

Introduction to SPSS Lecture 2

Origin of SPSS

The statistical package SPSS was first devised in 1966. Actually SPSS was developed as an analysis program for social scientist.

The abbreviation SPSS stood for “Statistical Packages for Social Sciences”.

The SPSS Company gave the old abbreviation a new meaning (not very modest): Superior Performing Software System. One of the strong points of SPSS is that it can perform almost any statistical analysis.

What can SPSS do?

The main objectives of this lesson are-

- To know about different types of windows and files are available with SPSS
- To familiar with the Menus of SPSS
- To understand how to create variable and enter data
- To understand how to import data from different source
- To understand how to perform transformation on data
- To understand how to perform analyses
- To understand how to create graphs or charts

Getting started

SPSS stands for Statistical Package for Social Science. It is used to manage and analyze data. In most of the Windows operating systems, SPSS can be started from the **Start Menu**.

Steps: Click on the **Start** menu at the bottom-left corner of your screen. Point the cursor to **Programs**, point to **SPSS for Windows**, and then click on **SPSS 17.0**.

START > Programs > SPSS Inc > SPSS 17.0

Then after a few moments, SPSS 16.0 for windows will be opened. If a dialog box appears, click on **Cancel** or press the **Esc** key from your keyboard. The dialog box will disappear. Now, the window you will get is the data window [Like Figure 1].

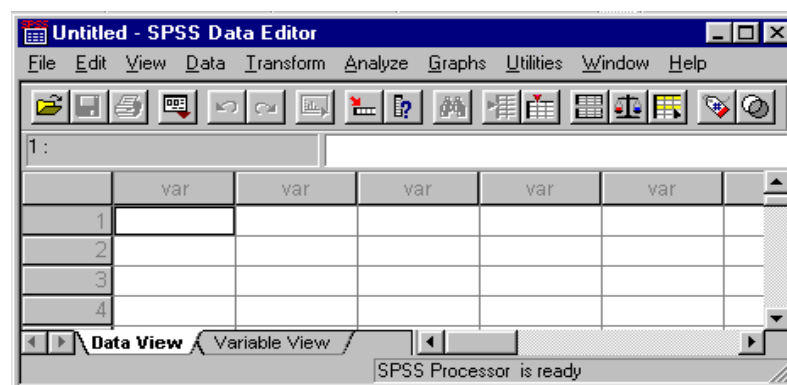


Figure 1: SPSS 17.0

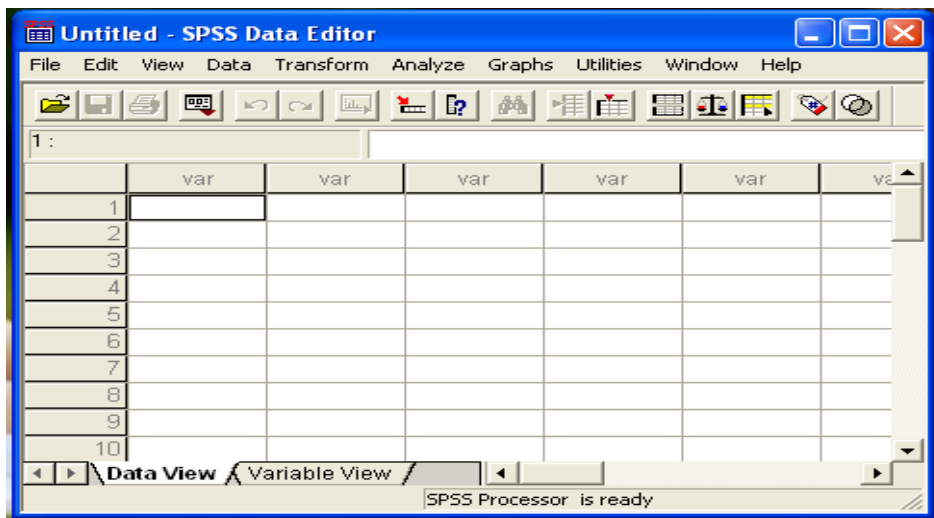
SPSS Windows

- Data editor
- Viewer
- Pivot Table editor
- Chart editor
- Text output Editor
- Syntax editor
- Script editor

Data editor

Is a spreadsheet like system for defining, entering, editing and displaying data. The Data Editor displays the contents of the active data file. The information in the Data Editor consists of variables and cases. This window opens when you start an SPSS session and displays the content of a data file.

