SUBJECT: COMMERCE
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TOPIC: Data Analysis – Use of SPSS Tool
SUB TOPIC: USE OF SPSS IN DATA ANALYSIS
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Dr. Krishna Kumar Agarwal
Professor
Former Head
Department of Commerce
Former Dean & Director
Faculty of Commerce & Management Studies
M.G.Kashi Vidyapith, Varanasi
kkagarwal3@gmail.com

SPSS

- Statistical Package for Social Sciences
- SPSS is a comprehensive and flexible statistical analysis and data management solution.
- SPSS is a computer program used for survey authoring and deployment, data mining, text analytics, statistical analysis, and collaboration and deployment.
- SPSS can take data from almost any type of file and use them to generate tabulated reports, charts, and plots of distributions and trends, descriptive statistics, and conduct complex statistical analyses.
- SPSS is among the most widely used programs for statistical analysis in social science

FEATURES OF SPSS

- *It is easy to learn and use.*
- *It includes a full range of data. management system and editing tools.*
- *It provides in-depth statistical capabilities.*
- *It offers complete plotting, reporting and presentation features.*

VARIABLES

- *Variable is a user defined name of Particular type of data to hold information (such as income or gender or temperature or dosage).*
- *Array of variable is a collection values of similar data types.*
- *Variables types*

1. *Numeric*
2. *Comma*
3. *Dot*
4. *Scientific notation*
5. *Date*
6. *Custom currency*
7. *String*

RULES FOR VARIABLE NAMES

- *Names must begin with a letter.*
- *Names must not end with a period.*
- *Names must be no longer than eight characters.*
- *Names cannot contain blanks or special characters.*
- *Names must be unique.*
- *Names are not case sensitive. It doesn't matter if you call your variable CLIENT, client, or CliENt. It's all client to SPSS.*

GETTING DATA INTO SPSS

- *Creating new SPSS data files*
- *Opening existing SPSS system files*
- *Importing data from an ASCII file*
- *Importing data from other file formats*

ENTERING DATA

DATA EDITOR

- *The data editor offers a simple and efficient spreadsheet like facility for entering data and browsing the working data file.*
- *This window displays the content of the data file.*
- *One can create new data files or modify existing ones.*
- *One can have only one data file open at a time.*

This editor provides two views of the data,

DATA VIEW *Displays the actual data values or defined value labels.*

VARIABLE VIEW *Displays variable definition information, including defined variable and value labels, data type, etc..,*

EDITING DATA

PIVOT TABLE EDITOR

- *Output can be modified in many ways with is editor, and can create multidimensional tables*
- *For eg: We can edit text, swap data in rows and columns*

TEXT OUTPUT EDITOR

- *Text output not displayed in pivot tables can be modified with the text output editor.*

