My School Data Base has been created. This is the Data Base   window, which can be opened **by pressing F11** at any time. On the left   hand side there are **compone nts** of the database and the first one is **Tables** . The Second is **Queries** ; the third is **Forms** and so on.

You have **three Wizards** you can use. Design View, Table Wizard, by   entering data.

Use the first one. **Design View,** which is simple.

Filling details: First column Field Names. Second Column: Data Types. Third Column your notes.

The first table we shall Save As **Class**

In the First line, give field name: **ClassNr** and in the Data   Type, choose **Auto Number**.

Second Row give name of Class as field name: **ClassName** and   Data type **Text.**

Put your mouse on the **first row** and then click the **Key Icon**   just below the word *"Window"*
in the menu bar
. This will make the   Autonumber the
Primary Key
, which is
unique
as it will appear   only once in the table. Duplicates are NOT ALLOWED. In Unique Fields, duplicates are never allowed.

Properties of the field will appear as **General and Look Up.   Lists** below in the window box.
 In the General you will see:
<u>Indexed,   duplicates not allowed.</u>
It happens only if you set it as   primary Key. We shall
link this table
to the next table of
Students.

<u>Now Click File and Save. Give the Table Name as Class.</u>

Data Types.

- Autonumber,
- Text,
- Date

- Number
- Memo
- Currency
- yes/No

Data types in the program, are very important. You can not give your own names. They are to be chosen from the list, which drops down. In Text type, you can have a number or text but can not make calculations with that number. To make calculations you have to choose Number as your Data Type.

Students Table

Primary Key: Name StudentNr   Data type: Autonumber

2 Name: FirstName   Data Type Text

3 Name LastName   Data Type Text

4. Name Age   Data Type Number

Creating a Look-up field (gives drop down fields)

5 To create the 5th name, we shall use a **Look Up wizard**, which will use our Class Table, and set the field with the Primary Key of the Class Table.

To do this click on *INSERT* in the Menu Bar, and from the drop down, choose **LOOK UP**.

The Wizard will start.. This wizard also comes up if you specify a   data type of a field as Lookup

Click Next.

Click Next.

Lookup Wizard

Which fields contain the values you want included in your lookup column? The fields you select become columns in your lookup column.

Available Fields:

Class Nr
Class Name

Selected Fields:

| Cancel | < Back | Next > | Finish |

Tooseleccdamveadvpleaar Tiosdketomlssckick >> Select both, as the first will remain in the field

Lookup Wizard

How wide would you like the columns in your lookup column?

To adjust the width of a column, drag its right edge to the width you want, or double-click the right edge of the column heading to get the best fit.

☑ Hide key column (recommended)

Class Name
▶ Lower KG
Senior Kg
Standard 1
Standard 2
Standard 3
Standard 4
Standard 5

| Cancel | < Back | Next > | Finish |

Table the IDAutonumber field. This will appear in the drop down list in the Students Class

Lookup Wizard

What label would you like for your lookup column?

Class

Those are all the answers the wizard needs to create your lookup column.

☐ Display Help on customizing the lookup column.

| Cancel | < Back | Next > | Finish |

Type Class click Next, you get the above window, you click you give the field name:

Text

Lookup Wizard

⚠️ The table must be saved before relation can be created. Save now?

Yes   No

okup

es

Since Wizard will make the primary key, the Student Click Yes. Before doing so, the next window will
The Wizard will make the primary key. Click Yes. Before doing so, the next window will

Warning !