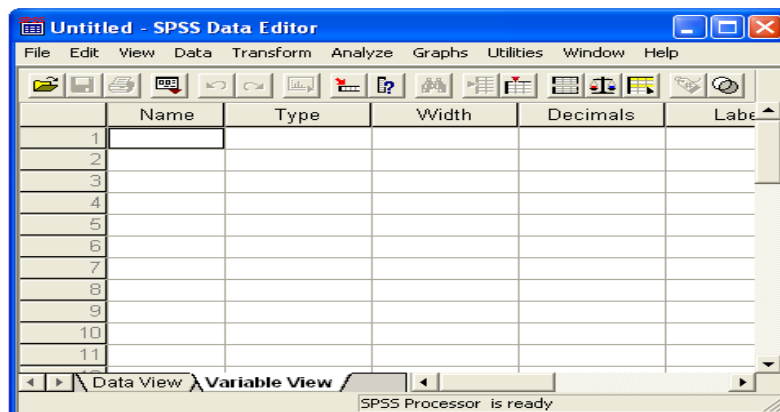
- In Data View, columns represent variables, and rows represent cases (observations).



Variable View

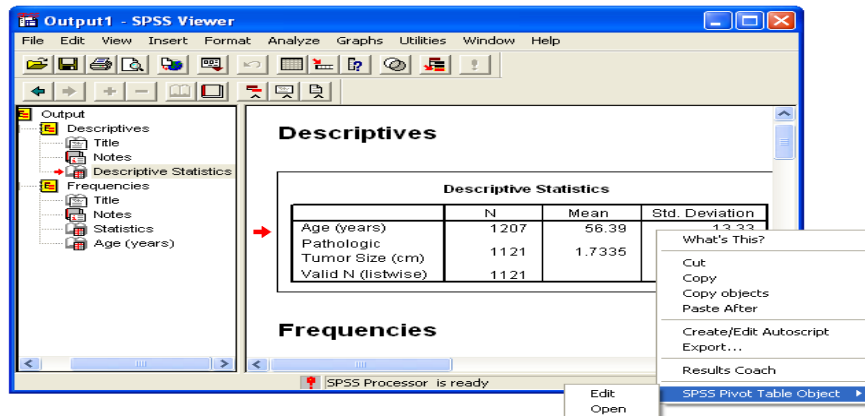
Is a spreadsheet like system for defining data name, type, size, labels, missing values etc. This is a part of Data View.

- In Variable View, each row is a variable, and each column is an attribute that is



Viewer

The Viewer makes it easy to browse your results; selectively show and hide output, change display, and order results. This window opens automatically the first time you run a procedure that generates some output. This window displays all statistical results, tables and charts and allows you to edit the output and save it in an output file for later use.



Pivot Table Editor

This editor allow you to edit text in pivot table, rearrange rows, columns and layers, add color, create multidimensional tables and selectively hide and display results.

