Analysis: Basics

S U M M A R Y

This lesson is an introduction to the Analysis module of Epi Info™. This lesson shows different ways information can be viewed, based on selection inside Analysis.

In Lesson 3, you entered student data in a survey to collect information on asthma symptoms. In Lesson 4, you will use the Analysis module to READ in that data and view it. Once records are in Analysis, you can use several commands to SELECT, SORT, or LIST data that can be included in the asthma report you want to create to apply for funding. Lesson 4 covers these basic skills and shows you how to READ in data and Change Projects, which are important skills you will use every time you open the Analysis module.

Length of time to complete: 1 hour Beginner

Getting Started with Analysis

Overview of basic information to navigate Analysis. Includes information about the Current Project and Data Source settings. Use the READ Command to view the Asthma Survey 2005 Project.

Use the List Command

Use the LIST Command to view the variables in your dataset.

Use the Sort Command

Use the SORT Command to organize your data.

Use the Select Command

Use the SELECT Command to organize your data. Includes a practice lesson.

Skills Review

Series of five review questions based on the reading and hands-on activities in this lesson.

B E F O R E   Y O U   B E G I N

Complete Lesson 3 Enter Data

Asthma Survey 2005.MDB- If you have not completed Lesson 3, you can use the Asthma Survey 2005.MDB project to complete this lesson as an introduction to Analysis; however, you will have ten records rather than twelve.

Appendix D: Skills Reviews Answer Key

F I V E   G O A L S

- Understand and be able to use the READ/IMPORT command. This command is used every time you open Analysis.

- Use the LIST command to create a grid or web table and view the variables in your data table.

- Use the SORT command to view variables in a specified order.

- Use the SELECT command to view requested variables.

- Be able to cancel a SELECT or a SORT and return to the original data count.

Getting Started with Analysis

The Analysis module can be accessed by clicking **Analyze Data** from the Epi Info™ main page. You can also select **Programs>Analyze Data**. Analysis can read data files created in Make View and other types of databases such as DBase, FoxPro, MS Excel, and others. Analysis can produce graphs and interact with Epi Map to display geographic data. Once you have collected your data, Analysis acts as a statistical toolbox providing you with many ways to transform you data and perform statistical evaluations. Analysis also provides you with ways to export your data to new file formats such as MS Excel.

The Analysis module contains three working areas: the Analysis Command Tree, the Analysis Output window, and the Program Editor.

1. The Analysis Command Tree contains a list of available commands separated into folders by command type. The Command Tree is used to create the functions and programs that run your statistics from the data. Selecting a command opens the corresponding dialog box for that command, function, or statistic to run.

2. The Output window acts as a browser and displays all the information that is generated from the commands run in the Program Editor. The Output window buttons allow you to navigate through the program scripts that have been run and displayed in the output screen.

3. The Program Editor displays the dialog/code of the commands created using the Command Tree. Commands can be directly typed into the Program Editor. Programs or .PGM files written in Analysis are stored in the open .MDB. Programs can be saved and run against new data when the data becomes available.