Microsoft Access

⚠️ **There is no primary key defined.**

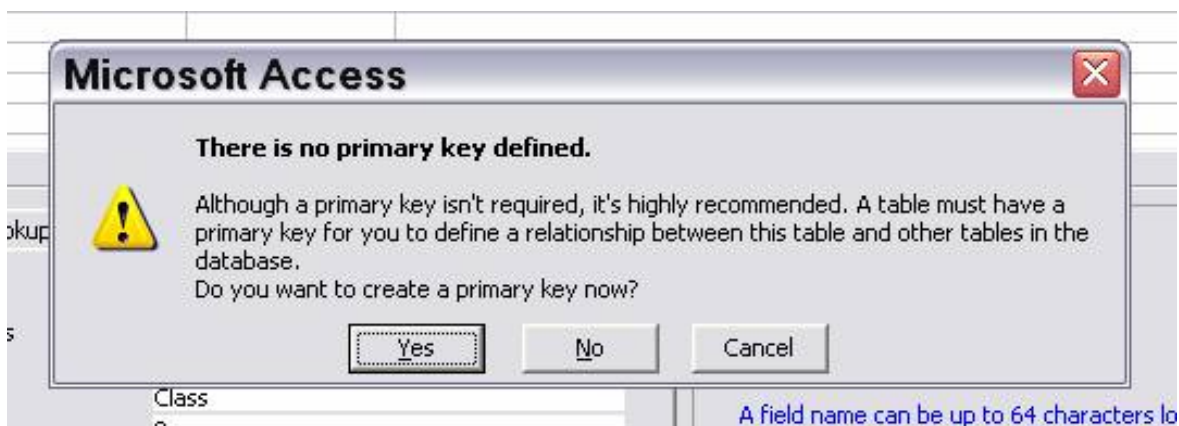Although a primary key isn't required, it's highly recommended. A table must have a primary key for you to define a relationship between this table and other tables in the database.
Do you want to create a primary key now?

Yes   No   Cancel

Class

A field name can be up to 64 characters lo

Click YES and the job will be done automatically.

The **Student Table** has been created, and now you can fill the   data in Data View on the table. Give a few names with all the data that   is expected in the columns.

Datasheet view

A window that displays data from a table, form, query, view, or   stored procedure in a row-and-column format. In Datasheet view, you can   edit fields, add and delete data, and search for data.

Create a new Table: My School

Written by W.J.Pais
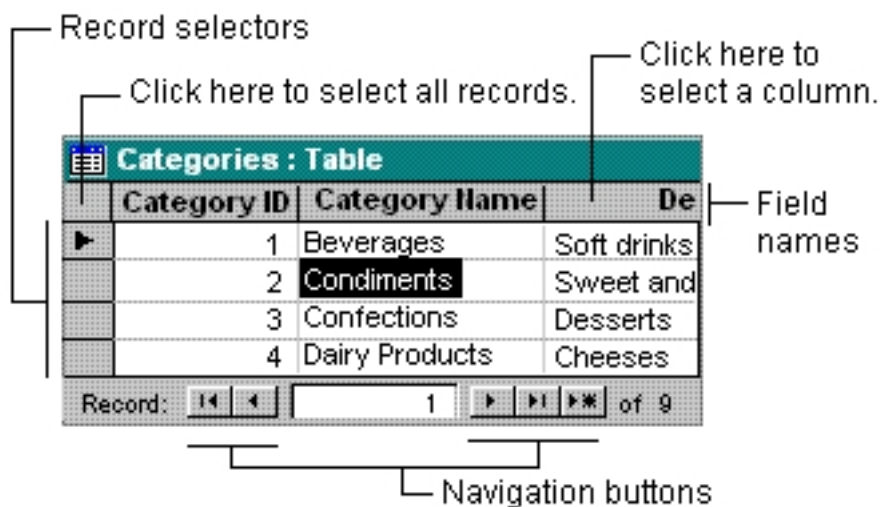
To open a table, form, query, view, or stored procedure   in Datasheet view, go to the Database window, click the type of database   object under Objects, click the database object you want, and then   click either Open or Design. (By default, forms open in Form view. To   switch to Datasheet view in a form, click the arrow next to View on the   toolbar.)
If the table, query, view, or stored procedure is already open, switch to Datasheet   view by clicking View on the toolbar.

Add   New Data

Save   or delete a Record

Advance Information

Sort records in Form or Datasheet view

For a list of issues to consider when sorting records

   1. In Form view or Datasheet view, click the field you   want to use for sorting records. To sort records in a subform, click the   field you want to sort. To sort records in a subdatasheet, display the   subdatasheet by clicking its expand indicator, expand indicator

    A   button that is used to expand or collapse groups of records on a data   access page, and on a   datasheet containing a subdatasheet; it displays the plus (+) or minus   (–) sign.

   and then click the field.

   2. Do one of the following:
1. To sort in ascending order, click **Sort Ascending**
2. To sort in descending order, click **Sort Descending** .

Notes

   1. In Datasheet view, when you sort the subdatasheet for   one record, Microsoft Access sorts all the subdatasheets at that level.

   2. In a form, you can sort on only one field at a   time; in a datasheet or subdatasheet, you can select two or more   adjacent columns at the same time, and then sort them. Microsoft Access   sorts records starting with the leftmost selected column. When you save   the form or datasheet, Microsoft Access saves the sort order.