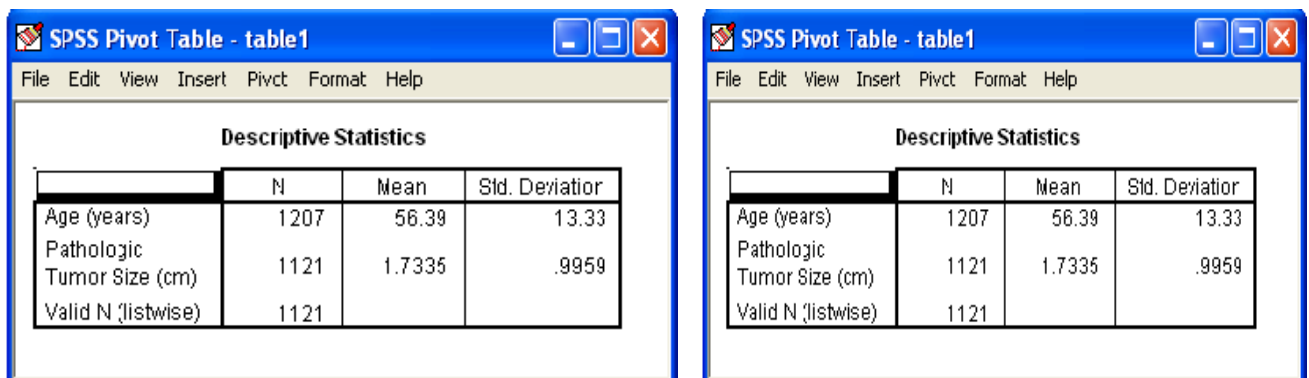
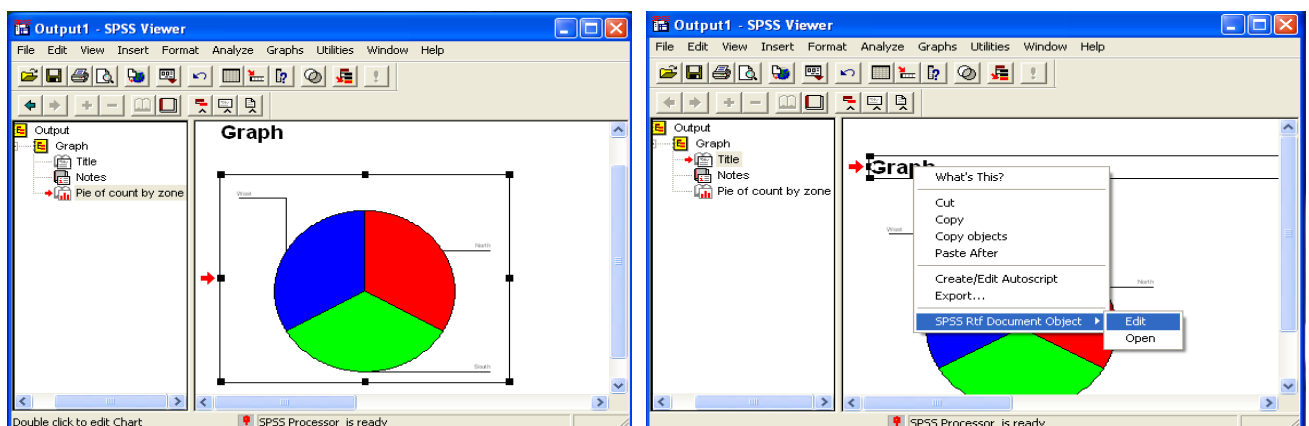


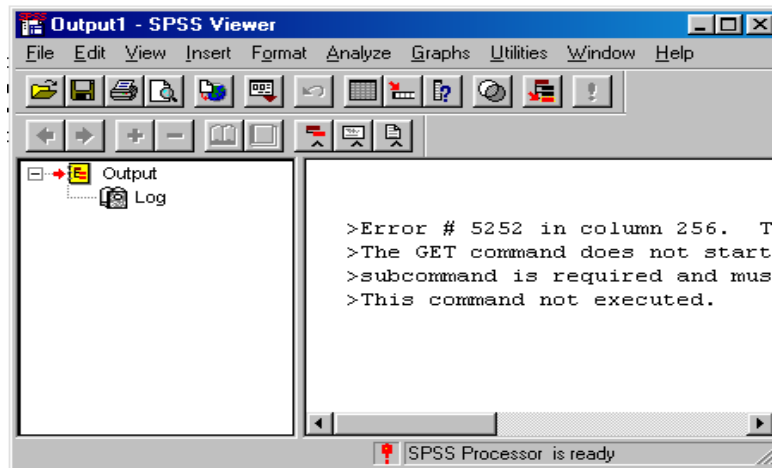
Chart Editor

Chart editor allow you to change color, font, axes, rotation and of charts inserted into the output.



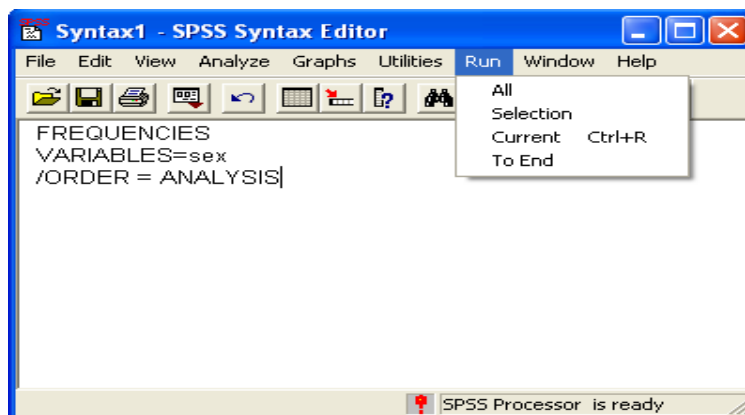
Output Editor

Text output editor allow you to change color, type, style and size of font that is not displayed in pivot tables or charts.