The Analysis Workspace

1. Click **Analyze Data** or select **Programs>Analyze Data** to open the Analysis module.

This is an example of the Analyze Data workspace. The top of the page shows that you are in the Analysis module. The Analysis module consists of three windows: the Command Tree, the Output window, and the Program Editor.
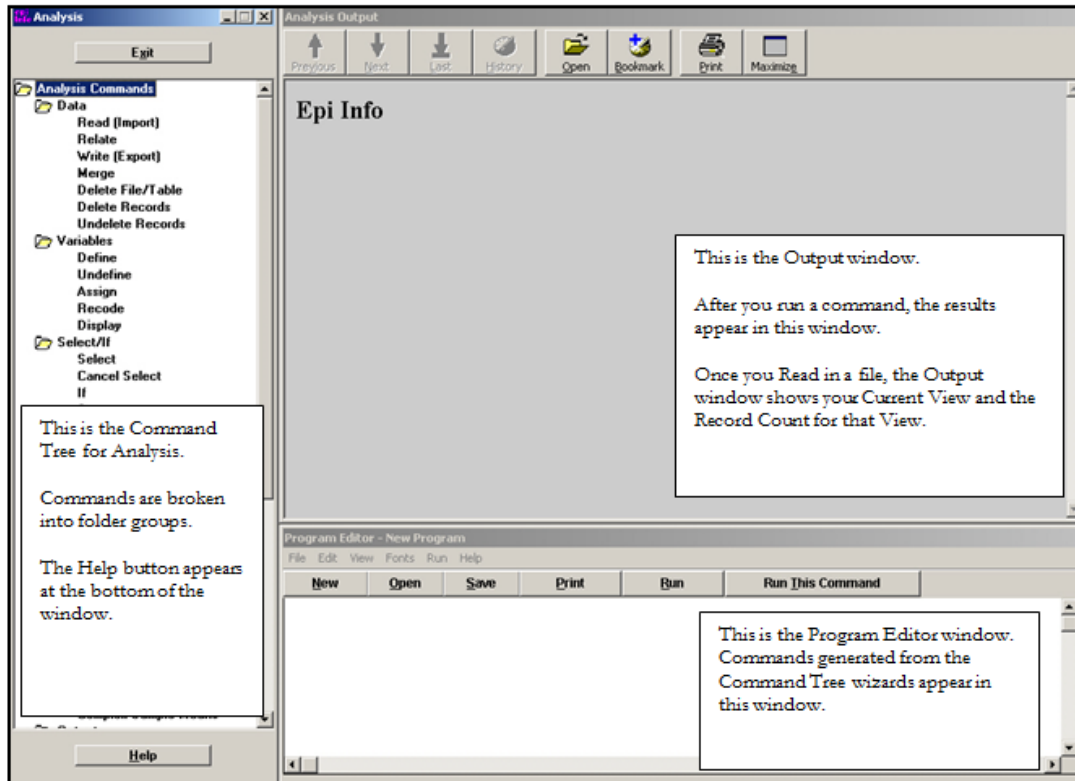

Reading in a Project

Read this section and then Read/Import your survey data by completing the steps listed in the next section.

In order to analyze data, you must Read or Import a project into the Analysis module. The Read command allows you to select a project and data table on which to run your statistics. The Read/Import command will be used every time you open the Analysis module in order to begin work.

From the READ dialog box, you will select a project containing data for analyses. The **Current Project** is the database file (.MDB) which is the default source of data. Output files created

from this data will be stored in this destination folder, unless otherwise specified. In our project, the destination for Output files is the EIHA Tutorial folder.
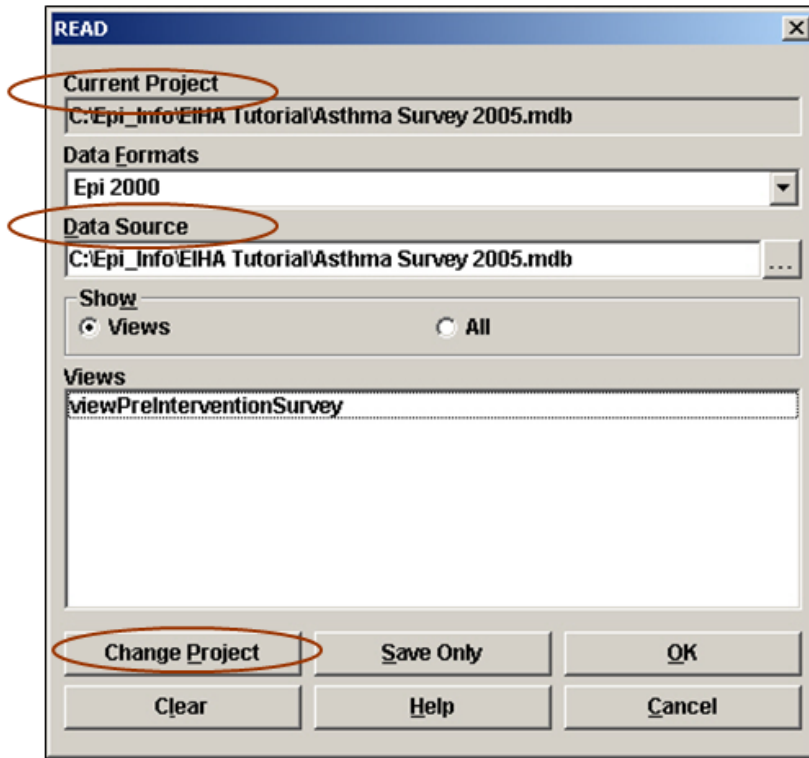

It is recommended that the **Current Project** and the **Data Source** match. Having the same Project and Data Source allows you to keep all your data and tables together. If they do not match, click **Change Project**. The project you select will appear as the Current Project and Data Source.

If you Read in a file where the Project and Source do not match, you will be asked to create a linked table. Data sources other than the current project are accessed through link tables located in the current project. Linked files are references to the data tables, and not the actual data, so if you move your files to a new location, the links will be broken.

