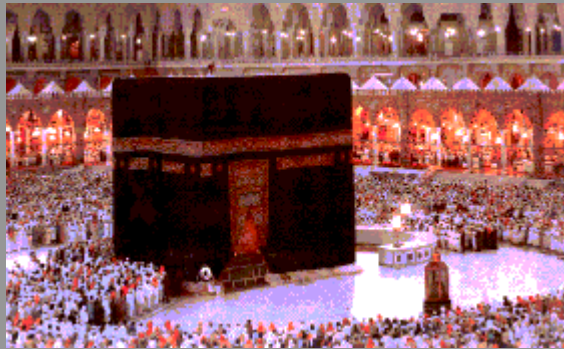
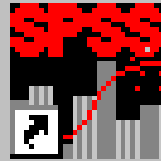


الله أكبر



# Statistical Package for Social Sciences (SPSS)



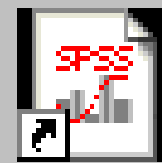
SPSS 9.0 for Windows .lnk

Arjumand S. Warsy

A.S.Warsy



# Introducing SPSS



SPSS 9.0 for Windows .Ink

Spss.Ink

- SPSS: a statistical program [A Windows-based data analysis package).
- SPSS features operate exactly the same way as other Windows application works. e.g dragging, clicking, cutting, pasting, double-clicking and working with windows.
- SPSS 9 is designed to work with Windows 95, 98 and 2000.
- It takes advantage of Windows Special architecture and features such as shortcuts, right clicking and other tasks.



SPSS 9.0 for Windows .lnk

# Advantage of SPSS

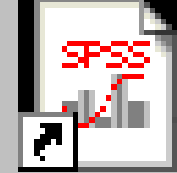


Spss.lnk

- A powerful program.
- Can perform majority of statistical analysis.
- Window-based.
- Easy to use.
- Has the ability to import data from a spreadsheet accurately and efficiently. Data from any spreadsheet can be analysed.



# Introducing SPSS



SPSS 9.0 for Windows .Ink

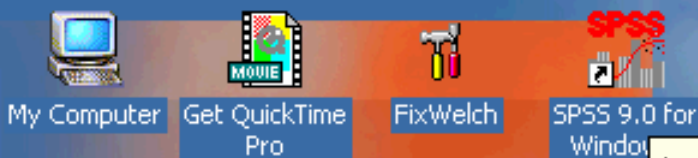
Spss.Ink

## Part I:

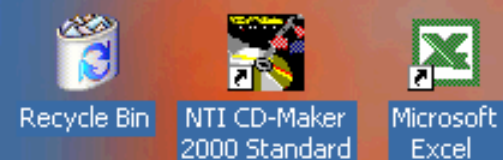
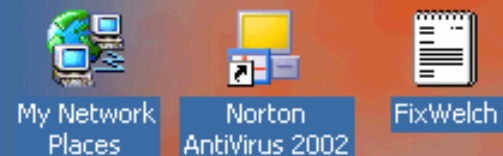
- Getting started with SPSS.
- Creating and working with Data files
- Working with Data
- working with SPSS charts and output
- Working with SPSS procedures.

## Part II:

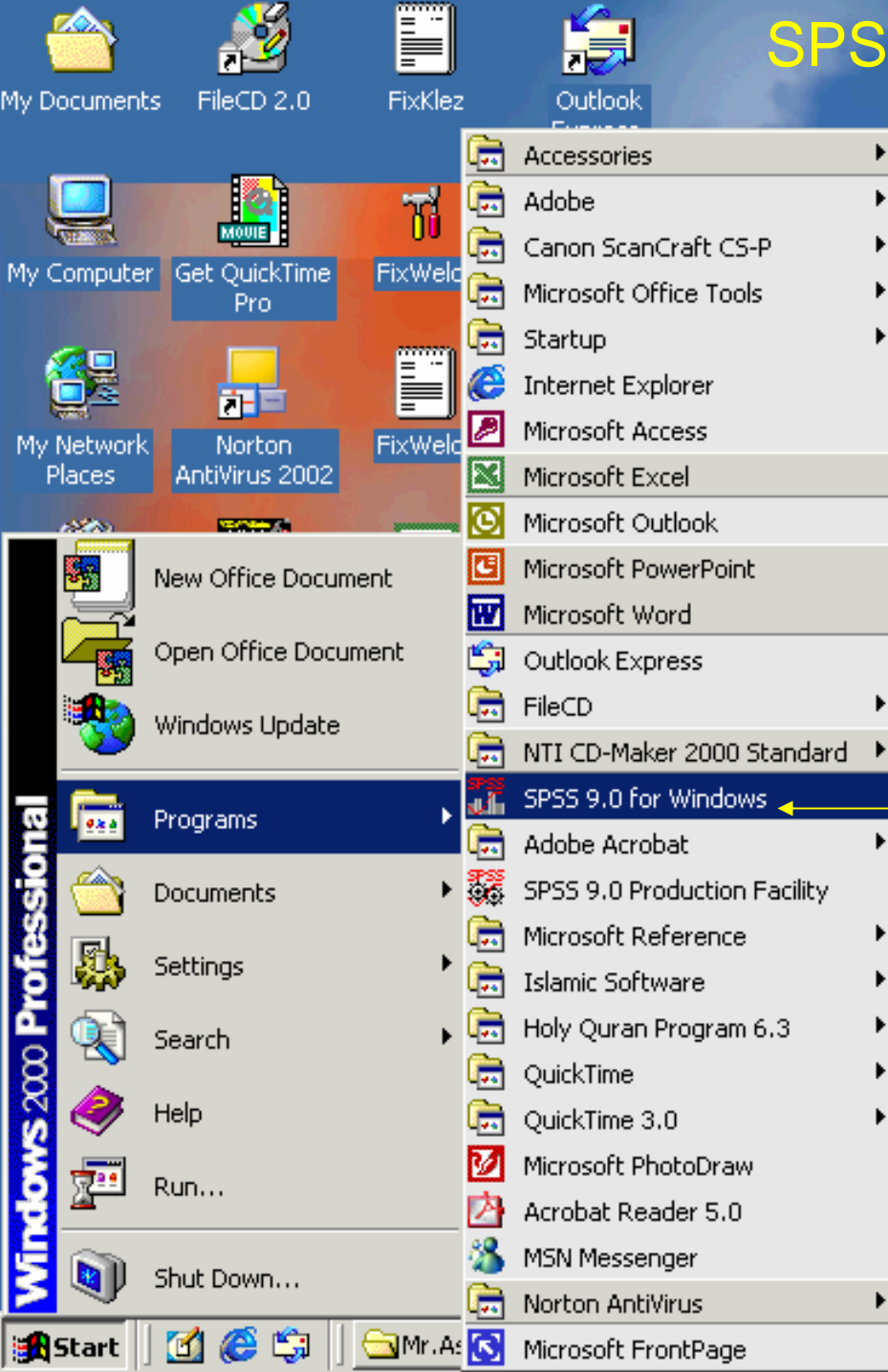
- Creating variables.
- T test procedures.
- Univariate and multivariate analysis of variance.
- Correlation and regression analysis.
- Scaling procedures.
- Non-parametric procedures.



Location: C:\Program Files\SPSS



# SPSS organised on the Start Menu

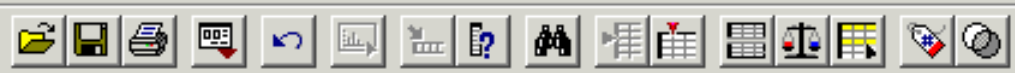


Start

Program

SPSS 9 for Windows










	var	var
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

**SPSS for Windows**

What would you like to do?

-   Run the tutorial
-   Type in data
-   Run an existing query
-   Create new query using Database Capture Wizard
-   Open an existing file

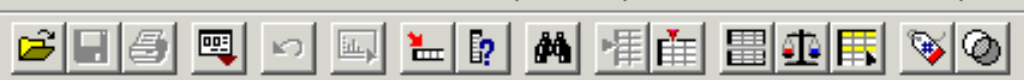
More Files...

- C:\Personal asw\MY DOCUMENTS\BMI.spo
- C:\Documents and Settings\A. S. Warsy\My Docu
- A:\weight.spo
- A:\hg.spo

Don't show this dialog in the future

OK Cancel





	var	var	var	var	var	var	var	var	var
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									



SPSS 9.0 for Windows .Ink

## The Viewer

Allows the examination of the results of a analysis, the graphs created.