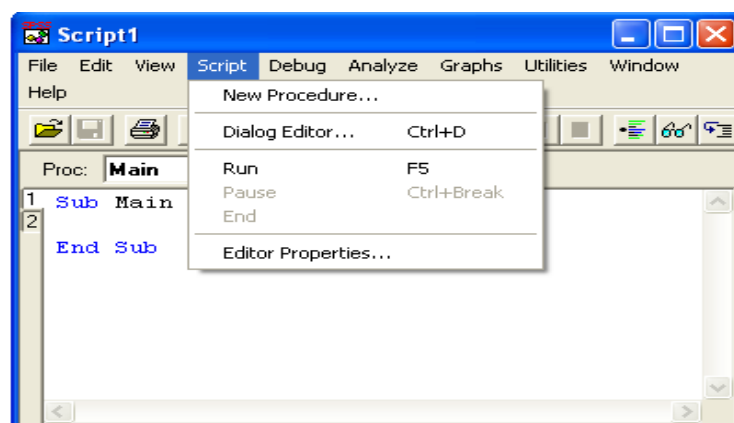
Syntax Editor

Syntax editor allow you to execute command syntax that reflects the choices you have made in selecting menu options.



Script Editor

Script editor allow you to create and modify basic scripts within the program Scripting allow you to customize and automate many tasks.

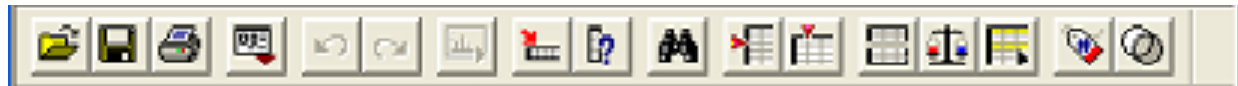


SPSS Files

SPSS allows you to save any one of the windows. To save a window, make that particular window active. SPSS automatically adds a three letters suffix to the end of file name. Commonly used SPSS files are:

Windows	File Suffix
Editor	.sav
Output	.spo
Syntax	.sps
Raw Data file	.dat/.txt
Excel file	.xls

Toolbar

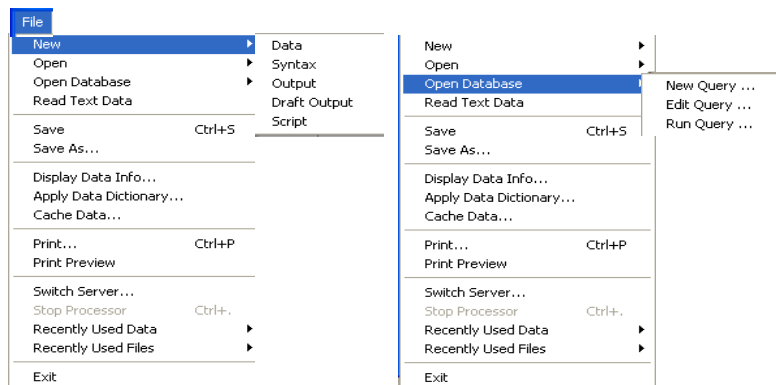


- **File Open** allow particular data file to be opened for analysis
- **File Save** saves the file in the active widow
- **File Print** Prints the file in the active window
- **Dialogue Recall** displays a list of recently opened dialogue boxes
- **Go to Case** allow you to go to the particular case in the data file
- **Variables** provides data definition information for all variables in the working data file
- **Find** allows data to be found easily within the data editor
- **Insert Cases** inserts a case above the case containing the active cell
- **Insert Variables** inserts variable to the left of the containing the active cell
- **Split File** splits the data file into separate groups based on the values of one or more group variables.
- **Weight Cases** gives cases different weights for statistical analysis
- **Select Cases** allow you to select group of cases based on criteria
- **Value Labels** allows toggling between actual values and value labels
- **Use Sets** allows the selection of sets of variables to be displayed in the dialogue boxes.