From the **Data Formats** drop-down you will specify the data format for the data to be read or written, for example MS Excel. From the **Show** section, you can select project **Views** or **All** tables, views, and links for a project. When you click **OK**, the READ command will be saved in the Program Editor and it will run the command at the same time. **Save Only** allows you to save the command to the Program Editor only and does not run the READ command.

Read/Import an Epi Info™ Project

1. From the Analysis Command Tree, click **Read (Import)**. The READ dialog box opens.

2. Click **Change Project**. The READ File Name box opens.

3. Use the Look In drop-down menu to locate your C drive.

4. Open the Epi_Info folder.

5. Open the EIHA Tutorial folder.

6. Select the project Asthma Survey 2005. This is the project you added records to from the Enter module in Lesson 3.

7. Click **Open**. The Current Project field and the Data Source field inside the READ dialog box will populate.

8. Select the view PreInterventionSurvey from the Show section.

9. Click **OK**. The Output window opens.
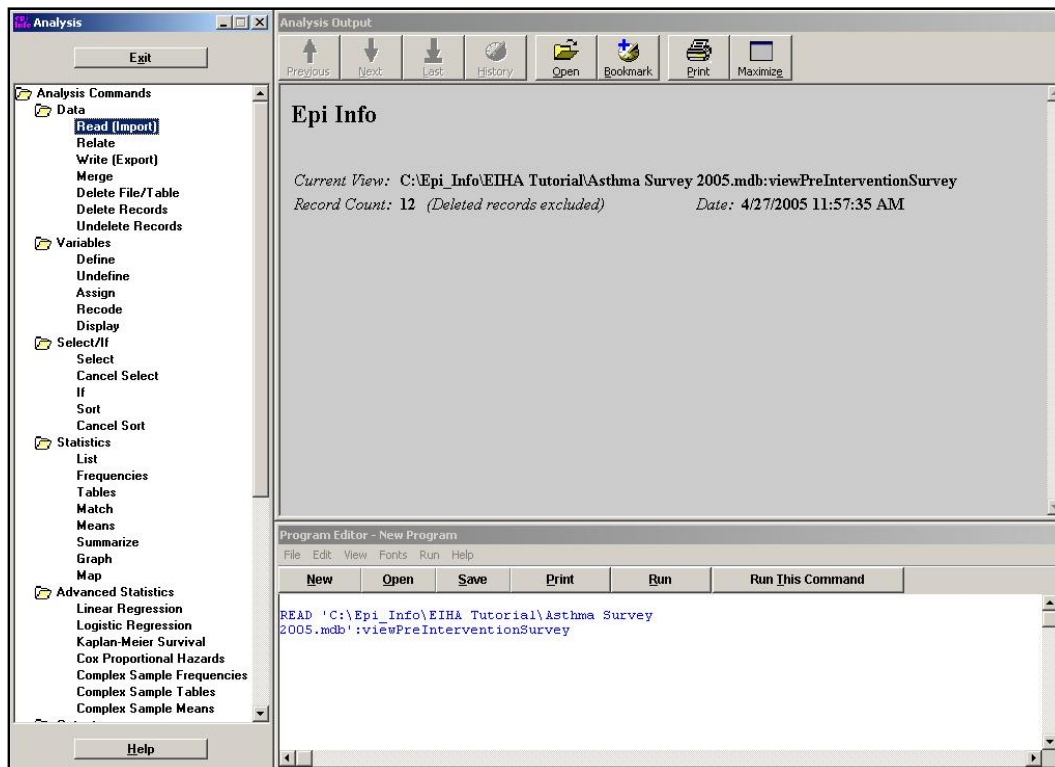
- The Output window shows your Current View from inside the EIHA Tutorial folder.

- You should have a Record Count of 12.

- Notice the READ command you executed appears in the Program Editor.

Navigating Analysis

Read the following sections and familiarize yourself with the Analysis workspace. Click **Cancel** or the close X to exit any dialog or command boxes you open.

Output Window

The Analysis Output window acts as a browser to display all the output information that is generated from the commands created and run in the Program Editor. The Output window buttons allow you to navigate through program scripts that have been run and displayed including Previous, Next, Last, History, Open, Bookmark, Print, and Maximize.

Program Editor Menu

File

Use the File Menu to create New files, Open, Save, Close, Print, and Exit.

Edit

Use the Edit Menu to Copy, Paste, Delete, Find, Replace, or go to the Program Beginning, and Program End.