Output

- Frequencies
  - Title
  - Notes
  - Statistics
  - SEX

## → Frequencies

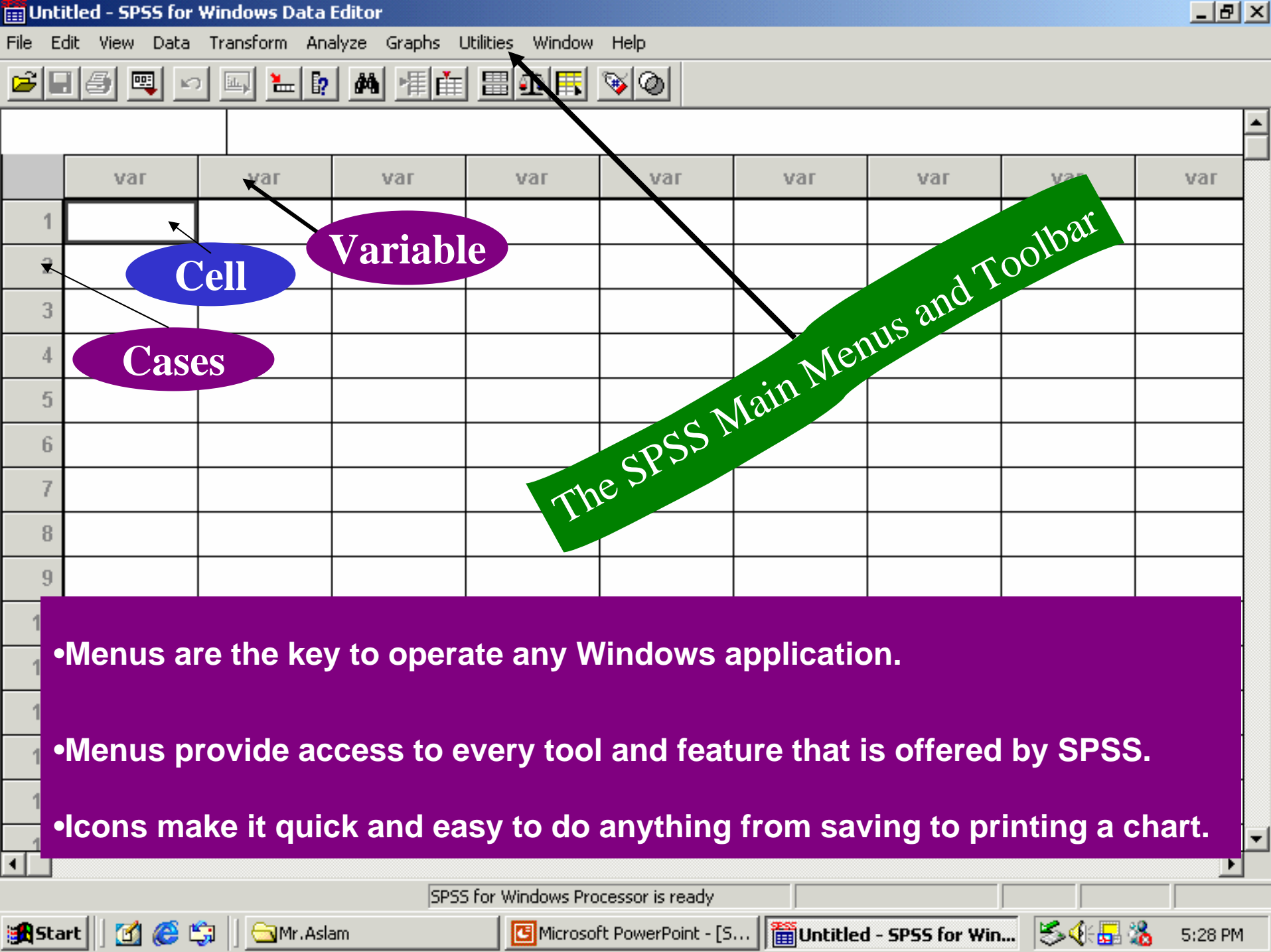
### Statistics

SEX		
N	Valid	662
	Missing	0

### SEX

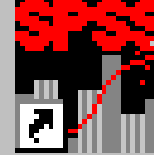
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	74	11.2	11.2	11.2
F	235	35.5	35.5	46.7
M	353	53.3	53.3	100.0
Total	662	100.0	100.0	

Example of the Viewer Window



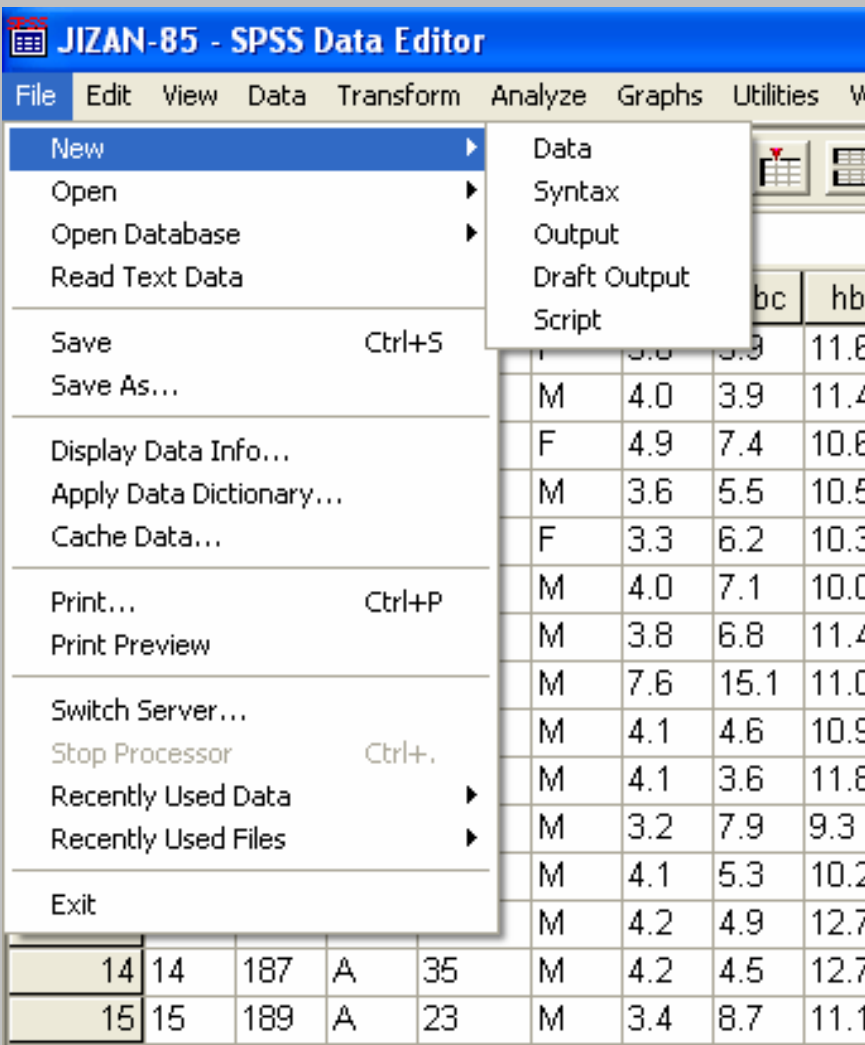
- Menus are the key to operate any Windows application.
- Menus provide access to every tool and feature that is offered by SPSS.
- Icons make it quick and easy to do anything from saving to printing a chart.