Menus

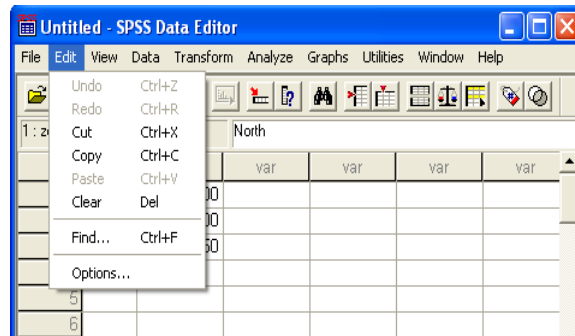
File Menu

Allows you to create new files, open existing files, read in files from other software program, save file and print



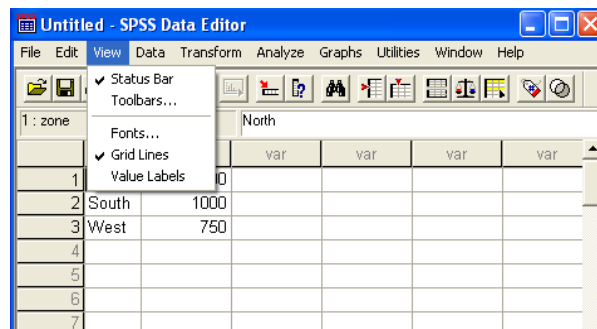
Edit Menu

Allow you to modify or copy text from the output or syntax windows, and to search for and replace text or data.



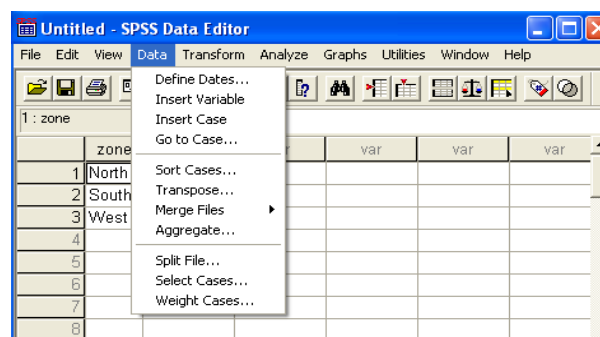
View Menu

Allows you to make the status bar and toolbar active and to change particular characteristics of the window such as removing grid lines, displaying value labels and changing font style and size.



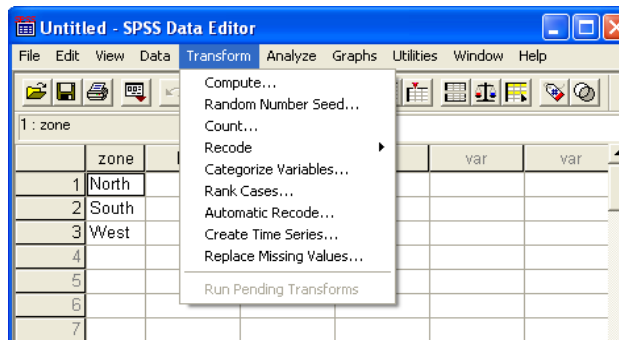
Data Menu

Allow you to define variables and create variable templates. In addition more global changes to SPSS data files are available, such as merging files, inserting, sorting and transposing variables and cases and selecting and weighting cases.



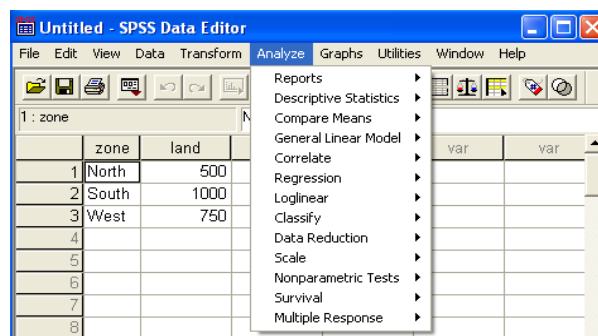
Transform Menu

Allow you to change certain variables in the data file using commands such as Recode and Rank Cases as well as to create new variables using Compute command