Sub HelpPopup(sFile,sID) L_SecurityT1_ErrorMessage="Help can't show you this procedure because the security setting in your browser is set too high" L_SecurityT2_ErrorMessage="or the ActiveX control Ouactrl.ocx didn't install correctly." L_SecurityE1_ErrorMessage="- Select a lower security setting in your browser" L_SecurityE2_ErrorMessage="- If you receive this message after selecting a lower security setting, please see your system" L_SecurityE3_ErrorMessage=" administrator for help troubleshooting the installation of the ActiveX control Ouactrl.ocx" L_SecurityE4_ErrorMessage=" located in the folder you installed Microsoft Office to." sSecurityMSG=L_SecurityT1_ErrorMessage & chr(13) & L_SecurityT2_ErrorMessage & chr(13) & chr(13) & L_SecurityE1_ErrorMessage & chr(13) & L_SecurityE2_ErrorMessage & chr(13) & L_SecurityE3_ErrorMessage & chr(13) & L_SecurityE4_ErrorMessage L_App_DialogTitle="Microsoft Office Help" On Error Resume Next r=oua.HelpPopup(sFile,sID) If Err0 Then Msgbox sSecurityMSG,48,L_App_DialogTitle End Sub

Form view

A window that usually displays one or more whole   records. Form view is the primary means of adding and modifying data in   tables.
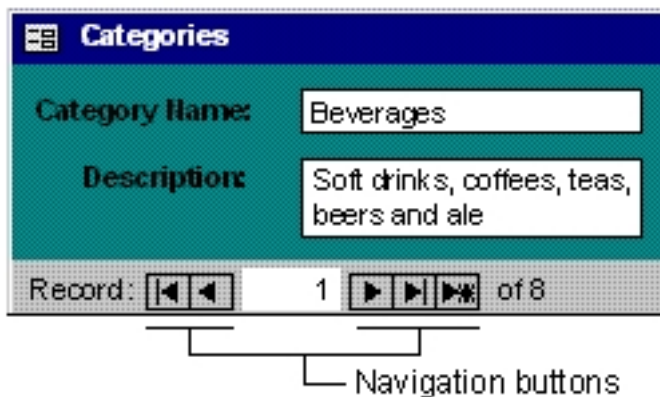
To open a form in Form view,   go to the Database window, click Forms under Objects, click the form   you want to open, and then click Open on the Database window toolbar.
If the form is already open in Design view, you can   switch to Form view by clicking View on the toolbar.

Relationships. - How to ENFORCE RELATIONSHIPS

Click on TOOLS and then on RELATIONSHIPS.
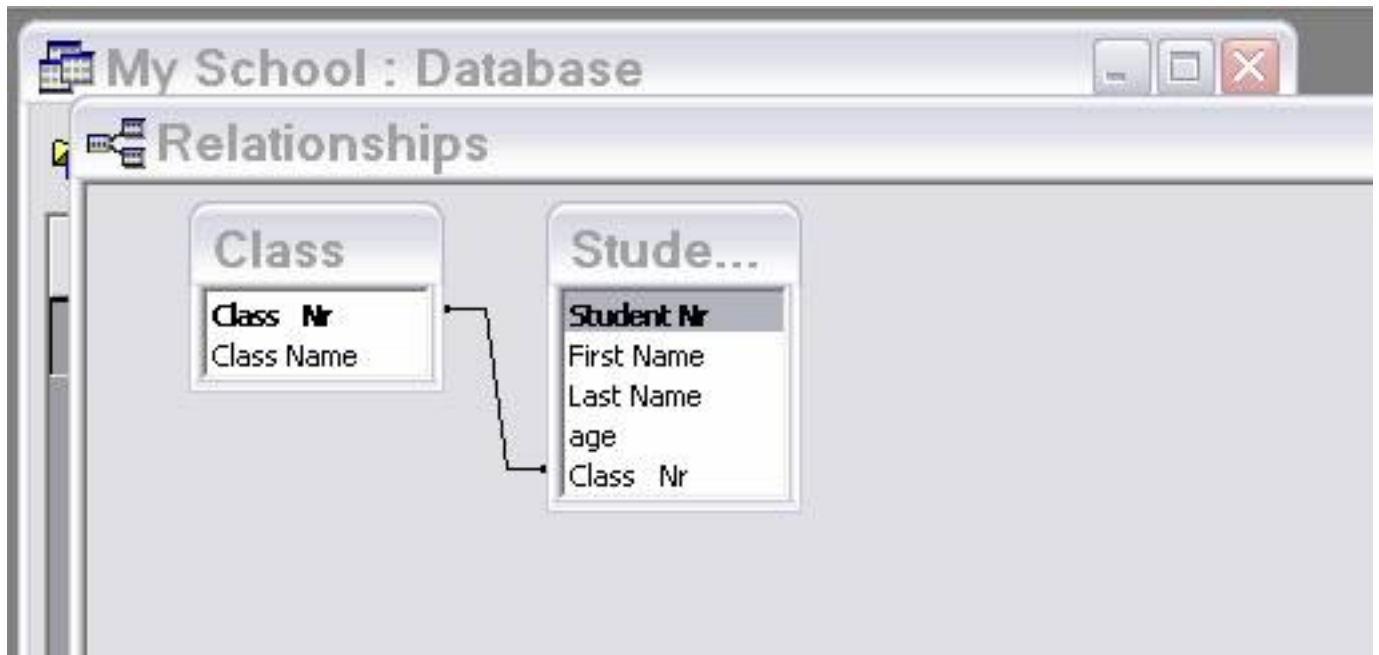
One-To-Many Relationship