View

Use the View Menu to place the Status Bar and/or the Tool Bar.

Fonts

Use the Fonts Menu to select Fonts, Style, and Color.

Run

Use the Run Menu to Run a Program or Run This Command to run one line of code.

Commands in this Lesson

The Command Tree contains a set of commands located in a series of nine folders.

READ/IMPORT

READ is the most commonly used command. The Read (Import) command changes the current data source and/or the current project. It removes any standard defined variables. The READ command operates on many different types of data. Epi Info™ can Read in 24 different types of files. Located in the Data folder.

SELECT

The Select command specifies a condition that must be true for a record to be processed. Use to select a set of records for analyses. For example, select records based on gender or zip code. Located in the Select/If folder.

CANCEL SELECT

The Cancel Select command cancels a previous SELECT command. Located in the Select/If folder.

SORT

The Sort command specifies the sequence in which records will appear when using the LIST, GRAPH, or WRITE commands. SORT organizes the listed data in an ascending or descending order, based on selected variables. For example, you can sort by last name or age. Located in the Select/If folder.

CANCEL SORT

The Cancel Sort command cancels a previous SORT command. Located in the Select/If folder.

LIST

The List command creates a listing of the current data table. Lists can be customized to list all, exclude, or show specific records. Located in the Statistics folder.

Use the LIST Command

The LIST command creates a line listing of the current dataset. Select specific variables from the Variables drop-down to narrow the list or select * (the Wild Card) to display all the variables. Check the **All (*) Except** box and select from the Variables drop-down to exclude variables from the list.

1. From the Command Tree Statistics folder, click **List**. The LIST dialog box opens.
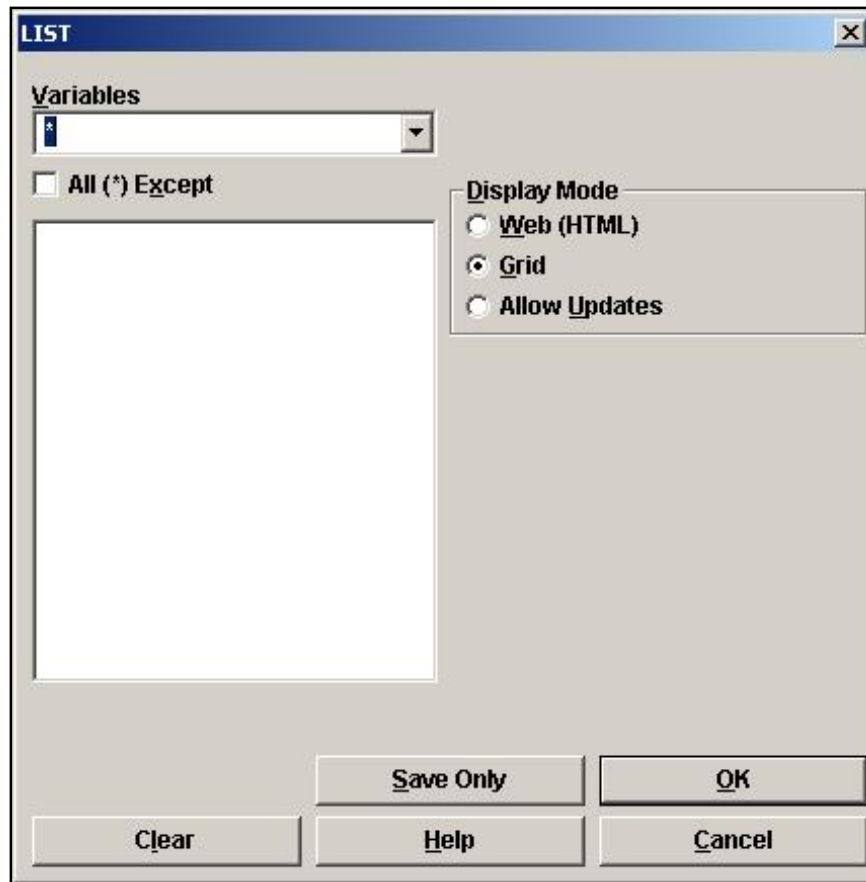
2. Click **OK** to accept the default settings. The variables in your dataset appear in a grid table inside your Output Window.

- Notice the LIST command in the Program Editor.