# File Menu



SPSS 9.0 for Windows .Ink

- **Create new files, open existing files, save files, display information about a file, printing a file and exit SPSS.**
- **List the last few documents accessed.**



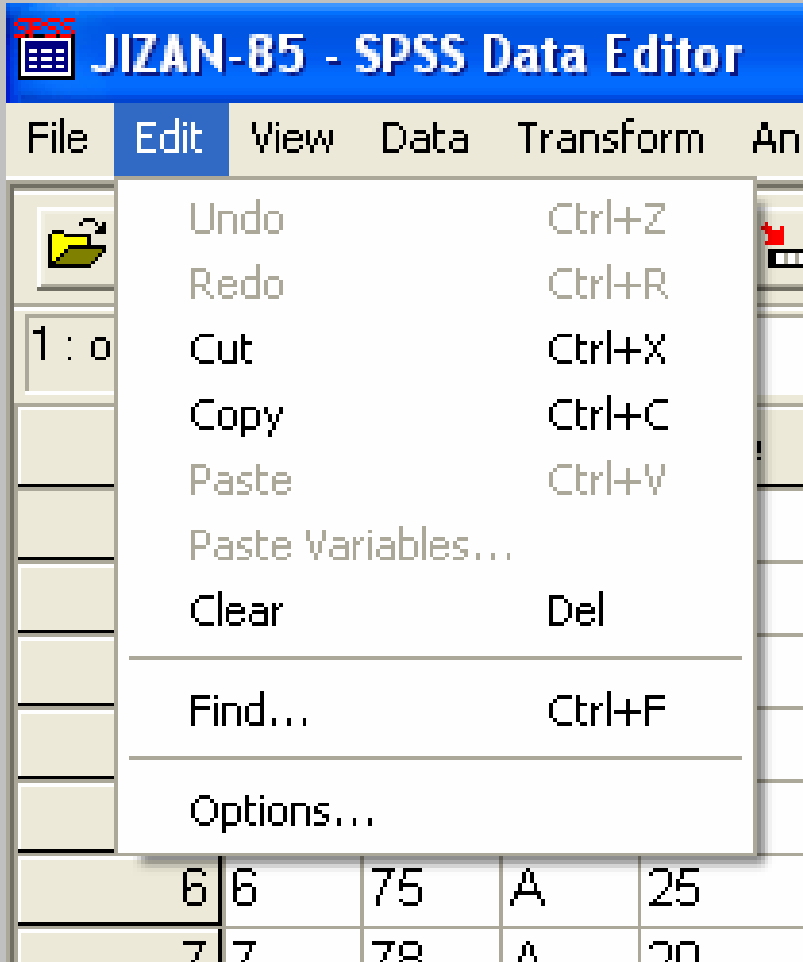
The screenshot shows the SPSS Data Editor window titled "JIZAN-85 - SPSS Data Editor". The "File" menu is open, displaying various options. A sub-menu is also visible, listing "Data", "Syntax", "Output", "Draft Output", and "Script". The background shows a data table with columns labeled "bc" and "hb".

	bc	hb
M	4.0	3.9
F	4.9	7.4
M	3.6	5.5
F	3.3	6.2
M	4.0	7.1
M	3.8	6.8
M	7.6	15.1
M	4.1	4.6
M	4.1	3.6
M	3.2	7.9
M	4.1	5.3
M	4.2	4.9
M	4.2	4.5
M	3.4	8.7

14 14 187 A 35 M 4.2 4.5 12.7 A.

15 15 189 A 23 M 3.4 8.7 11.1

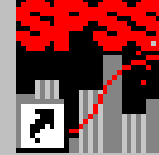
# Edit Menu



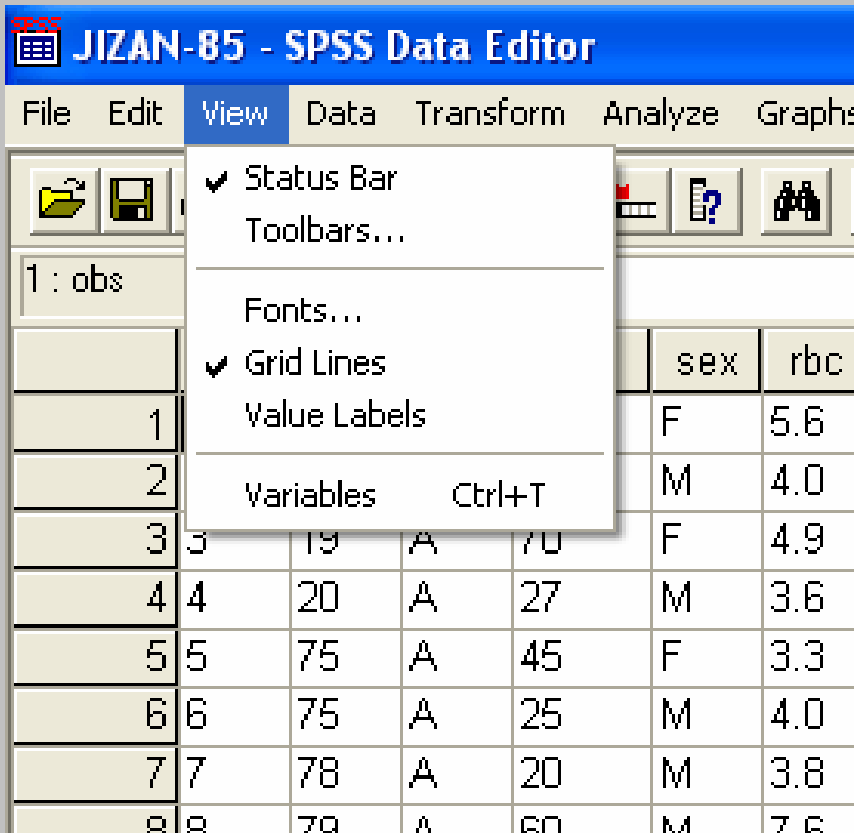
SPSS 9.0 for Windows .Ink

- **Cut or copy data and past it in another location or another data file.**
- **Also searches for data or text, replace text.**

# View Menu



SPSS 9.0 for Windows .Ink



- **Customize your SPSS desktop.**
- **Choose to show or hide the toolbar, status bar, grid lines.**

# Data Menu



SPSS 9.0 for Windows .Ink

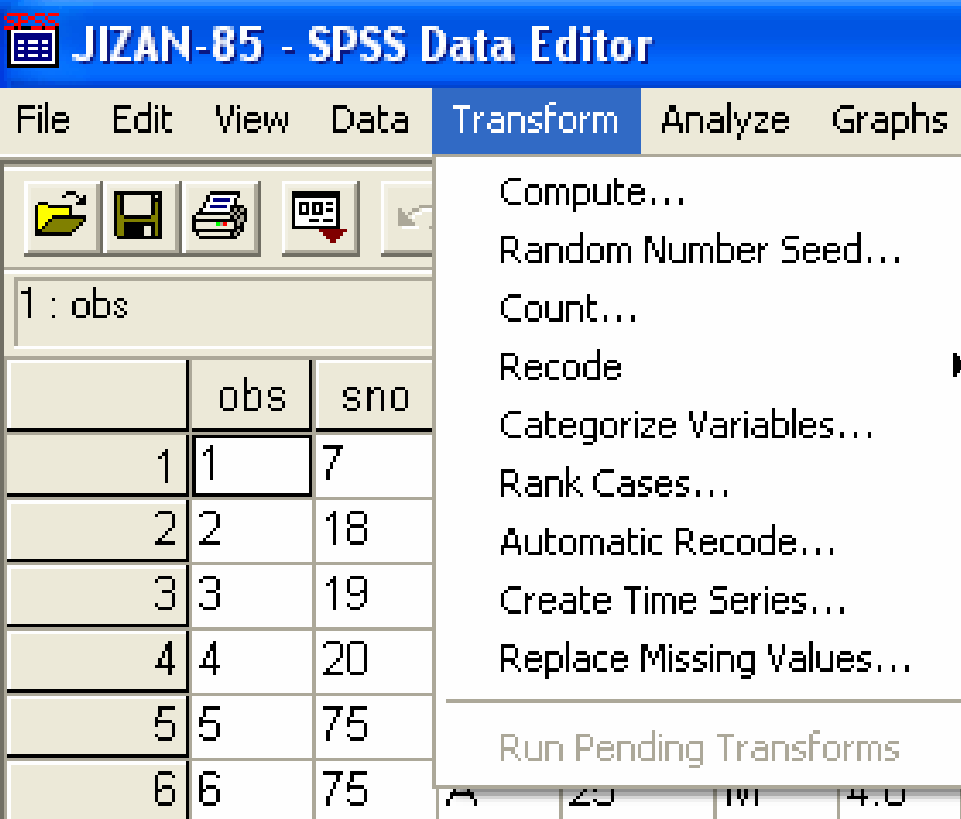
A screenshot of the SPSS Data Editor window. The title bar reads "JIZAN-85 - SPSS Data Editor". The menu bar includes "File", "Edit", "View", "Data", "Transform", "Analyze", "Graphs", and "Utilities". The "Data" menu is open, showing options: "Define Dates...", "Insert Variable", "Insert Case", "Go to Case...", "Sort Cases...", "Transpose...", "Merge Files", "Aggregate...", "Split File...", "Select Cases...", and "Weight Cases...". The main window displays a data table with columns "sex", "rbc", "wbc", and "h". The first seven rows show individual observations with values for "sex", "rbc", and "wbc". The eighth and ninth rows show summary statistics for "rbc" and "wbc".

	obs	sex	rbc	wbc	h				
1	1	F	5.6	5.9	11				
2	2	M	4.0	3.9	11				
3	3	F	4.9	7.4	10				
4	4	M	3.6	5.5	10				
5	5	F	3.3	6.2	10				
6	6	M	4.0	7.1	10				
7	7	M	3.8	6.8	11				
8	8		79	A	60	M	7.6	15.1	11
9	9		85	A	31	M	4.1	4.6	10

- Shows commands that allow, define variable, define data, work with template, sort files, merge and aggregate file, etc.