This is the basic relationship which needs to be edited to give it greater efficiency. Right Click on the connecting line, and click Edit Relationship.
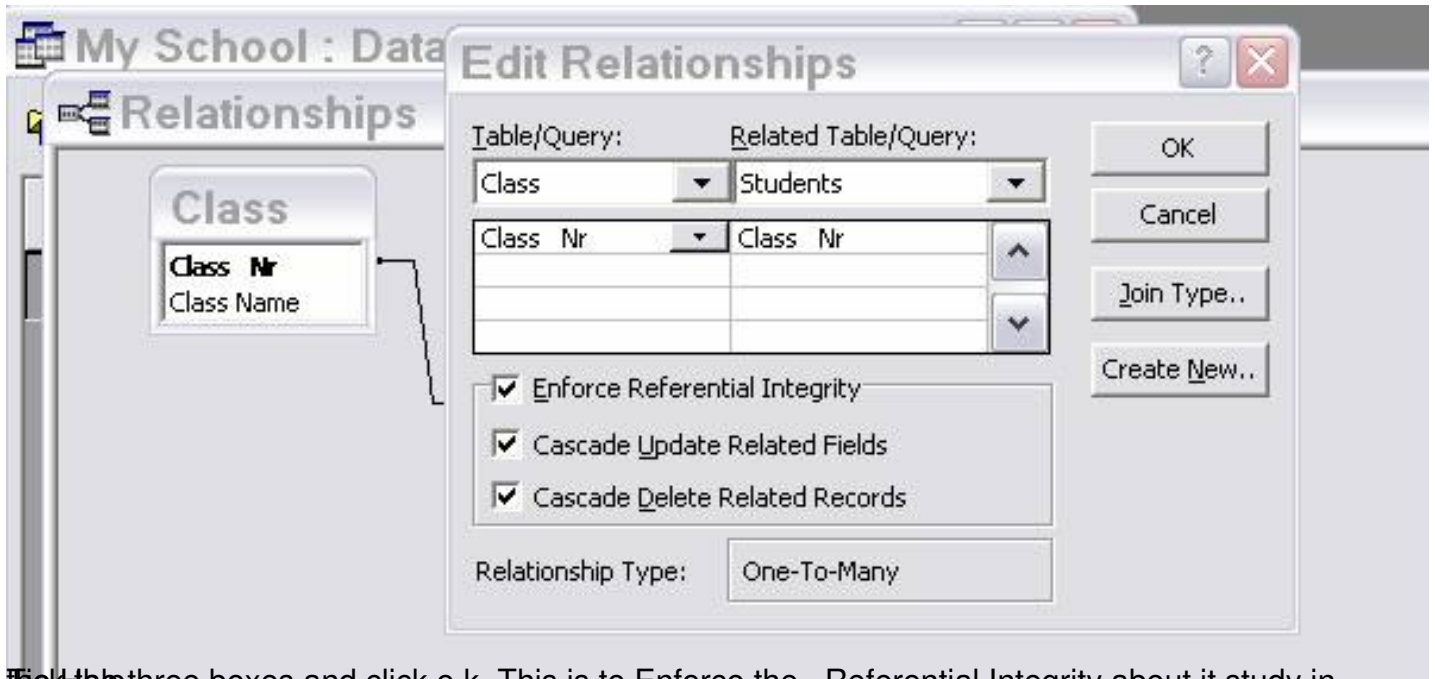
Tick the three boxes and click o.k. This is to Enforce the Referential Integrity about it study in
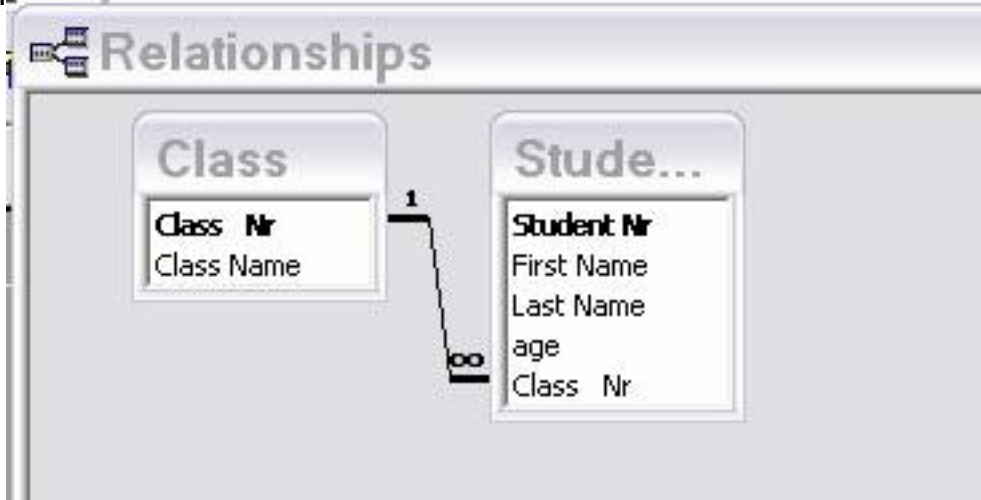
circles connecting line has changed. One side it says 1 and on the other side there are two