- Grid output is not embedded, so an Output file is not created.
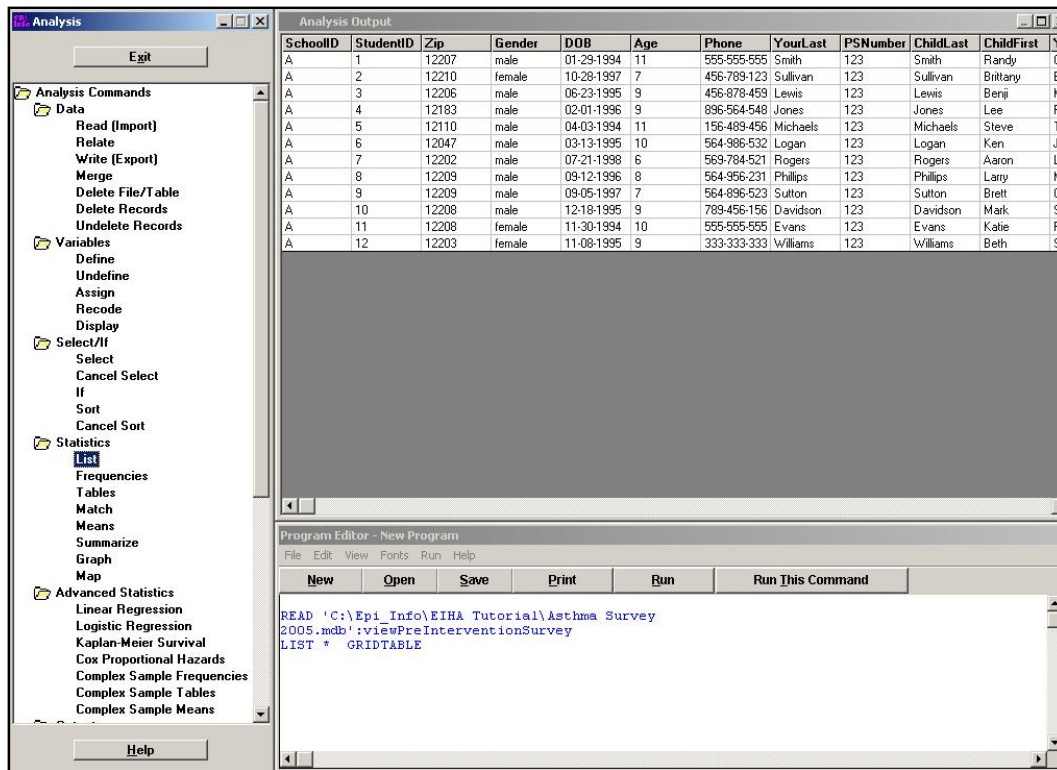
Create a Web Format List

1. Click **List**. The LIST dialog box opens.

2. From the Display Mode section of the LIST box, select the radio button Web (HTML).

3. Click **OK**. The List appears in the Output window in a web table format.

   ▪ Web display mode creates an embedded Output file.

   ▪ Notice the title bar now contains the name of your default output file.
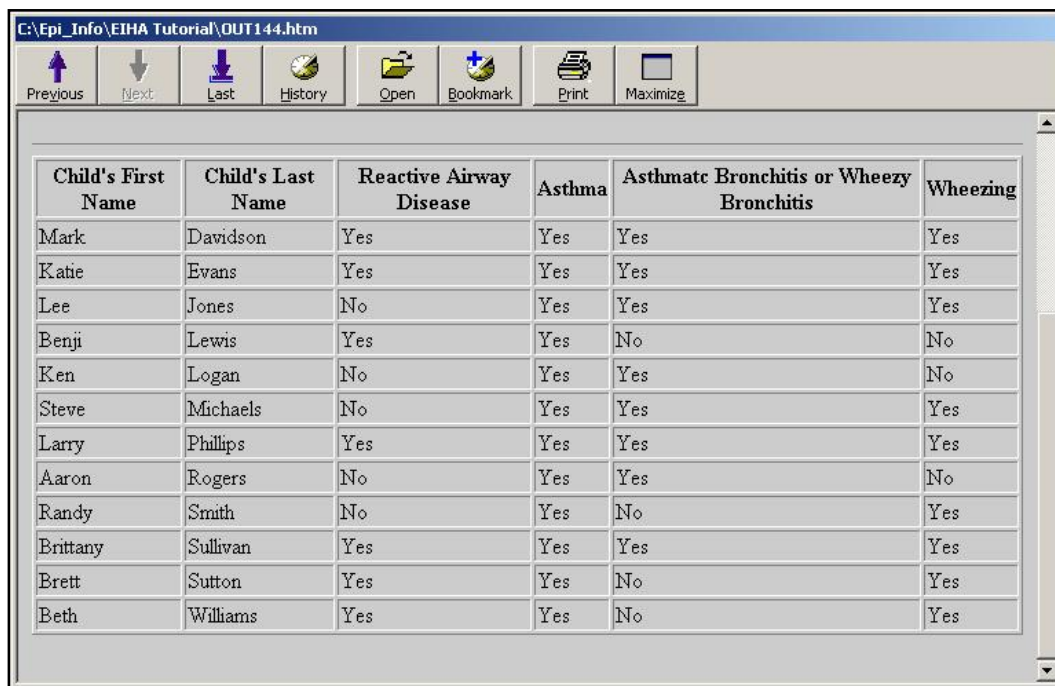
Use the Sort Command