# Transform Menu



JIZAN-85 - SPSS Data Editor

File Edit View Data Transform Analyze Graphs

1 : obs

	obs	sno
1	1	7
2	2	18
3	3	19
4	4	20
5	5	75
6	6	75

Compute...  
Random Number Seed...  
Count...  
Recode  
Categorize Variables...  
Rank Cases...  
Automatic Recode...  
Create Time Series...  
Replace Missing Values...  
Run Pending Transforms

- Help transform or convert a data to another.
- Has commands that allow you to compute new values, create a set of random values, recode values, replace missing values, etc





SPSS 9.0 for Windows .Ink

# Analyze Menu

JIZAN-85 - SPSS Data Editor

File Edit View Data Transform **Analyze** Graphs Utilities Window

1 : obs

	obs	sno	anem	ag
1	1	7	A	9
2	2	18	A	17
3	3	19	A	70
4	4	20	A	27
5	5	75	A	45
6	6	75	A	25
7	7	78	A	20
8	8	79	A	60
9	9	85	A	31

Reports  
Descriptive Statistics  
Compare Means  
General Linear Model  
Correlate  
Regression  
Loglinear  
Classify  
Data Reduction  
Scale  
Nonparametric Tests  
Survival  
Multiple Response

- This menu has all the option for different statistical analysis ranging from simple computation of mean and standard deviations to time series analysis and multiple regression on analysis.

# Graph Menu



SPSS 9.0 for Windows .Ink

JIZAN-85 - SPSS Data Editor

File Edit View Data Transform Analyze **Graphs** Utilities Window Help

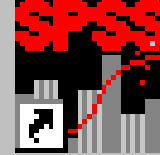
Gallery  
Interactive ▶

Bar...  
Line...  
Area...  
Pie...  
High-Low...  
Pareto...  
Control...  
Boxplot...  
Error Bar...  
Scatter...  
Histogram...  
P-P...  
Q-Q...  
Sequence...  
ROC Curve...  
Time Series ▶

	obs	sno	anem	age	sex	pcv	
1	1	7	A	9	F	33	70
2	2	18	A	17	M	31	70
3	3	19	A	70	F	31	60
4	4	20	A	27	M	29	80
5	5	75	A	45	F	28	80
6	6	75	A	25	M	29	70
7	7	78	A	20	M	33	80
8	8	79	A	60	M	31	80
9	9	85	A	31	M	35	80
10	10	139	A	19	M	33	70
11	11	143	A	25	M	26	80
12	12	147	A	21	M	.	.
13	13	167	A	20	M	36	80
14	14	187	A	35	M	35	80
15	15	189	A	33	M	34	87

- This creates bar, line, area and several other graphs.

# Utilities Menu



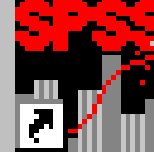
SPSS 9.0 for Windows .Ink

- Gives information about variables and files and can define and use sets of variables.

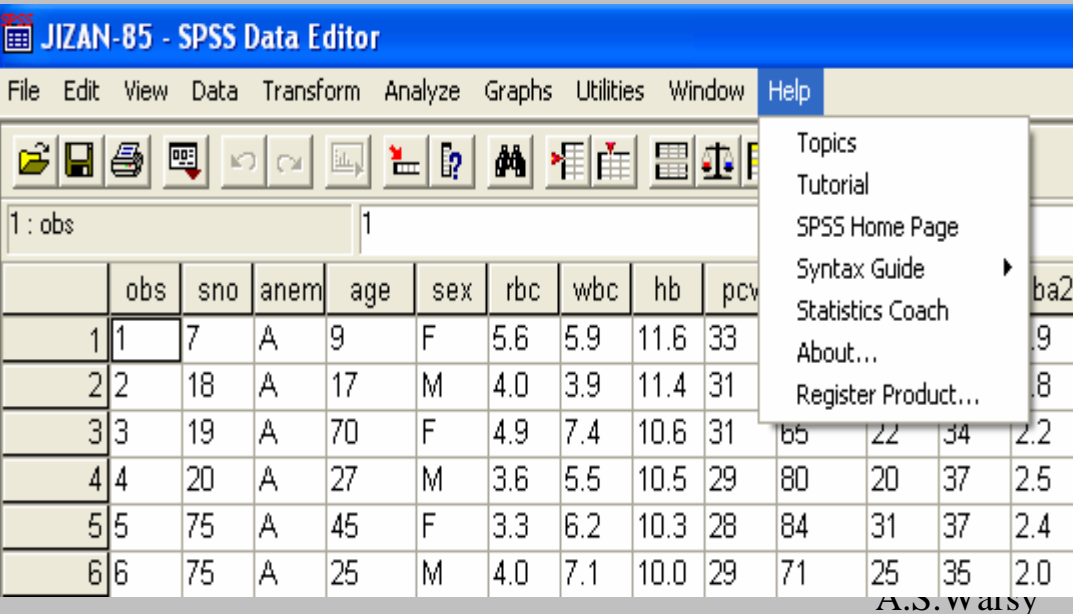
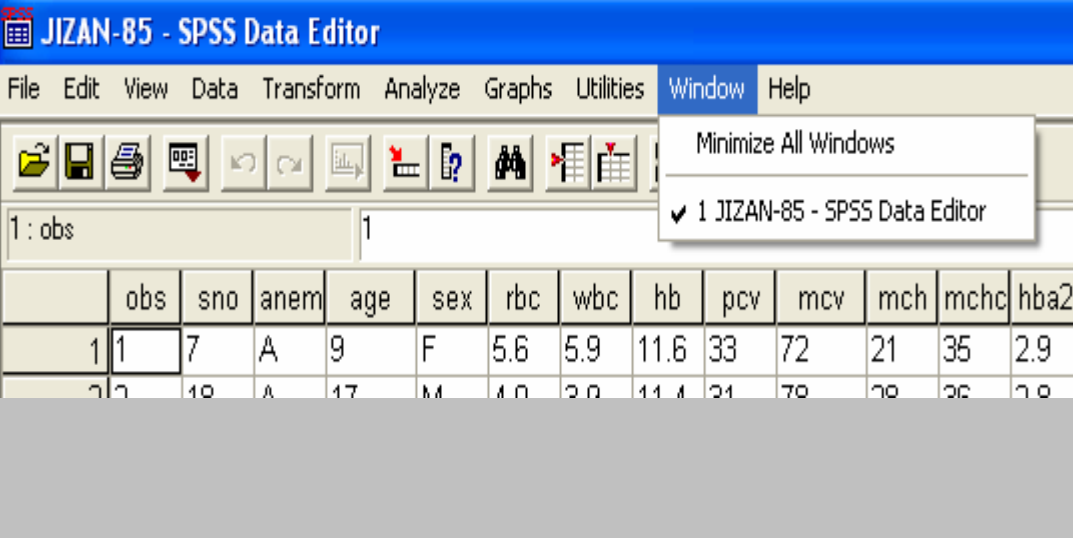
The screenshot shows the SPSS Data Editor window titled "JIZAN-85 - SPSS Data Editor". The menu bar includes File, Edit, View, Data, Transform, Analyze, Graphs, Utilities, Window, and Help. The Utilities menu is open, showing options: Variables..., File Info, Define Sets..., Use Sets..., Run Script..., and Menu Editor ... The data grid below shows a table with columns: obs, sno, anem, age, sex, rbc, and mc.

	obs	sno	anem	age	sex	rbc	mc
1	1	7	A	9	F	5.6	2
2	2	18	A	17	M	4.0	3
3	3	19	A	70	F	4.9	5
4	4	20	A	27	M	2.6	5.5
							10.5
							20
							80