Define the default join type for a relationship between two tables

1. If you haven't already done so, switch to the **Database window**. You can press F11 to switch to the Database window from any other window.

2. Click **Relationships** on the toolbar to open the Relationships window.

3. Double-click the middle section of a join line between two tables to open the Relationships dialog box.

4. Click the **Join Type** button, and then click the desired join type.

Option 1 defines an **inner join.** This is the default.

Option 2 defines a **left outer join.**

Option 3 defines a **right outer join**.

Note The **Join Type** button won't be enabled if the tables are - **linked table** (*A table stored in a file outside the open database from which Microsoft Access can access records. You can add, delete, and edit records in a linked table, but you can't change its structure.)*

Check Tools, Data Base Utilities, Link Tables Manager, and locate where the original table is filed.

Note Linked tables are known as "attached tables" in previous versions of Microsoft Access.

If the tables are in Microsoft Access format, you can open the database in which they are stored to set the join type.

Defining the join type for a relationship in the Relationships window doesn't affect the relationship itself; it sets the kind of **join** that will be used by default when creating queries based on the related tables. You can always override the default join type later when defining a query.

What is referential integrity?

Referential integrity is a system of rules that Microsoft Access uses to ensure that relationships between records in related tables are valid, and that you don't accidentally delete or change related data. You can set referential integrity when all of the following conditions are met:

    - The matching field from the ⬛ **primary table**⬛ (*The "one" side of two related tables in a one-to-many relationship. A primary table should have a primary key and each record should be unique. An example of a primary table is a table of customer names that is uniquely identified by a CustomerID primary key field or column.)*⬛
is a

primary   key (
One or more fields (columns) whose value or values   uniquely identify each record in a table. A primary key cannot allow   Null values and must always have a unique index. A primary key is used   to relate a table to foreign keys in other tables.)

   or has a **unique   index (***An index defined by setting a field's Indexed property to   Yes (No Duplicates). A unique index will not allow duplicate entries in the   indexed field. Setting a field as the primary key automatically defines   the field as a unique index.)*

    -   The related fields have the same data type. There are two   exceptions. An AutoNumber field can be related to a Number field with a   **FieldSize**   property setting of **Long Integer**, and an AutoNumber field with a

FieldSize
property setting of
Replication ID
can be   related to a Number field with a
FieldSize
property setting of
Replication   ID
.

