

In Excel, a database or data list is a table of worksheet data that utilizes a special structure. A data list uses only column headings (also called *field names*) to identify the different kinds of information in the list. Each row in the data list contains complete information about each entity that you track in the data list (also called a *record*).

Design a Data List

- ◆ Type the names of the fields in the first row of the worksheet. This is also called the Header Row.
 - Each name must be unique. For older word processors, each field name must be a single word for mail merge.
 - No empty rows allowed in a data list.
- ◆ Enter the first record below the field names. Format the cells appropriately.
- ◆ After completing the field names, you may decide to add additional fields at a later time. You can do that by inserting columns. Click on the column heading to the right of where you want to put a new column. Click on **Insert** in the Menu Bar. Click on **Column**.
- ◆ You may remove fields you no longer want by removing columns. Click on the column heading to be removed. Click on **Edit** in the Menu Bar. Click on **Delete**.

Entering Data

Field Names in row 1 -- also called the Header Row.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<u>F</u> irstname	<u>L</u> astname	<u>S</u> treet	<u>C</u> ity	<u>S</u> tate	<u>Z</u> ip	<u>P</u> hone	<u>E</u> mail	<u>B</u> irthday	<u>S</u> tartdate	<u>Y</u> ears			
2	Andy	Black	345 Oak	Topeka	KS	66602	234-5678	ablack@xy	Feb 1	3/6/2002	7			
3														

Records start in row 2

Calculated field formula is: `=YEAR(TODAY())-YEAR(J2)`

Birthday field looks like a date field but it has no year. Type a single quote ' before to make it a text field. Example: **'Feb 1**

The Data Form dialog box contains the following fields and values:

- Firstname: Andy
- Lastname: Black
- Street: 345 Oak
- City: Topeka
- State: KS
- Zip: 66602-1234
- Phone: 234-5678
- Email: ablack@xyz.c
- Birthday: Feb 1
- Startdate: 3/6/2002
- Years: 1

Use a **Data Form** to fill in the rest of the data or just type in the spreadsheet cells. Format the items in the first record (row 2) before opening the Data Form. Click on cell A2. Click on **Data** in the Menu Bar. Click on **Form**.

Use the **Tab** key to move from one box to the next. Press **Shift+Tab** to move backwards or click in the box. Pres **Ctrl + "** (double quotes) to enter the same data as the previous record.

New for a new blank form to add more records or press **Enter**.
Criteria to find a record already entered in the data list. See next page.
Delete to delete an existing record
Close to finish entering in the data list.

Calculated fields appear in the data form but cannot be filled in or edited.

Finding

Data Form

You can locate existing records using the **Data Form**. Click on **Criteria**. Fill in the information you want. Click on **Find Next** or press **Enter**. If there is more than one record that has the criteria you seek, click on **Find Next** to view all appropriate records.

You can use wildcards to make searching easier.

? To replace a single letter. Example: **sm?th** will return Smith or Smyth.

* To replace many letters. Example: **B*** will return both Black and Brown

Other comparisons:

- = Equal to
- > Greater than
- >= Greater than or equal to
- < Less than
- <= Less than or equal to
- <> Not equal to

Used for:

- same text, value, or date
- after a certain text letter or date; a number larger than
- the same or greater than
- before a certain text letter or date; a number smaller than
- the same or less
- not the same text, value, or date

Try these:

In Lastname, type **B*** to find everyone with a last name beginning with B

In City, type **Wakarusa** to find everyone who lives in Wakarusa

In Birthday, type **Oct*** to find everyone with an October birthday

In Startdate, type **>1/1/2000** to find people who joined the club after Jan. 1, 2000.

In Years, type **>= 5** to find who has been in the club 5 years or more

Auto Filter is another way to locate information in a data list. Click on **Data**. Click on **Filter**. Click on **Auto Filter**.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Firstname	Lastname	Street	City	State	Zip	Phone	Email	Birthday	Startdate	Years		
2	Andy	Black	345 Oak	Topoka	KS	66602-1234	123-5678	ablack@x	Feb 1	3/6/2002	1		
3	Chris	Jones	456 Maple	Berryton	KS	66409-1234	123-6789	clones@x	Mar 15	9/15/1999	4		

Click on the down arrow by a field name to see all the choices within the category.