# Window and Help Menu



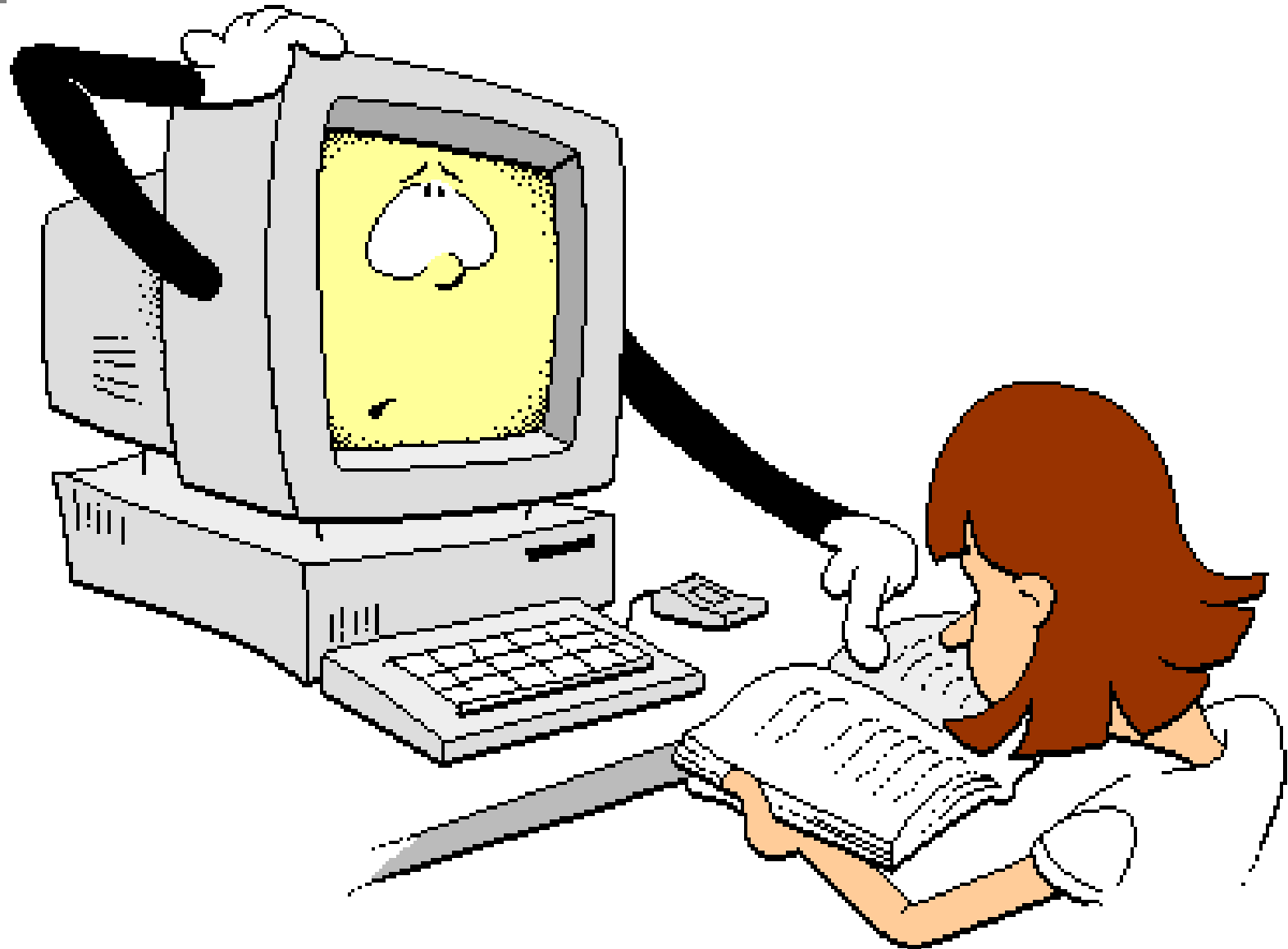
SPSS 9.0 for Windows .Ink



A.S. waisy

- **Windows menu helps you switch from one window to another, minimize SPSS Data Editor or Viewer.**
- **Help menu provide online help.**

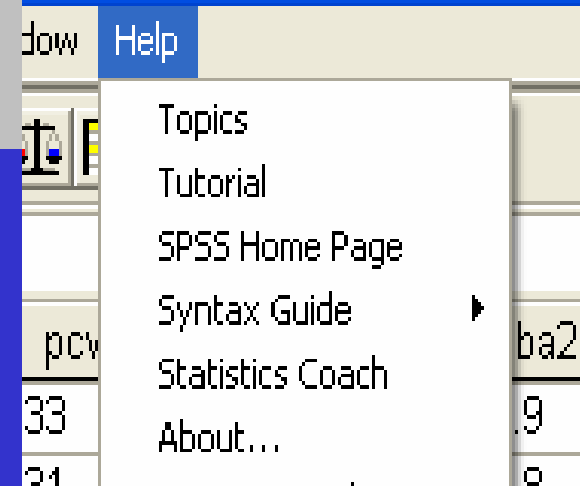
# Using SPSS Help





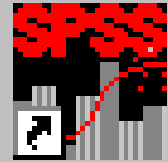
# Using SPSS Help

SPSS 9.0 for Windows .lnk

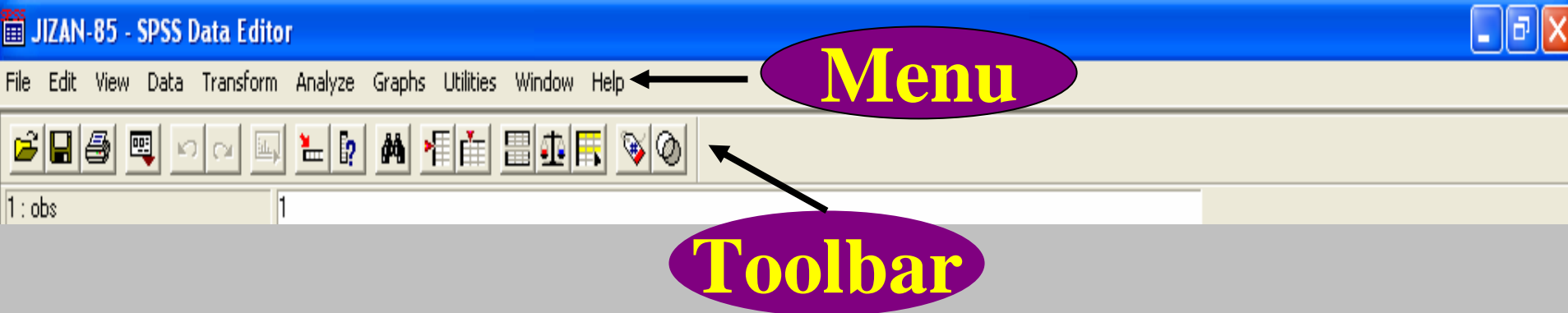


- Help can be obtained in different ways;
  - By pressing **F1 function** key.
  - By using Help menu.
- **Tutorials** take you through a step-by-step tutorial for major SPSS topics.
- **Statistics Coach** takes you through the steps you need to determine what type of analysis you want to conduct.
- **'Ask Me'** uses a natural language tool to answer questions that you ask SPSS.

# The SPSS Tool bar and Status bar



SPSS 9.0 for Windows .



- **Toolbar: Set of icons that are underneath the menus.**
  - **Each icon represents a command on a menu.**
  - **Click on the icon and the command is performed.**



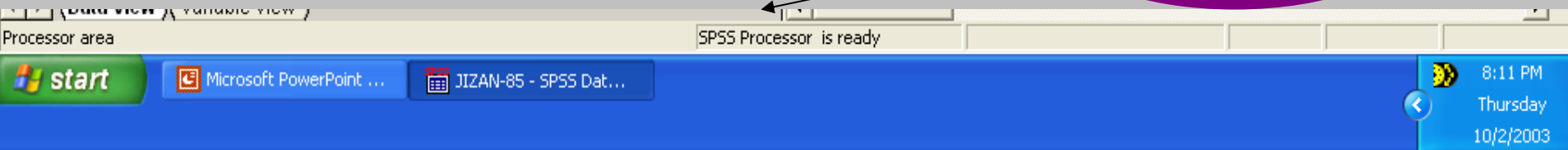
# Status Bar



SPSS 9.0 for Windows .Ink

- This is located at the bottom of the SPSS Window.
- Tells what SPSS is currently involved in.