    -   Both tables belong to the same Microsoft Access database. If   the tables are linked tables,   they must be tables in Microsoft Access format, and you   must open the database in which they are stored to set referential   integrity. Referential integrity can't be enforced for linked tables   from databases in other formats.

When referential integrity is enforced, you must observe   the following rules:

    -   You can't enter a value in the   **foreign key** (*One or more   table fields (columns) that refer to the primary key field or fields in   another table. A foreign key indicates how the tables are related -   the data in the foreign key and primary key fields must match, though   the field names do not have to be the same. For example, a Products   table   might contain the foreign key SupplierNumber, which relates to the   primary key SupplierID in a Suppliers table. A foreign key can be   Null; if a foreign key consists of more than one field and any of those   fields is Null, all the fields must be Null.) - *
   field of the   related table that doesn't exist in the primary key of the primary   table. However, you can enter a   **Null** (*A value that indicates   missing or unknown data in a field. You can use Null values in   expressions. Null values can be entered in fields for which information   is unknown, as well as in expressions and queries. In Visual Basic, the   Null keyword indicates a Null value. Some fields, such as those defined   as containing the   primary key, can't contain Null values.) - *   value in the foreign

key, specifying that the records are unrelated. For example, you can't   have an order that is assigned to a customer that doesn't exist, but you   can have an order that is assigned to no one by entering a   **Null**
value in the CustomerID field.

  -   You can't delete a record from a primary table if matching   records exist in a related table. For example, you can't delete an   employee record from the Employees table if there are orders assigned to   the employee in the Orders table.

  -   You can't change a primary key value in the primary table, if   that record has related records. For example, you can't change an   employee's ID in the Employees table if there are orders assigned to   that employee in the Orders table.

If you want Microsoft Access to enforce these rules for a   relationship, select the **Enforce Referential Integrity**
check box   when you create the relationship. If referential integrity is enforced   and you break one of the rules with related tables, Microsoft Access   displays a message and doesn't allow the change.

You can override the restrictions against deleting or   changing related records and still preserve referential integrity by   setting the **Cascade Update Related Fields** and **Cascade Delete Related Records**
check boxes. When the
Cascade Update Related   Fields
check box is set, changing a primary key value in the primary   table automatically updates the matching value in all related records. When the
Cascade Delete   Related Records
check box is set, deleting a record in the primary   table deletes any related records in the related table. For more   information on
Cascade Delete Related Records
and
Cascade   Update Related Fields
check boxes,

For information on how to edit an existing relationship and   set referential integrity, click

Should I import or link a table?

Note You can [link](#) a table only in a **Microsoft Access database,** not a Microsoft   Access project.

Reasons to import data into a table

If you know that you will use your data only in Microsoft   Access, you should **import (***To copy data from a text file,   spreadsheet, or database table into a Microsoft Access table. You can use the imported data to create a new table, or you can append (add) it   to an existing table with a matching data structure. You can also import   database objects from a Microsoft Access database or a Microsoft Access project*
.) -- it.   Microsoft Access generally works faster with its own tables, and, if you   need to, you can modify the imported table to meet your needs just like   any other table that is created in Microsoft Access.

Reasons to link data from an external table

If the data that you want to use in your Access database is   also being updated by a program other than Microsoft Access, you should   link it. Using this approach, the current methods of updating,   managing, and sharing the data can remain in place, and you can use   Microsoft Access to work with the data as well. For example, you can   create queries, forms, and reports that use the external data, combine external data with the data in   Microsoft Access tables, and even view and edit the external data while   others are using it in the original program.

You can also link tables from other Microsoft Access   databases. For example, you might want to use a table from another   Microsoft Access database that is shared on a network. This is particularly useful if you want to store all of your tables in one   database on a network server, while keeping forms, reports, and other   objects in a separate database that is copied among users of the shared database. You can easily split an existing   database into two databases by using the **Database Splitter**   subcommand on the **Database Utilities** command on the **Tools** menu.

Add new data in Datasheet or Form view

1. Open a **Datasheet** ,   or form in **Form   view.**

2. Click **New Record** *(Insert menu) Go To   New Record (Edit menu) Moves to the end of the form or datasheet so you   can enter a new record.)*   on the toolbar.

3. Type the data you want, and then press TAB to go   to the next field.

4. At the end of the record, press TAB to go to the   next record.

Save a record in Datasheet or Form view

Microsoft Access automatically saves the record you are   adding or editing as soon as you move the insertion point to a different   record, or close the form or datasheet you are working on.