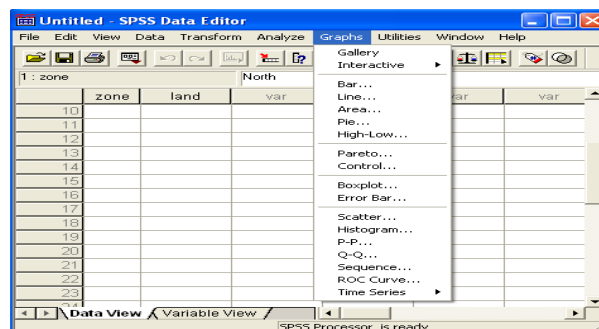
Analyze Menu

Allow you to select analysis you require. A variety of statistical procedures are available ranging from summarizing data through to more complex designs.



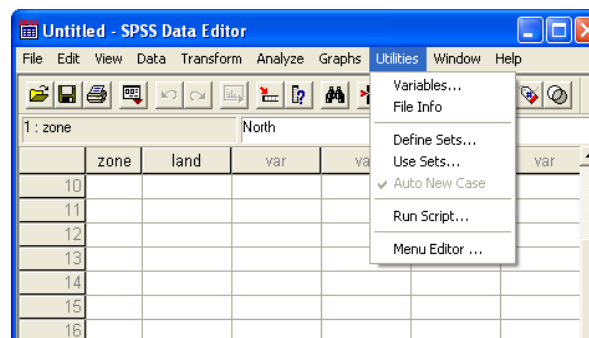
Graph Menu

Allow you to create bar, line, area, and pie charts, as well as histograms and scatter plots.



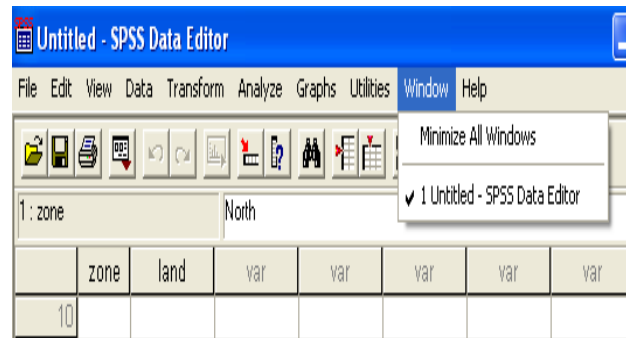
Utilities Menu

Allow you to display file and variable information. It also allows you to define and use different variable sets.



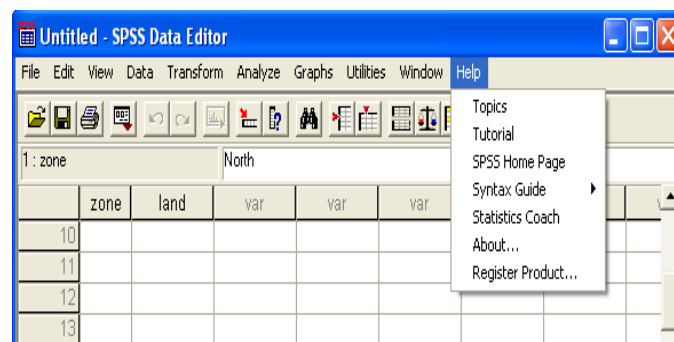
Window Menu

Allow you to arrange, select and control the attributes of the various windows. Using this menu you can move efficiently between data, syntax, output and chart windows.



Help Menu

Allow you to access information on how to use the many features of SPSS. The SPSS tutorial can be accessed through **help** menu.



Opening SPSS type file

Suppose an SPSS type file (**car.sav**) is located at **\\d\tdata\er** .To open it, issue the following command from the Syntax window:

```
GET ' \\d\tdata\er\car.sav'.
```

Note that:

- (i) There is a **space** after the command GET
- (ii) No space is allowed between **\\d\tdata\er\car.sav**
- (iii) The term **\\d\tdata\er\car.sav** is enclosed in quotation mark.

After the GET command is successfully executed, a data file will appear in the data window. If you mistype or issue wrong command, the output window will appear and show possible error message. In that case no data file will be shown in data window.

Saving an SPSS format file to another location

To save any open file to another location with a different name, issue the following command from the Syntax window:

```
SAVE OUTFILE= 'H:\LOCATION\FILENAME.EXTENSION'
```

LOCATION is the folder you want to save the file to
FILENAME.EXTENSION is the name of the new file with appropriate extension.