**Status Bar**



# How to begin working on SPSS



SPSS 9.0 for Windows .Ink

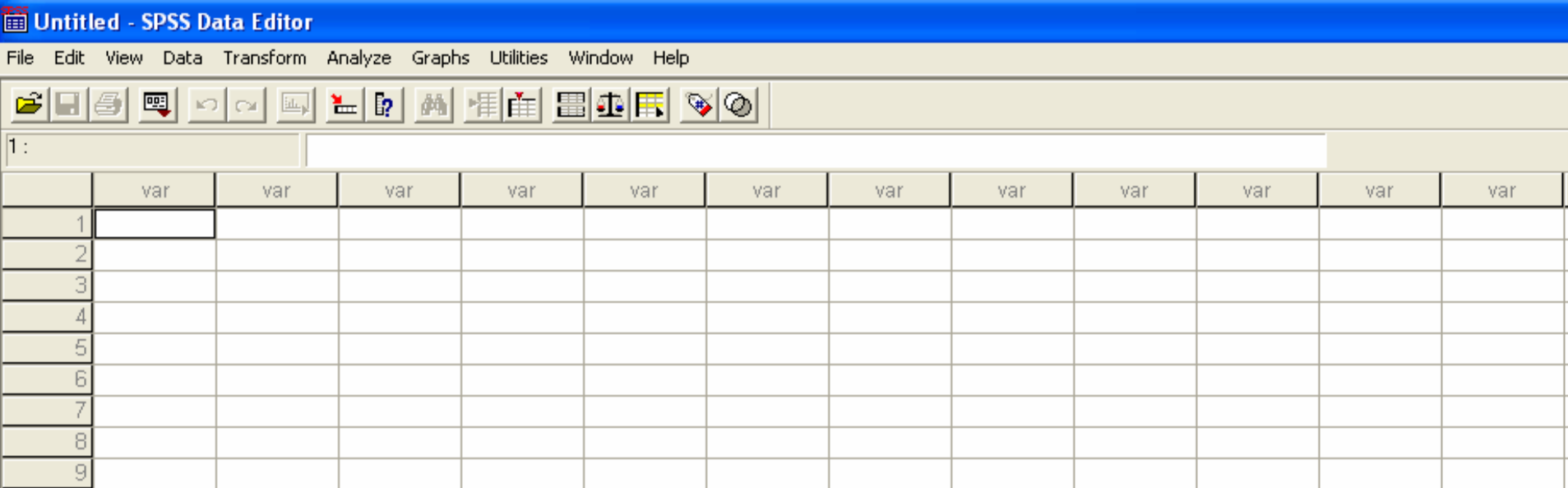
- **Opening a file.**
  - create a new file.
  - open an existing file.
  - **Import data from Microsoft Excel into SPSS.**
- **Appearance of the data.**
- **Defining variables (8 character limit).**
- **Creating a new variable.**
- **Inserting or deleting variables or moving variable from one location to another.**
- **Inserting or deleting rows.**
- **Selecting, cutting and pasting data.**
- **Printing SPSS document.**
- **Exiting on SPSS data file.**
- **Importing and exporting SPSS data.**

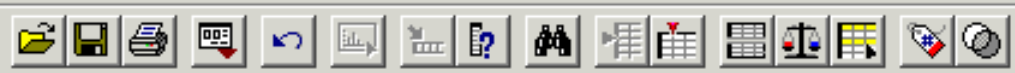
# Data entry into SPSS Spreadsheet



SPSS 9.0 for Windows .Ink

- A Row: horizontal collection of information that represents a case.
- A Column: Vertical collection of information that represents a variable.
- A Cell: is where a row and a column intersect. It is where the value of a particular variable for a particular case is entered.
- Data file: All the rows, the columns and data entered in the cello make a data file – A collection of variables and cases.





	var	var
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

**SPSS for Windows**

What would you like to do?

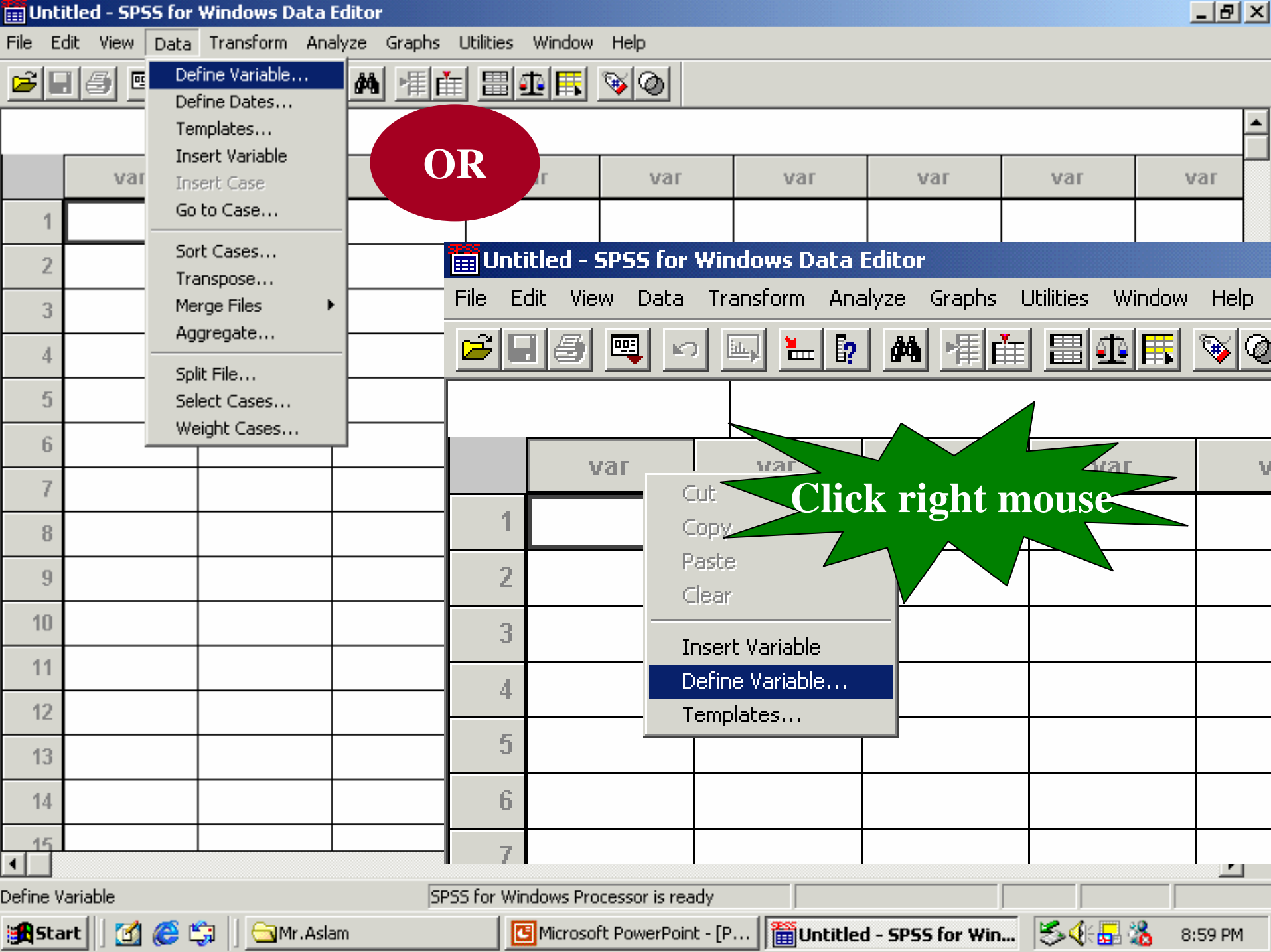
- Run the tutorial
- Type in data
- Run an existing query
- Create new query using Database Capture Wizard
- Open an existing file

More Files...

- C:\Personal asw\MY DOCUMENTS\BMI.spo
- C:\Documents and Settings\A. S. Warsy\My Docu
- A:\weight.spo
- A:\hg.spo

Don't show this dialog in the future

OK Cancel



- Define Variable...
- Define Dates...
- Templates...
- Insert Variable
- Insert Case
- Go to Case...
- Sort Cases...
- Transpose...
- Merge Files
- Aggregate...
- Split File...
- Select Cases...
- Weight Cases...

OR

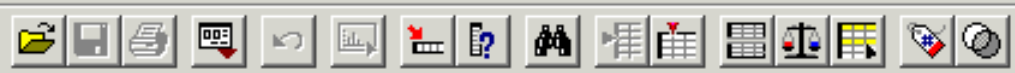
### Untitled - SPSS for Windows Data Editor

- File
- Edit
- View
- Data
- Transform
- Analyze
- Graphs
- Utilities
- Window
- Help



- Cut
- Copy
- Paste
- Clear
- Insert Variable
- Define Variable...
- Templates...