-   To explicitly save the data in a record while you are editing it,   click **Save Record** on the **Records**
menu.

Delete a record in Datasheet or Form view

1. Open a **Datashee** t ,   or form in **Form   view.**

2. Click the record you want to delete.

3. Click **Delete Record**   (Edit menu) - *Deletes   the selected record or records from the form or datasheet. To select a   record, click the record selector .)*
on the toolbar.

Note   When you delete data, you might want to   delete related data in other tables. For example, if you delete a   supplier, you probably want to delete the products that the supplier supplies. In some cases, you can make sure the proper data is deleted by   enforcing   **refe rential   integrity**
a
nd turning on cascade deletions.

    Sub HelpPopup(sFile,sID) L_SecurityT1_ErrorMessage="Help can't show you this procedure because the security setting in your browser is set too high" L_SecurityT2_ErrorMessage="or the ActiveX control Ouactrl.ocx didn't install correctly." L_SecurityE1_ErrorMessage="- Select a lower security setting in your browser"

L_SecurityE2_ErrorMessage="- If you receive this message after selecting a lower security setting, please see your system" L_SecurityE3_ErrorMessage=" administrator for help troubleshooting the installation of the ActiveX control Ouactrl.ocx" L_SecurityE4_ErrorMessage=" located in the folder you installed Microsoft Office to." sSecurityMSG=L_SecurityT1_ErrorMessage & chr(13) & L_SecurityT2_ErrorMessage & chr(13) & chr(13) & L_SecurityE1_ErrorMessage & chr(13) & L_SecurityE2_ErrorMessage & chr(13) & L_SecurityE3_ErrorMessage & chr(13) & L_SecurityE4_ErrorMessage L_App_DialogTitle="Microsoft Office Help" On Error Resume Next r=oua.HelpPopup(sFile,sID) If Err0 Then Msgbox sSecurityMSG,48,L_App_DialogTitle End Sub   Sub HelpPopup (sFile, sID) Call InitConstants()   On Error Resume Next r=oua.HelpPopup(sFile,sID) If Err0 Then Msgbox L_SECURITY_MSG,48,L_TITLE End Sub   Sub HelpPopup(sFile,sID) L_SecurityT1_ErrorMessage="Help can't show you this procedure because the security setting in your browser is set too high" L_SecurityT2_ErrorMessage="or the ActiveX control Ouactrl.ocx didn't install correctly." L_SecurityE1_ErrorMessage="- Select a lower security setting in your browser" L_SecurityE2_ErrorMessage="- If you receive this message after selecting a lower security setting, please see your system" L_SecurityE3_ErrorMessage=" administrator for help troubleshooting the installation of the ActiveX control Ouactrl.ocx" L_SecurityE4_ErrorMessage=" located in the folder you installed Microsoft Office to." sSecurityMSG=L_SecurityT1_ErrorMessage & chr(13) & L_SecurityT2_ErrorMessage & chr(13) & chr(13) & L_SecurityE1_ErrorMessage & chr(13) & L_SecurityE2_ErrorMessage & chr(13) & L_SecurityE3_ErrorMessage & chr(13) & L_SecurityE4_ErrorMessage L_App_DialogTitle="Microsoft Office Help" On Error Resume Next r=oua.HelpPopup(sFile,sID) If Err0 Then Msgbox sSecurityMSG,48,L_App_DialogTitle End Sub   Sub HelpPopup(sFile,sID) L_SecurityT1_ErrorMessage="Help can't show you this procedure because the security setting in your browser is set too high" L_SecurityT2_ErrorMessage="or the ActiveX control Ouactrl.ocx didn't install correctly." L_SecurityE1_ErrorMessage="- Select a lower security setting in your browser" L_SecurityE2_ErrorMessage="- If you receive this message after selecting a lower security setting, please see your system" L_SecurityE3_ErrorMessage=" administrator for help troubleshooting the installation of the ActiveX control Ouactrl.ocx" L_SecurityE4_ErrorMessage=" located in the folder you installed Microsoft Office to." sSecurityMSG=L_SecurityT1_ErrorMessage & chr(13) & L_SecurityT2_ErrorMessage & chr(13) & chr(13) & L_SecurityE1_ErrorMessage & chr(13) & L_SecurityE2_ErrorMessage & chr(13) & L_SecurityE3_ErrorMessage & chr(13) & L_SecurityE4_ErrorMessage L_App_DialogTitle="Microsoft Office Help" On Error Resume Next r=oua.HelpPopup(sFile,sID) If Err0 Then Msgbox sSecurityMSG,48,L_App_DialogTitle End Sub

Why   should I use cascading updates or cascading deletes?