The SORT command allows you to specify the sequence in which records will appear. If more than one variable is selected, records are sorted in order by the first variable. After you sort records, you must use the LIST command to see the results.

1. From the Command Tree Select/If folder, click **Sort**. The SORT dialog box opens.

2. Double click the variable DOB to place it in the Sort Variables field.

   ▪ Variables can be sorted by ascending or descending order.

3. Click **OK**.

   ▪ The Record Count stays at 12.

4. Use the **LIST** command to view all the variables. You can view the list in the format you prefer, Grid or HTML.

   ▪ Notice how the list is sorted based on the DOB variable.

5. Click **Cancel Sort**. The CANCEL SORT dialog opens.

6. Click **OK**.

   ▪ Records remain sorted until you close Analysis, Read in a new project, or Cancel Sort.

   ▪ Notice the Sort information is listed in your Output window.

```
Current View:  C:\Epi_Info\EIHA Tutorial\Asthma Survey 2005.mdb:viewPreInterventionSurvey
Sort:          DOB
Record Count: 12  (Deleted records excluded)              Date: 9/14/2005 1:03:48 PM
```

Create a List of Sorted Variables

1. Click **Sort**. The SORT dialog box opens.

2. Double click the variable ChildLast to place it in the Sort Variables field.

3. Click **OK**.

4. Click **List**. The LIST dialog box opens.

5. Select Web (HTML) from the Display Mode.

6. From the Variables drop-down select

   - ChildFirst

   - ChildLast

   - Asthmatic Conditions

7. Click **OK**. The selected variables appear in a web table format.

   - Notice the list is sorted alphabetically by the Child's Last Name variable.

C:\Epi_Info\EIHA Tutorial\OUT144.htm

| Previous | Next | Last | History | Open | Bookmark | Print | Maximize |

Child's First Name	Child's Last Name	Reactive Airway Disease	Asthma	Asthmatc Bronchitis or Wheezy Bronchitis	Wheezing
Mark	Davidson	Yes	Yes	Yes	Yes
Katie	Evans	Yes	Yes	Yes	Yes
Lee	Jones	No	Yes	Yes	Yes
Benji	Lewis	Yes	Yes	No	No
Ken	Logan	No	Yes	Yes	No
Steve	Michaels	No	Yes	Yes	Yes
Larry	Phillips	Yes	Yes	Yes	Yes
Aaron	Rogers	No	Yes	Yes	No
Randy	Smith	No	Yes	No	Yes
Brittany	Sullivan	Yes	Yes	Yes	Yes
Brett	Sutton	Yes	Yes	No	Yes
Beth	Williams	Yes	Yes	No	Yes

8. Click **Cancel Sort**. The CANCEL SORT dialog box opens.

9. Click **OK**. The original dataset order is applied.

Use the Select Command

You can use the SELECT command to specify criteria for data to be included in Analysis functions. Think about the various ways you could divide your data into groups using this command. From the current data, you could select based on Age, Gender, Zip Code, or any combination of variables, in addition to illness information.