Click right mouse



	var	var	var	var	var
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

**Define Variable** [X]

Variable Name:

Variable Description

Type: Numeric8.2

Variable Label:

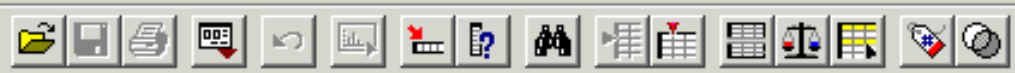
Missing Values: None

Alignment: Right

Change Settings

Measurement

Scale  Ordinal  Nominal



	var	var	var	var
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

**Define Variable**

Variable Name:

Variable Description

Type: Numeric8.2

Variable Label:

Missing Values: None

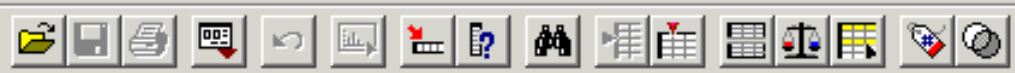
Alignment: Right

Change Settings

Measurement

Scale  Ordinal  Nominal





	var	var	var	var
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

**Define Variable**

Variable Name:

Variable Description:

Type: Numeric8.2

Variable Label:

Missing Value:

Alignment:

Change:

Measure:  Scale  Ordinal  Nominal

OK Cancel Help

**Define Variable Type:**

Numeric

Comma

Dot

Scientific notation

Date

Dollar

Custom currency

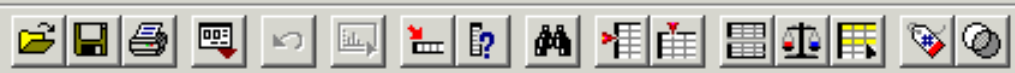
String

Width:

Decimal Places:

Continue Cancel Help





	var	var	var
1	sampleno		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

**Define Variable**

Variable Name:

Variable Description:

Type: Numeric8,2

Variable Label:

Missing Value:

Alignmer:  Numeric  Comma  Dot  Scientific notation  Date  Dollar  Custom currency

Change:  Scale  Ordinal  Nominal

OK Cancel Help

**Define Variable Type:**

Numeric  Comma  Dot  Scientific notation  Date  Dollar  Custom currency  String

Characters:

Continue Cancel Help

**Entering and editing data**

**Create data file**



**Save under a specific name  
in a specific location**



1 : sampleno

	sampleno	name	age	var	var	var	var	var	var	var	var
--	----------	------	-----	-----	-----	-----	-----	-----	-----	-----	-----

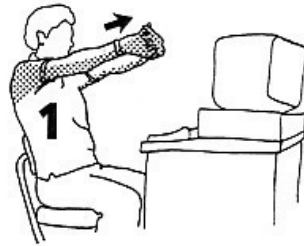
Place cursor on the cell in which you want to enter data, click [ the border becomes dark] and type

Move to the next cell by using Tab or arrow keys or enter

# Computer & Desk Stretches

Approximately 4 Minutes

Sitting at a computer for long periods often causes neck and shoulder stiffness and occasionally lower back pain. Do these stretches every hour or so throughout the day, or whenever you feel stiff. Photocopy this and keep it in a drawer. Also, be sure to get up and walk around the office whenever you think of it. You'll feel better!



1  
10-20 seconds  
2 times



2  
10-15 seconds



3  
8-10 seconds  
each side



4  
15-20 seconds



5  
3-5 seconds  
3 times



6  
10-12 seconds  
each arm



7  
10 seconds



8  
10 seconds



9  
8-10 seconds  
each side



10  
8-10 seconds  
each side



11  
10-15 seconds  
2 times



12  
Shake out hands  
8-10 seconds

# Data entry into SPSS Spreadsheet

- Creating a New Data Window:

Click File → New → Data

- Defining variable (SPSS must have a variable name).
  - Automatically by SPSS e.g. VAR00001.
  - Custom Defining variable – provide your own name.

Click Data → Define Variable → Enter name

- Define Variable type open:
  - Tick the type you want (e.g. numeric, string, or others)

# Data entry into SPSS Spreadsheet

- Defining Variable Labels: Data in the variable column is labeled, e.g.

- Male = 1
- Female = 2

So even though you feed male and female, what appears is 1 & 2.

- Normal wt = 1
- Over wt = 2
- Obese = 3
- Under wt = 4

- Changing variable label.
- Defining Missing values.
- Working with column format:
  - Width of the data column.
  - Align cell entries left, right or center.

# Entering and Editing Data

- Editing Data:
  - Changing a cell value.
  - Editing a cell value.
- Saving a Data file:
  - Naming a file.
  - Saving a file.
- Opening an existing file.
- Saving a file in a new location
  - (Save as)

# Inserting and Deleting cases

- Inserting a case:  
Select case (above which you want to insert)  
Click Data → Insert case
- Insert a variable:  
Select cell in the column to the right of where you want to insert variable.  
Click Data → insert variable → Define variable
- Deleting a case:  
Click on case:  
Click edit → Clear, or press Del key.
- Deleting a variable:
  - Click on the variable or column to highlight the entire column:  
Click Edit → Clear or press the Del key



# Selecting, Copying, Cutting and Pasting Data

- Copying, cutting and pasting:
  - Select the data (by dragging the mouse).  
Click Edit → Cut or copy
  - Select destination or target cell  
Click Edit → Paste
- Cutting and pasting/copying and pasting.

# Printing and Editing on SPSS Data File

- Printing:
  - Data to be printed in the active Window.
  - Click file → Printer:  
Print Dialogue box opens (Click what you want to print).
  - Click OK.

Exit SPSS

Click File → Exit SPSS



SPSS 9.0 for Windows .Ink

# Data Analysis

- Frequencies:
  - Frequency of No. of males/females.
  - Bar chart.
  - Significance of the difference in mean of ages of males and females (t test for independent samples).

# SPSS continued

# Exporting & Importing SPSS

Exporting: Sending a file to another application e.g. Excel, or Word or dBase.

Importing: Receiving a file from another application e.g. Excel or Word or dBase.

# Exporting Data

- Functions:
  - Export data from SPSS to another program to analyze data.
  - Export on analysis of the data.
  - Export a chart.
- Remember when exporting data from SPSS:
  - SPSS data must be saved in a format that the other application can understand.

# Example: Exporting to Excel

- Click File → Save As.
- 'Save as type' area type e.g. .xls (for Excel). Type the name.
- It will be saved as a new file.xls
- Click OK.
- Open Excel.
- In Excel, click File → Open.
- Now open the exported file in Excel.  
(If the type is not there, save a Tab Delimited File).



# Exporting a Chart

- Create the graph and make it active.
- Click on it in the Viewer (It is surrounded by a thick black line).
- Click Edit → Copy.
- Open application you want to export it to.
- Click File → Paste.

# Finding Values, Variables, and Cases

- Variables, cases, and values.
- A value is any entry in a cell, or the intersection of a row and a column.
- Values can be numerical or alpha-numerical or text.
- A variable is something that can take on more than one value.
- Age, weight, name and time.
- Variables are defined in SPSS by columns.
- A case is collection of values that belong to a unique unit in the data file, such as a person or a teacher or a school.
- Cases are defined in SPSS by rows.

# Finding Variables

1. Make sure the data file that contains the variable you want to find is active.
2. Click Utilities → Variables. When you do this, you will see the Variables dialog box.
3. Click Rank. The Variables dialog box provides a good deal of information about the variable, including its name, label, type, missing values that are included, and values labels (Assistant Professor etc.).
4. Click Go To, and SPSS will highlight the column containing the variable.

# Finding Cases

1. Click Data → Go To Case. When you do this, you will see the Go To Case dialog box.
2. Type Case No.
3. Click OK. SPSS will highlight the case corresponding to the number you entered, for whatever column or variable the cursor is currently located in. For example, if we just found the variable names rank and then (as a separate operation) located case, the highlighted cell would be the rank for case.

# Finding Values

Finding values is the most useful of all the search tools. It's the most limited because it can only search for a value within one variable.

1. Click the column labeled age. You may highlight any cell in the variable (or column) in which you want to search for the value, such as age.
2. Click Edit → Find. When you do this, you will see the **search for Data in Age** dialog box.
3. Type 36. You can search either forward or backward through the variable. If you highlighted the first cell in the column, you cannot search backwards since there's no place to go.
4. Click **Search Forward** to search forward through the variable or **Search Backward** to search backward through the variable. SPSS will highlight the value when it is found. If SPSS cannot find the value, you will get a Not Found message.

# Recording Data and Computing Values

There are often situations where you need to take existing data and convert them into a different variable, or to take existing variables and combine them to form an additional variable. For example, you may want to compute the mean or standard deviation for a set of variables and enter those values in a separate variable in the data file.