CHART EDITOR

- *High-resolution charts and plots can be modified in chart windows*

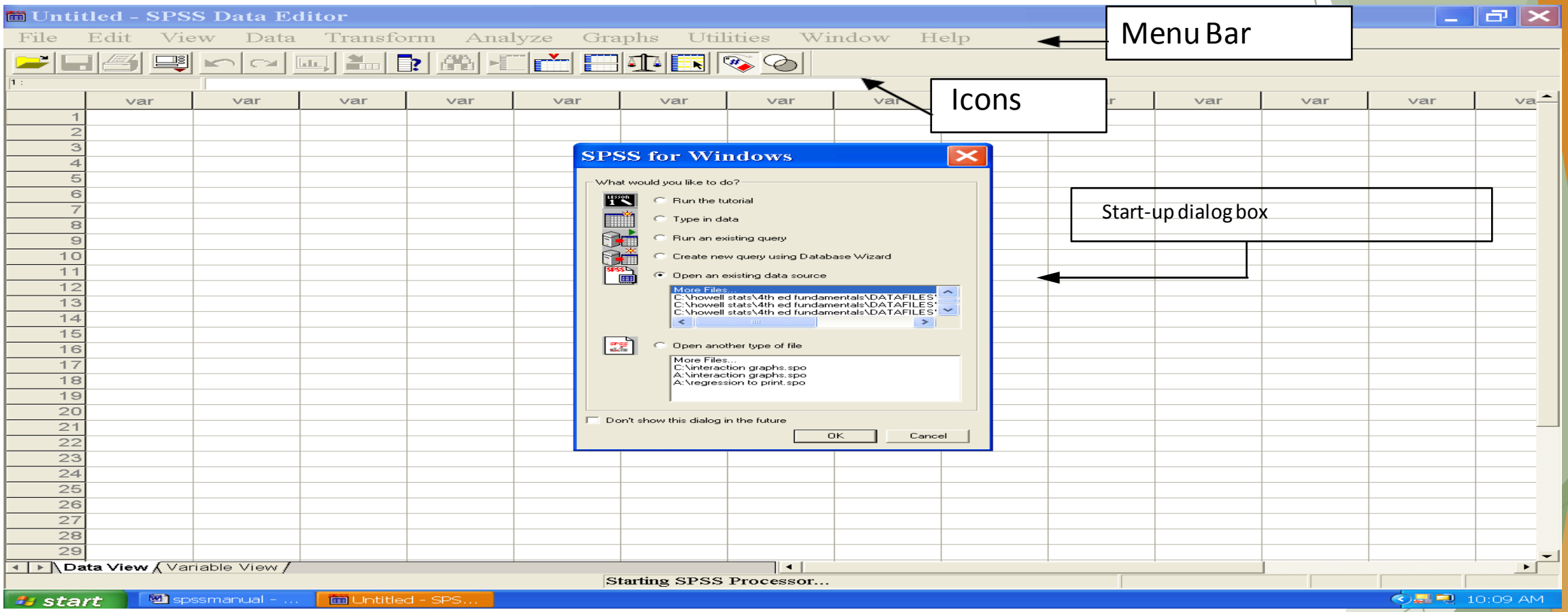
SAVING DATA

- *The default extension name for saving files is '.sav'*

For eg SSPS.sav

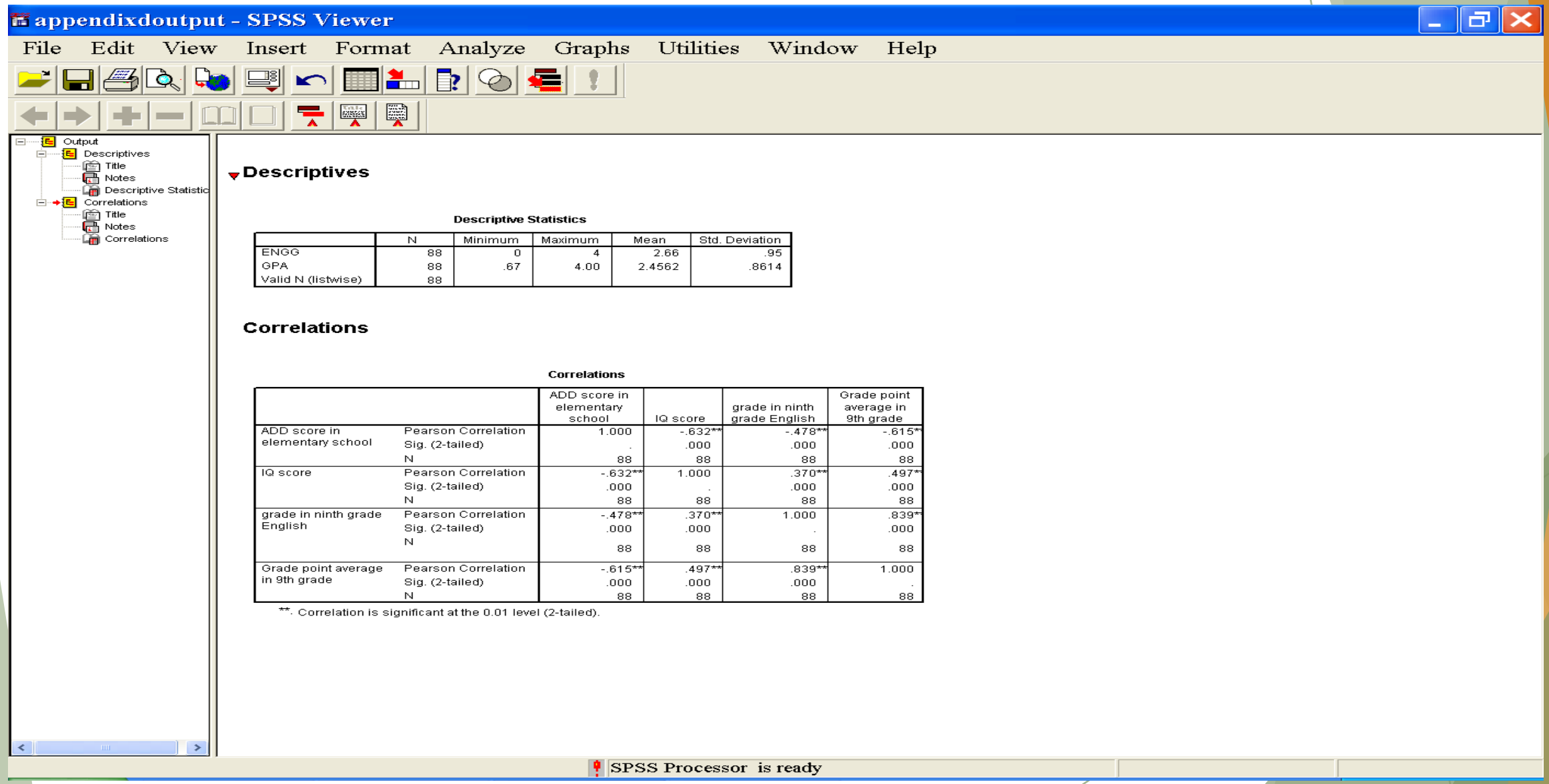
- *Data can be retrieved later by the saved file*