Once you make a selection, it affects all the analyses that follows. You must use the Cancel Select command to remove the selection. Selections accumulate until you Cancel Select, close Analysis, or Read in a new project. Use the LIST Command to see the selected records.
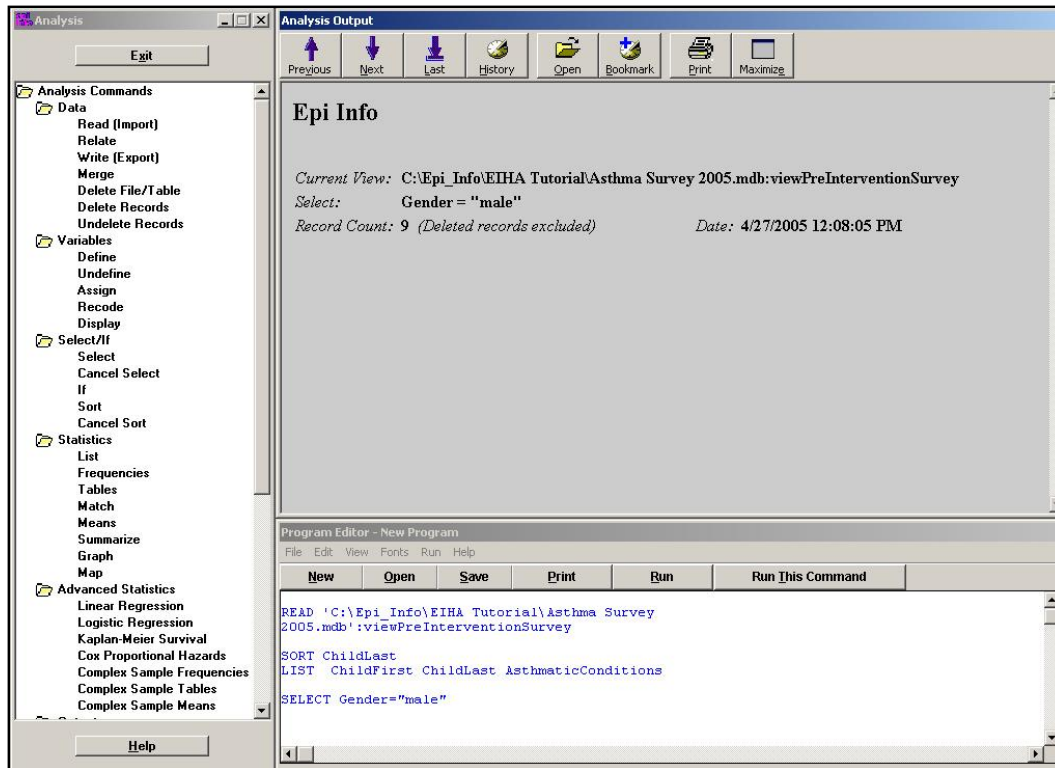
From the survey, select only the male students' data.

1. From the Command Tree Select/If folder, click **Select**. The SELECT dialog box opens.

2. From the Available Variables drop-down, select Gender. Gender appears in the Select Criteria field.

3. Click the **=** operator.

4. Click or type quote **"**.

5. Type the word *Male*.

    ▪   The word Male must be enclosed in quotes because it is a text field. Text variables must appear in quotes.

6. Click or type quote **"** to close the expression.
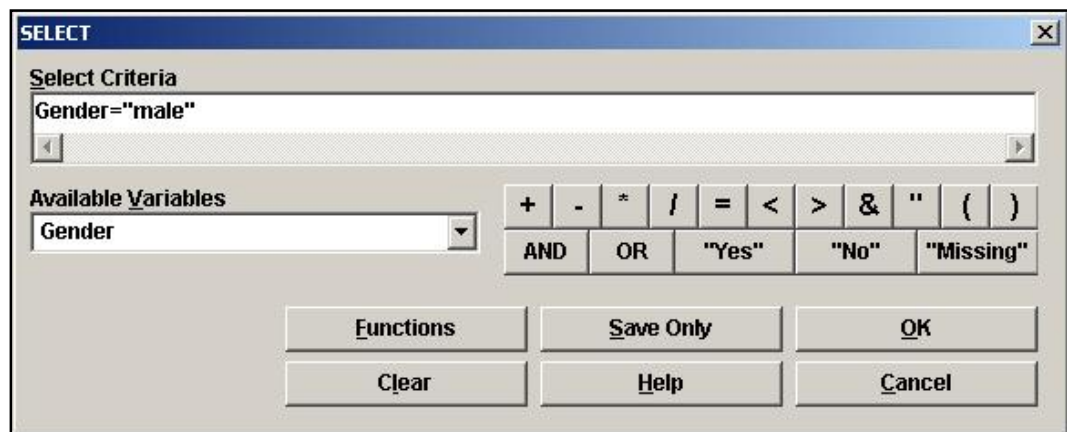
7. Click **OK**. The Output window updates with your new selection criteria.

    ▪   The Current View stays the same

    ▪   The Select criteria appears as Gender="Male"

- The Record Count changes to 9.

- The Program Editor contains the Select command information.