# Recoding Data

First you can recode a variable to create a new variable. Or you can recode a variable and modify the variable that has already been entered. Here's how to do just that:

1. Be sure the file name Results is active.
2. Click **Transform** → **Recode** → **Into Same Variable**, since we want the transformed variable to replace the values in the current variable that is being transformed. You should see the **Recode into Same Variables** dialog box.
3. Double-click variable to move the variable into the Variables text box.
4. Click the **old and New Values ...** button, and you will see the **Record into Same Variables: Old and New Values** dialog box.

Contd....

# Recording Data

5. Type **5** in the value area under Old Values.
6. Type **1** in the Value area under New values.
7. Click **Add**. The variable is added to the Old → New box.  
When SPSS encounters a 5 for variable 2, it will recode it as a 1.
8. Click **Continue**, and you will be returned to the Recode into Same Variables: Old and New Values dialog box.
9. Click **OK**, and the actual values entered in the cells will change according to the way in which they were recorded. For example, if someone responded with a 5 to item 2 on the Crab Scale (as was the case for Professor 3), the recorded value would be 1.



# Computing Values

Computing a value means taking existing data and using them to create a new variable in the form of a numeric expression. SPSS comes with 70 predesigned functions (a predesigned formula) that will automatically perform a specific computation.

# Creating a Formula

1. Click **Transform** → **Compute**. When you do this, you will the **Compute Variable** dialog box.
2. Click the **Target Variable** text box and enter the name of the new variable to be created. We names it total , which is the sum of items 1 through 6 on the col1-col4.
3. Click the **Numeric Expression** text box.
4. Click col1, the first variable you ant to include in the formula.
5. Click the → to add it to the Numeric Expression text box
6. Type +.
7. Continue adding variables and using the + key to add them together.  
The completed formula looks like this:  
$$\text{col1}+\text{col2}+\text{col3}+\text{col4}+\text{col5}+\text{col6}$$
8. Click **OK**.

# Using a Function

1. Click **Transform** → **Compute**. If the dialog box is not clear, click **Reset**.
2. Type **total** in the **Target Variable** text box.
3. In the **Functions** text box, find the function you want to use. You can type the first letter of the function (which would be “s” in the case of **SUM**) and SPSS will take you to the first function beginning with that letter.
4. Double click on the function to add it to the **Numeric Expression:** text box.
5. Double click **crab1** to add it to the formula.
6. Continue adding variables by double clicking them or by typing their names. The finished dialog box appears. Notice there are no “+” signs, but commas that separate the variables in the formula expression.
7. Click **OK** and the new variable is created.

# Sorting, Transposing, and Ranking Data

# Sorting Data

Sorting data involves reordering of data given the value of one or more variables. Sorting is an invaluable tool when it comes to organizing information.

# Sorting Data on One Variable

1. If it is not already opened, open Results.
2. Click **Data** → **Sort Cases**. When you do this, you will see the **Sort Cases** dialog box.
3. Double click hb to move rank from the variable list to the **Sort by:** text box. The Ascending that appears next to rank in the sort box means that the variable will be sorted in ascending order.
4. Select whether you want to sort in ascending or descending order.
5. Click **OK**.

# Sorting Data on More Than One Variable

Sorting data on more than one variable follows exactly the same procedure as the one just outlined, except that you need to select more than one variable to sort on. SPSS will sort in the order they appear in the Sort by list in the Sort Cases dialog box.

1. Click **Data** → **Sort cases**.
2. Click age to move rank from the variable list to the Sort by: text box.
3. Select whether you want to sort in ascending or descending order.
4. Double click Sex to move sex from the variable list to the Sort by text box.
5. Select whether you want to sort in ascending or descending order.
6. Click **OK**.

# Transposing Cases and Variables

SPSS data file is constructed with cases represented by rows and variables represented by columns. There may be occasions, however, where you want cases listed as columns and variables listed as rows. In other words, you want variables and cases transposed.

1. Click **Data** → **Transpose**.
2. In the Transpose dialog box, double click the variable name to insert the variable in the Variables text box.
3. Repeat steps 2 and 3 until all the variables that you want to become cases have been entered.
4. Click **OK**. All the variables that were not transposed will be lost, so if you transpose either all the variables in the data file or just some, the ones you don't will not appear after the operation is performed.



# Ranking Data

- If you have not done so already, create a new variable (using the Compute command on the Data menu) names tot\_crab, a total of all six crab item scores.
- Click **Transform** → **Rank Cases**. You'll see the **Rank Cases** dialog box.
- Click on tot\_crab.
- Click on the → to move the variable into the Variable(s): text box.
- Click on the Largest value button in the Assign Rank 1 to area.
- Click **OK**, and a new variable, named rtot\_cra. will be created reflecting the ranking of all cases on the variable tot\_crab. Cases 2 and 4 have the same tot\_crab score (13), and, therefore, the same rank (5.5)

# Splitting and Merging Files

When you split a file, you are dividing it into two new files for separate analysis. When you merge files, you are combining two files using the same variable or variables, or the same cases using different variables.

# Why Split?

In General, you split a file when you want to create two separate files, both having at least one variable in common. One file will be named Sex Males, and the other will be Sex Females. Then we can do analysis of variance or regression on the separate files.

# Splitting a File

- Click **Data** → **Split File**. When you do this, you will see the **Split File** dialog box.
- Click **Organize** output by groups since you are presumably splitting the files to create data for two separate analyses.
- Double click **sex\_stud**.
- Click **OK**. The file will then be organized such that all male students are grouped together as are all female students.

SPSS will not create two physically separate files. Rather, for the rest of the SPSS session. SPSS will perform every procedure as if the file was physically split into two separates files.

# Merging Files

- Merging files is just as useful as splitting files. files can be merged, or combined, in two different ways.
- First, you can combine two files that contain the same variable or variables, but different cases and you need to combine the two data files.
- Second, you can combine two files that contain different variables but the same cases.

# Merging Same Variables and Different Cases

- Click **Data** → **Merge Files**, then click **Add Cases**. When you do this, you will see the **Add Cases: Read File** dialog box. This looks like an Open or a Save dialog box, and in a sense you are opening a new file and merging it with another.
- Select the file to which you want to add cases. In this example, the file name is Teacher Scale Results – Additional Data. You are adding Data. You are adding the additional data of five cases to the file that contains 50 cases.
- Click **Open**, and you will see the **Add Cases from ...** dialog box.
- Click **OK**, and the file names Teacher Scale Results – Additional Data is added to the file named Teacher Scale Results, and the total file now has 55 cases (50 cases from Teacher Scale Results – Additional Data and 5 from Teacher Scale Results – Additional Data)

# Merging Different Variables and Same Cases

- Click **Data** → **Merge Files**, then click **Add Variables**. You will see the **Add variables: Read File** dialog box.
- Select the file to which you want to add this set of cases. In this example the file name is Crab Scale Results.
- Click **Open** and you will see the **Add Variables from ...** dialog box. As you can see, SPSS has already identified that `id_prof` is common to the two files and has listed it in the Excluded Variables area.
- Click **OK**.

# Creating a Line Chart

- Enter the data you want to use to create the chart.
- Click **Graph** → **Line**. When you do this, you will see the **Line Charts** dialog box.
- Click, **Simple**.
- Click **Values of individual cases**.
- Click **Define**. When you do this, you will see the **Define Simple Line: Values of Individual Cases** dialog box.
- Click **grade**, click **Variable** in the **Category Labels** area, and then click → .
- Click **Score**, and then click → to move the variable to the **Line Represents** area.
- Click **OKB**, and you see the chart in the Output Navigator.



# Different SPSS Charts

SPSS offers 17 different types of charts (all of which you can see samples of at [Chart → Gallery](#)).

- The **Bar Chart**: A Bar Chart represents values as separate bars with each bar corresponding to the value in the Data Editor.
- The **Area Chart**: An area chart represents the proportions of the whole that each data point contributes.
- The **Pie Chart**: The Pie Chart is a circle divided into wedges, with each wedge representing a proportion of the whole.

# Working with Titles and Subtitles

- Click **Chart** → **Title**. When you do this, you will see the **Titles** dialog box.
- The **Score by Grade** in the Title 1 section.
- Press the Tab key.
- Type **9/25/98** in the Title 2 section.
- Click **Center** from the drop-down menus for justification of the title and subtitle.
- Click **OK**.

# Working with Axes

The X and Y axes provide the calibration for the independent (usually the X axis) variable and the dependent (usually the Y axis) variable. SPSS names the Y axis the Scale Axis and the X axis the Category Axis.