LAYOUT OF SPSS



The Data Editor window has two views that can be selected from the lower left hand side of the screen. Data View is where you see the data you are using. Variable View is where you can specify the format of your data when you are creating a file or where you can check the format of a pre-existing file. The data in the Data Editor is saved in a file with the extension .sav.

*On the **File** menu, click **Open** and select **Output**.*

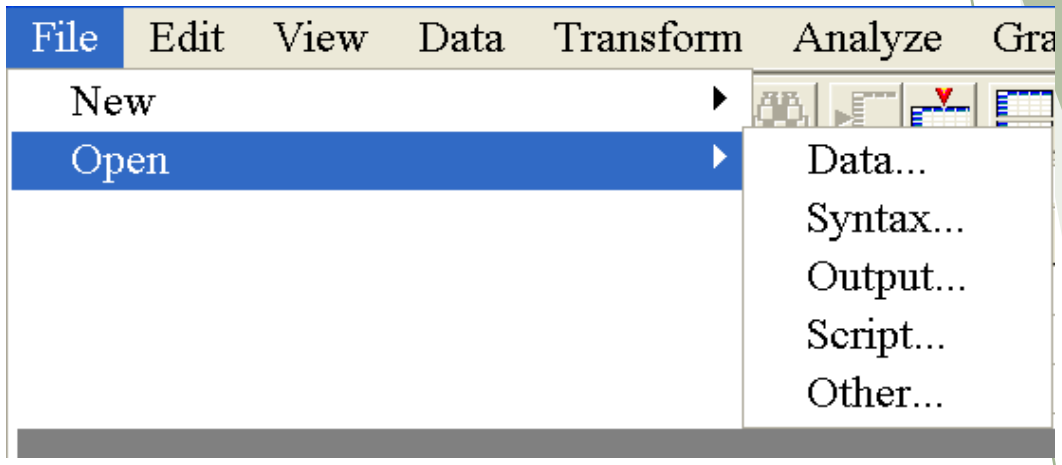


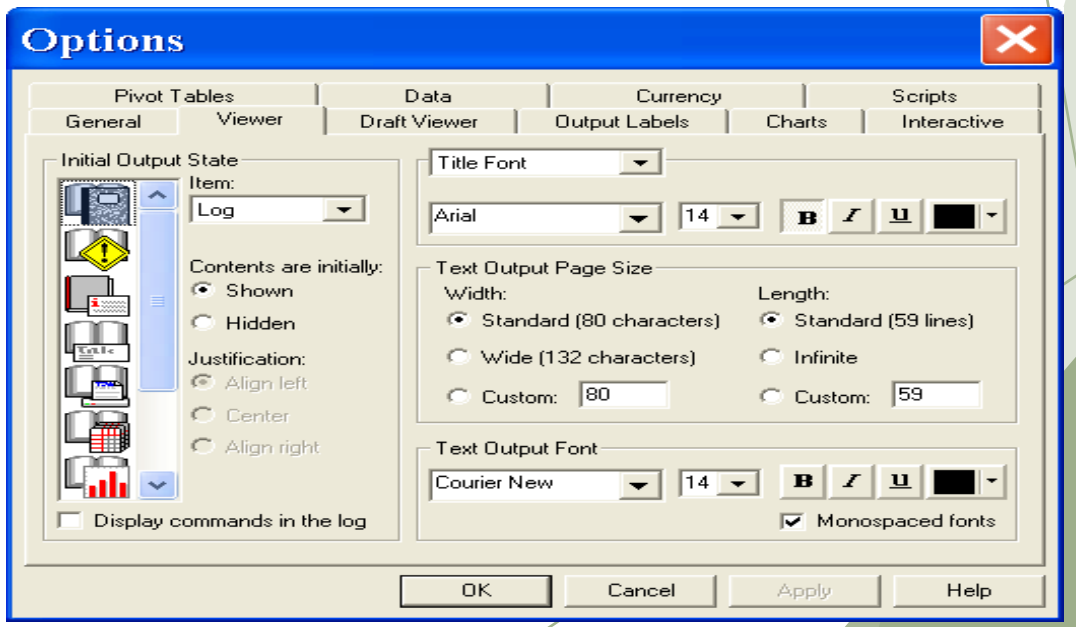
SPSS MENUS AND ICONS

- ***File*** *includes all of the options you typically use in other programs, such as open, save, exit. Notice, that you can open or create new files of multiple types as illustrated to the right*