Sorting

To Sort the Data List, click on any cell in the data list. Click on **Data**. Click on **Sort**. Choose the **Sort by** fields. Click **OK**.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Firstname	Lastname	Street	City	State	Zip	Phone	Email	Birthdate	Startdate	Years			
2	Andy	Black	345 Oak	Topeka	KS	66602	123-5678	dblack@xy	Feb 1	3/6/2002	7			
3	Chris	Jones	456 Maple	Berryton	KS	66409	123-6789	cjones@xy	Mar 15	9/15/1999	10			
4	Clem	Carson	101 Hazel	Wakarusa	KS	66546	123-2345	cclub@xyz	Sep 26	5/1/1993	16			
5	Jean	Black	345 Oak	Topeka	KS	66602	000-5678	jblack@xyz	Aug 30	4/4/1988	21			
6	Kim	Lee	207 Plum	Lawrence	KS	66044	123-3456	klee@xyz.c	Oct 17	3/1/2000	9			
7	Lou	Wilson	789 Spruce	Topeka	KS	66606	123-9012	lwilson@xy	Jun 6	4/1/1978	31			
8	Pat	Taylor	678 Pear	Topeka	KS	66605	000-8901	ptaylor@xy	May 17	11/1/1995	14			
9	Ray	Gonzales	407 Peach	Berryton	KS	66409	000-7890	rgonzales@	Dec 30	7/1/2002	7			
10	Sam	Spade	890 Walnut	Topeka	KS	66607	000-0123	sspade@x	Jul 4	2/1/2003	6			
11	Taylor	Brown	123 Elm	Wakarusa	KS	66546	123-4567	tbrown@xy	Oct 4	6/7/1983	26			
12	Terry	Anderson	321 Pine	Topeka	KS	66611	000-6789	tanderson@	Nov 11	2/1/1996	13			
13	Tod	Smith	567 Cedar	Topeka	KS	66604	123-7890	tsmith@xy	Apr 1	10/7/1998	11			
14														
15														

	A	B	C
1	Firstname	Lastname	Street
2	Terry	Anderson	321 Pine
3	Andy	Black	345 Oak
4	Jean	Black	345 Oak
5	Taylor	Brown	123 Elm
6	Clem	Carson	101 Hazel
7	Ray	Gonzales	407 Peach
8	Chris	Jones	456 Maple
9	Kim	Lee	207 Plum
10	Tod	Smith	567 Cedar
11	Sam	Spade	890 Walnut
12	Pat	Taylor	678 Pear
13	Lou	Wilson	789 Spruce

Ascending means A to Z or smallest to largest
Descending means Z to A or largest to smallest

Use the 2nd **Then by** box to sort within a group. In this case, there are two people with the last name Black. We want the list to be in order by first name, too.

A 3rd **Then by** box is available.

Make sure the **Header Row** option is selected.

Options include sorting by months, days of the week, or sorting left to right.

<u>Count Functions</u>	<u>Uses</u>	<u>Examples</u>	<u>Answers</u>
COUNT	Number of cells with numbers in a range	=COUNT(J2:J50)	12
COUNTA	Number of non-blank cells in a range	=COUNTA(A2:A50)	12
COUNTBLANK	Number of blank cells in a range	=COUNTBLANK(A2:A50)	37
COUNTIF	Number of cells that meet a criteria .	=COUNTIF(B2:B13,"Black")	2

Example: Use **COUNTIF** to count zip codes in a mailing list.

	A	B	
1	66044	1	=COUNTIF(Mail!\$F\$2:\$F\$300,"66044")
2	66409	2	=COUNTIF(Mail!\$F\$2:\$F\$300,"66409")
3	66546	2	=COUNTIF(Mail!\$F\$2:\$F\$300,"66546")
4	66602	2	=COUNTIF(Mail!\$F\$2:\$F\$300,"66602")
5	66604	1	=COUNTIF(Mail!\$F\$2:\$F\$300,"66604")
6	66605	1	=COUNTIF(Mail!\$F\$2:\$F\$300,"66605")
7	66606	1	=COUNTIF(Mail!\$F\$2:\$F\$300,"66606")
8	66607	1	=COUNTIF(Mail!\$F\$2:\$F\$300,"66607")
9	66611	1	=COUNTIF(Mail!\$F\$2:\$F\$300,"66611")
10	Total	12	=sum(b2:b9)

The \$ is used to indicate an "absolute" cell value.

When the formula is copied, if we do not indicate absolute cell references, the formula will adjust one row down for each zip code. **\$F\$2** will never change when copied.

Data list used in class

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	<u>Firstname</u>	<u>Lastname</u>	<u>Street</u>	<u>City</u>	<u>State</u>	<u>Zip</u>	<u>Phone</u>	<u>Email</u>	<u>Birthday</u>	<u>Startdate</u>	<u>Years</u>			
1	Andy	Black	345 Oak	Topeka	KS	66602	123-5678	dblack@xy	Feb 1	3/6/2002	7			
2	Chris	Jones	456 Maple	Berryton	KS	66409	123-6789	cjones@xy	Mar 15	9/15/1999	10			
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