For example, **you** want to save the open CAR.SAV file to your folder S1 or S2 or P1 or P2 with a name **TEST.SAV**. The command will be

```
SAVE OUTFILE= 'H:\S1\TEST.SAV'.
```

Note that,

- SAVE OUTFILE command will work only if there is open file in the data window.
- The folder **S1** must exist.
- The existing file will be **overwritten**.

Using Questionnaire to create a data file in SPSS data editor window

Questionnaire is an important tool for collecting data in many fields. Data from the questionnaire are fed to the computer. While you input data in SPSS, you need to care about many issues. Let us consider the following questionnaire and construct a data file in SPSS data editor window. First write the variables name in the variable view.

Questionnaire

ID Number

Date of interview:

1. Name of the Respondent...

2. Age:....

3. Sex:

Male ...1

Female ...2

4. Residential Status:

Urban ...1

Semi urban ...2

Slum ...3

Rural ...4

5. Education:

Illiterate ...0

Primary ...1

S.S.C2

H.S.C ...3

Graduate and above ...4

6. Occupation:

Day laborer ...1

Farmer ...2

Service ...3Business ...4

House wife ...5

Retired from service ...6

Others (please specify) ...7

7. Total family members:

8. Total family income per month:...

9. Smoking Status:

Current smoker ...1

Past smoker ...2

Never smoked ...3

10. Did any of your first degree relative suffered from stroke?

Yes ...1

No ...2

11. Are you suffering from diabetes? (if NO go to Q# 15)

Yes...1

No ...2

Missing Value Code:

Not Applicable (NAP) : 97 997 9997

Don't Know (DK) : 98 998 9998

Not Available (NA) : 99 999 9999

12. How long your diabetes was first diagnosed?

13. Treatment of diabetes:

Diet ...1

Oral hypoglycemic ...2

Insulin ...3

No treatment ...4

14. Blood sugar level :

a. Fasting

b. 2 hrs after breakfast

15. Are you suffering from hypertension?

Yes ...1

No ...2

Don't know ...98

16. Pattern of antihypertensive treatment?

No treatment ...1

Treatment only when felt it...2

Irregular ...3

Regular ...4

17. Blood pressure on admission :

a. Systolic...1

b. Diastolic....2

18. Habit of betel-nut chewing :

Current chewer ...1

Past chewer ...2

Never chewer ...3

19. Jade and chewing tobacco intake :

Yes....1

No ...2

Enter the hypothetical data in the data editor window. Find inconsistencies if there any.

ID	Data	Name	Age	Sex	res	edu	occu	fs	fin	smk	Re;ts
1	2/2/08	Riaz	43	1	4	1	2	5	13000	2	1
2	10/2/08	Kamal	59	1	1	4	1	6	10000	1	2
3	5/2/08	Bely	42	2	1	1	3	4	5000	1	1
4	9/2/08	Nanto	39	1	3	2	4	7	9500	2	2
5	15/2/08	Monir	43	1	4	4	5	4	8000	2	2
6	21/2/08	Poresh	64	1	1	3	2	8	14000	3	2
7	12/2/08	Zulekha	55	2	2	2	2	4	5000	1	1
8	21/2/08	Ponny	52	1	1	4	5	3	10000	3	1
9	19/2/08	Sumi	46	2	1	1	6	6	9000	1	2
10	27/2/08	Pintu	42	1	1	2	3	5	15500	2	2
11	21/2/08	Tomal	24	2	1	1	6	4	12000	2	2

Continuation of data file

diabt	DB(yrs)	tb	bsr	bsf	hyp	Pt	Sbp	Bp	Hbnut	jet
2	-	-	-	-	1	3	60	13	2	1
98	-	-	-	-	1	2	70	120	1	2
1	8	3	12	9	98	-	65	110	3	2
1	3	2	14	6	1	4	60	130	1	1
98	-	-	-	-	1	2	50	140	2	1
2	-	-	-	-	2	-	50	100	1	2
2	-	-	-	-	1	4	60	120	3	2
98	-	-	-	-	1	2	70	110	3	1
1	5	1	18	8	2	-	60	130	1	1
2	-	-	-	-	1	-	80	120	2	2
2	-	-	-	-	2	2	80	120	2	2