For relationships in which referential   integrity is enforced, you can specify whether you want Microsoft   Access to automatically   **cascading update** (*For relationships   that enforce referential integrity between tables, the updating of all   related records in the related table or tables when a record in the primary table is changed.)* and **cascading delete (***For   relationships that enforce referential integrity between tables, the*

deletion of all related records in the related table or tables when a record in the primary table is deleted.) related records.

If you set these options, delete and update operations that would normally be prevented by referential integrity rules are allowed. When you delete records or change <u>primary key</u> value s in a

primary table (
The "one" side of two related tables in a one-to-many relationship. A primary table should have a primary key and each record should be unique. An example of a primary table is a table of customer names that is uniquely identified by a CustomerID primary key field or column.)

Microsoft Access makes necessary changes to related tables to preserve referential integrity.

If you select the **Cascade Update Related Fields** check box when defining a relationship, any time you change the primary key of a record in the primary table, Microsoft Access automatically updates the primary key to the new value in all related records. For example, if you change a customer's ID in the Customers table, the CustomerID field in the Orders table is automatically updated for every one of that customer's orders so that the relationship isn't broken. Microsoft Access cascades updates without displaying any message.

Note If the primary key in the primary table is an AutoNumber field, setting the **Cascade Update Related Fields**
check box will have no effect, because you can't change the value in an AutoNumber field.

If you select the **Cascade Delete Related Records** check box when defining a relationship, any time you delete records in the primary table, Microsoft Access automatically deletes related records in the related table. For example, If you delete a customer record from the Customers table, all the customer's orders are automatically deleted from the Orders table (this includes records in the Order Details table related to the Orders records). When you delete records from a form or datasheet with the
Cascade Delete Related Records
check box selected, Microsoft Access warns you that related records may also be deleted. However, when you delete records using a
delete query (
A query (SQL statement) that removes rows matching the criteria you specify from one or more tables.)
Microsoft Access automatically deletes the records in related tables without displaying a
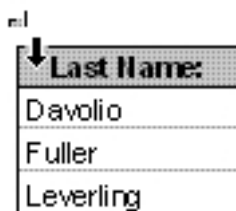
warning.

Selecting fields and records in Datasheet view

The following table lists mouse techniques for selecting   data or records in **Datasheet   view.**

         To select Click
Data in a field Where you want to start selecting and drag   across the data.
An entire field The left edge of the field in a datasheet,   where the pointer changes into (plus pointer The
Adjacent fields The left edge of a field and drag to extend   the selection.
A column The field selector

 A small box or   bar that you click to select an entire column in a datasheet.

```
Last Name:
Davolio
Fuller
Leverling
```

Adjacent columns The field name at the top of the column and   then, without releasing the mouse, drag to exte
A record The   **record**

record selector

A small box or bar to the left of a record that you can click to select the entire record in Datasheet view and Form view.

To show the status of the current record in a form or datasheet, Microsoft Access displays one of the following symbols in the current record selector.

Symbol	Meaning
▶	Current record: This is the current record; the record has been saved as it appears.
✎	Pencil: You are editing this record; changes to the record aren't yet saved.
⊘	Locked record: This record is locked by another user; you can't edit it (Microsoft Access database only).
＊	New record: This is a new record that you can enter information in.
🔑	Primary key: This field is the primary key field and contains unique data to identify the record (table Design view only).

Note   To see record selectors in Form view, set the **RecordSelectors** property for the form to **Yes**.

Multiple records The record selector of the first record,   and then drag to extend the selection.
All records Select All Records on Edit   menu.

The following table lists keyboard techniques for selecting data or records in Datasheet view.

To select	Do this
Data in a field	Move the insertion point to the start of the text you want to select, and then hold down SHIF
An entire field	Move the insertion point to the field, and press F2.
Adjacent fields	With a field selected, hold down SHIFT and press the appropriate arrow key.
The current column	Press CTRL+SPACEBAR.
The current record	Press SHIFT+SPACEBAR.
Multiple records	Press SHIFT+SPACEBAR, and then SHIFT+UP ARROW or SHIFT+DOWN ARROW.