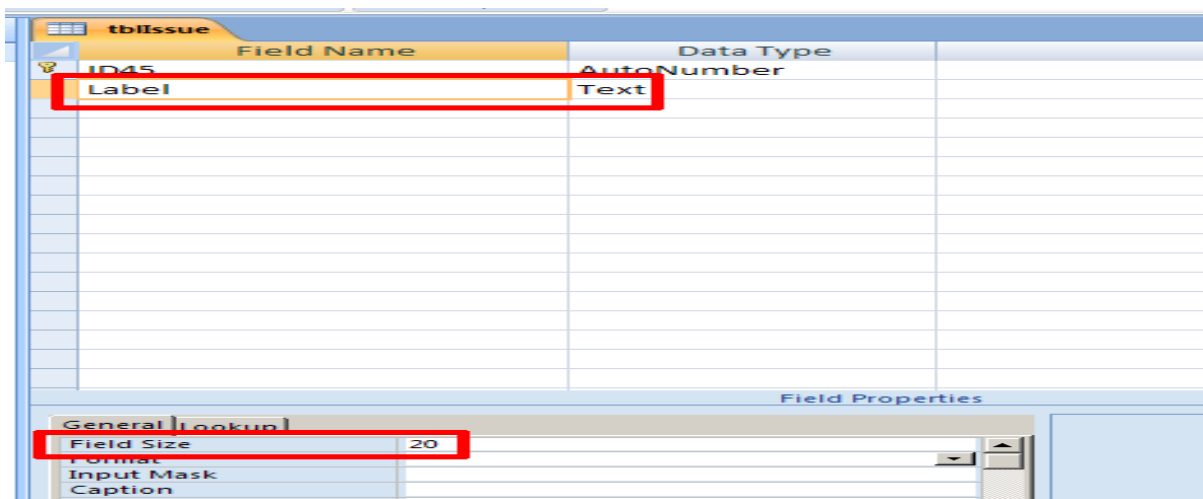


The new field probably will be designated as the primary key for the table - see if there is a small key icon to the left of the field name.

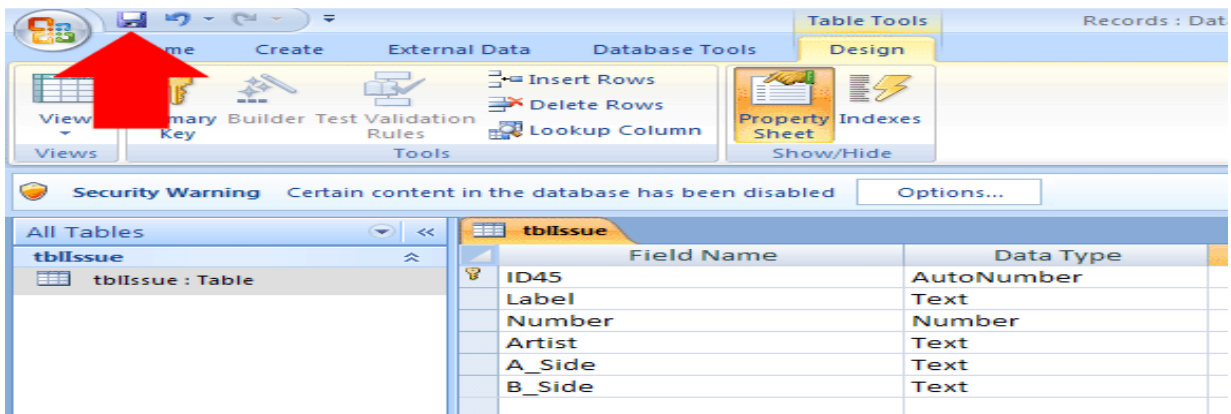
If the ID45 field has not been designated as the primary key, right click on the Field Name. In the menu that pops up, select **Primary Key**.



Enter "Label" as the second field name. The default Data Type is Text, which is appropriate for this field. You will see a list of **Field Properties** at the bottom of the Design View window. The default Field Size for a Text field is 255, which is much bigger than a record label name is ever going to be. Change the **Field Size** to 20.

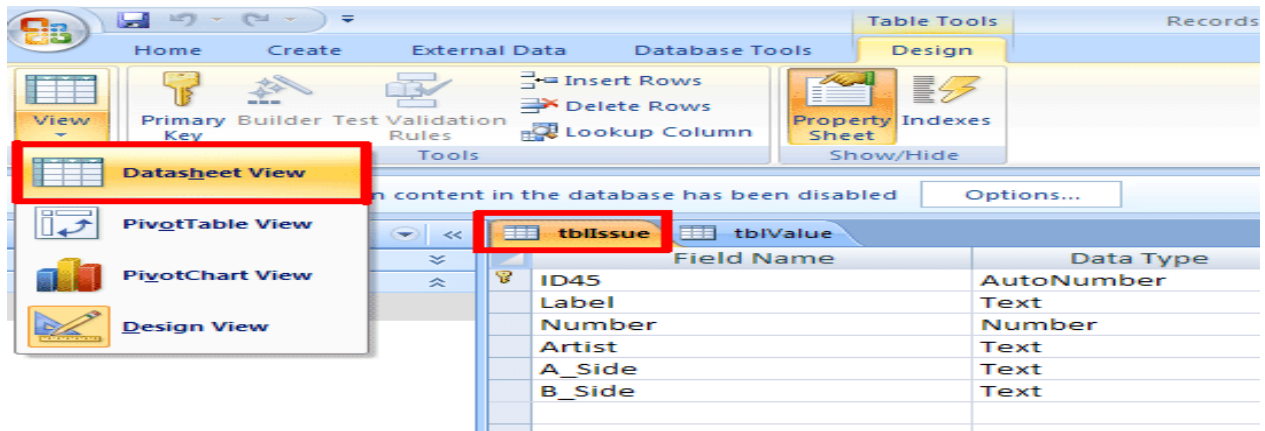


Enter the other Field Names as shown below. Use 100 as the lengths for Artist, A_Side and B_Side. When you have entered them, click on the **Save** icon to save the table.



Adding Data to a Table

Now that the tables have been created we need to populate them with data. We will start with **tblIssue**. Select the "tblIssue" tab and choose **Datasheet View** from the **View** menu.



This will display the **Datasheet View** of the table - the view in which you add data to the table. This view is reminiscent of a spreadsheet. Each column is labelled by a field name.

The **Home** tab should be selected. If it is not, click on the **Home** tab to select it.

Enter the data in the table below into the database. *Don't type anything in the ID45 field, which is autonumbered. Every time you make an entry of a new Label, the next number will automatically be added to the corresponding ID45 cell. When you have entered the data for one cell, pressing the **Tab** key will move to the next cell on the right.*

ID45	Label	Number	Artist	A-Side	B-Side
1	Swan	4152	Beatles	She Loves You	I'll Get You
2	Capitol	5555	Beatles	We Can Work it Out	Day Tripper
3	Soma	1137	Fendermen	Muleskinner Blues	Torture
4	Decca	29791	Haley, Bill and the Comets	See You Later Alligator	The Paper Boy
5	Mercury	71032	Platters	I'm Sorry	He's Mine
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