List the Selected Records

1. Click **List**. The LIST Dialog box opens.

2. Select Web (HTML) as the Display Mode.

3. Click **OK** to view all the variables.

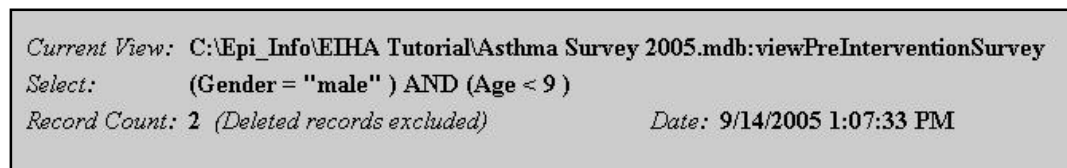- Notice that all the records in the list are for male students.

Select Based on Age

Remember the Select command has a cumulative affect on your data. Now select all the Male students who are younger than the age of 9. You have already selected the male students.

1. Click **Select**. The SELECT dialog box opens.

2. From the Available Variables drop-down, select Age.

3. Click or type **<**.

4. Type the number 9.

   - The Select Criteria field should read Age<9.
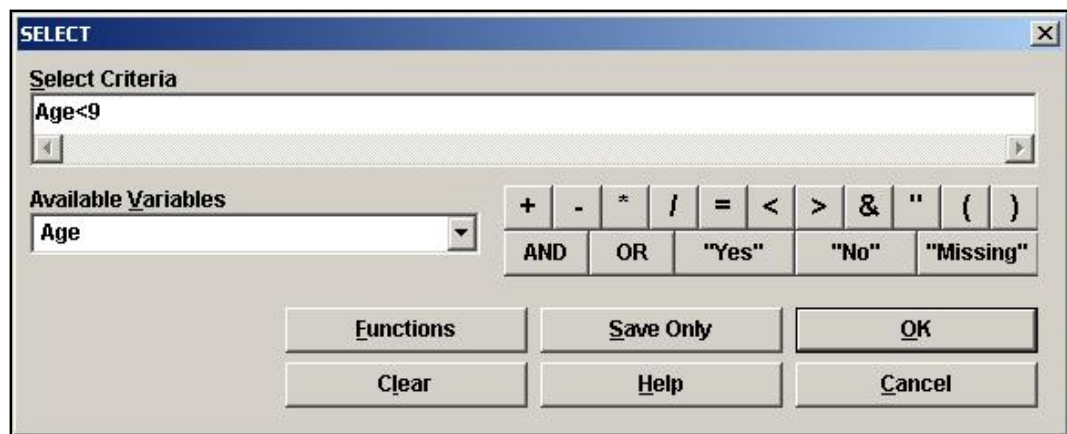
5. Click **OK**. The Output window updates.

   - Notice the Record Count is now 2.

   - Notice that your Select criteria reads (Gender = "male") AND (Age < 9). This expression could have been entered into the Select Criteria field at one time.

   - The expression SELECT Gender = "male" AND Age < 9 could have been typed and Run directly from the Program Editor.

Current View: C:\Epi_Info\EIHA Tutorial\Asthma Survey 2005.mdb:viewPreInterventionSurvey
Select: (Gender = "male") AND (Age < 9)
Record Count: 2 *(Deleted records excluded)* *Date:* 9/14/2005 1:07:33 PM

6. **List** the records in a Web format.

7. Click **Cancel Select**.

   - Notice the Record Count returns to the original 12.

✎ Practice

Select the students who answered Yes to Bronchitis. (Hint: Bronchitis="+") You should get a Record Count of 8.

Sort those 8 students by Age.

List the students in a web format.

Do not forget to **Cancel Sort** and **Cancel Select** to return to the original 12 records.

📖 Skills Review

Place a checkmark next to the correct answer for each of the following questions. Refer to *Appendix D Skills Reviews Answer Key* for further details.

1. After you run a command, the **code** appears in which window?

☐ Output window

☐ Program Editor window

☐ Command Tree

2. What command allows you to open a project for analysis?

☐ LIST

☐ READ

☐ SELECT

3. What command would you use to see variables and records in the current data table?

☐ LIST

☐ SORT

☐ READ

4. What command would you use to specify a sequence for records to appear?

☐ SORT

☐ LIST

☐ SELECT

5. What are the two Display Modes you can use with the LIST command?

☐ Web (HTML)

☐ Grid

☐ MS Word

Lesson Complete!

How to

- Read/Import an Epi Info™ project.

- Use the LIST Command.

- Use the SORT Command.

- Use the SELECT Command.

- Cancel and Sort or Select of records.

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