- ***Edit*** *includes the typical cut, copy, and paste commands, and allows you to specify various options for displaying data and output*

- ***View*** *allows you to select which toolbars you want to show, select font size, add or remove the gridlines that separate each piece of data, and to select whether or not to display your raw data or the data labels*





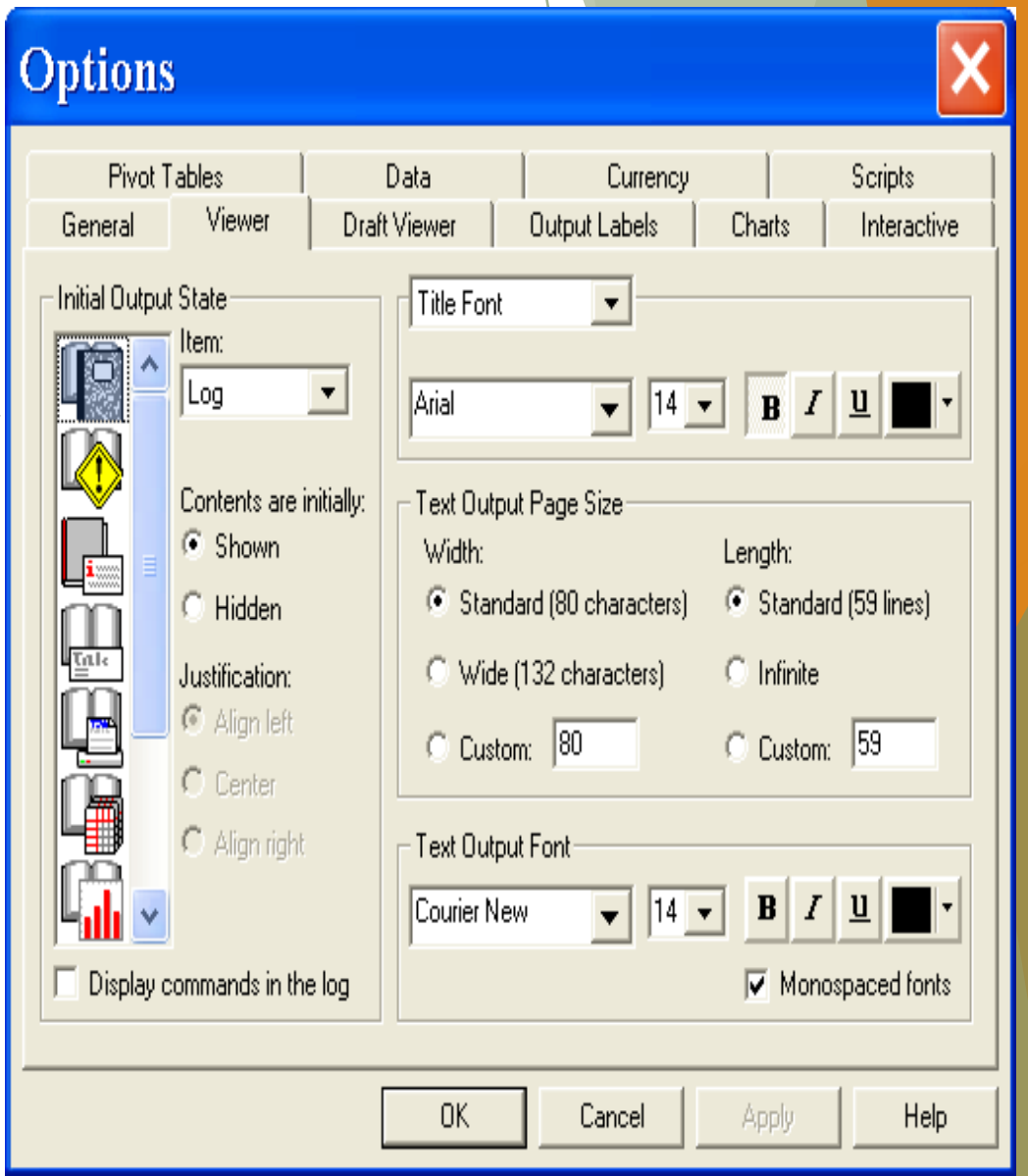
SPSS MENUS AND ICONS

- ***Data*** *allows you to select several options ranging from displaying data that is sorted by a specific variable to selecting certain cases for subsequent analyses.*

- ***Transform*** *includes several options to change current variables. For example, you can change continuous variables to categorical variables, change scores into rank scores, add a constant to variables, etc.*

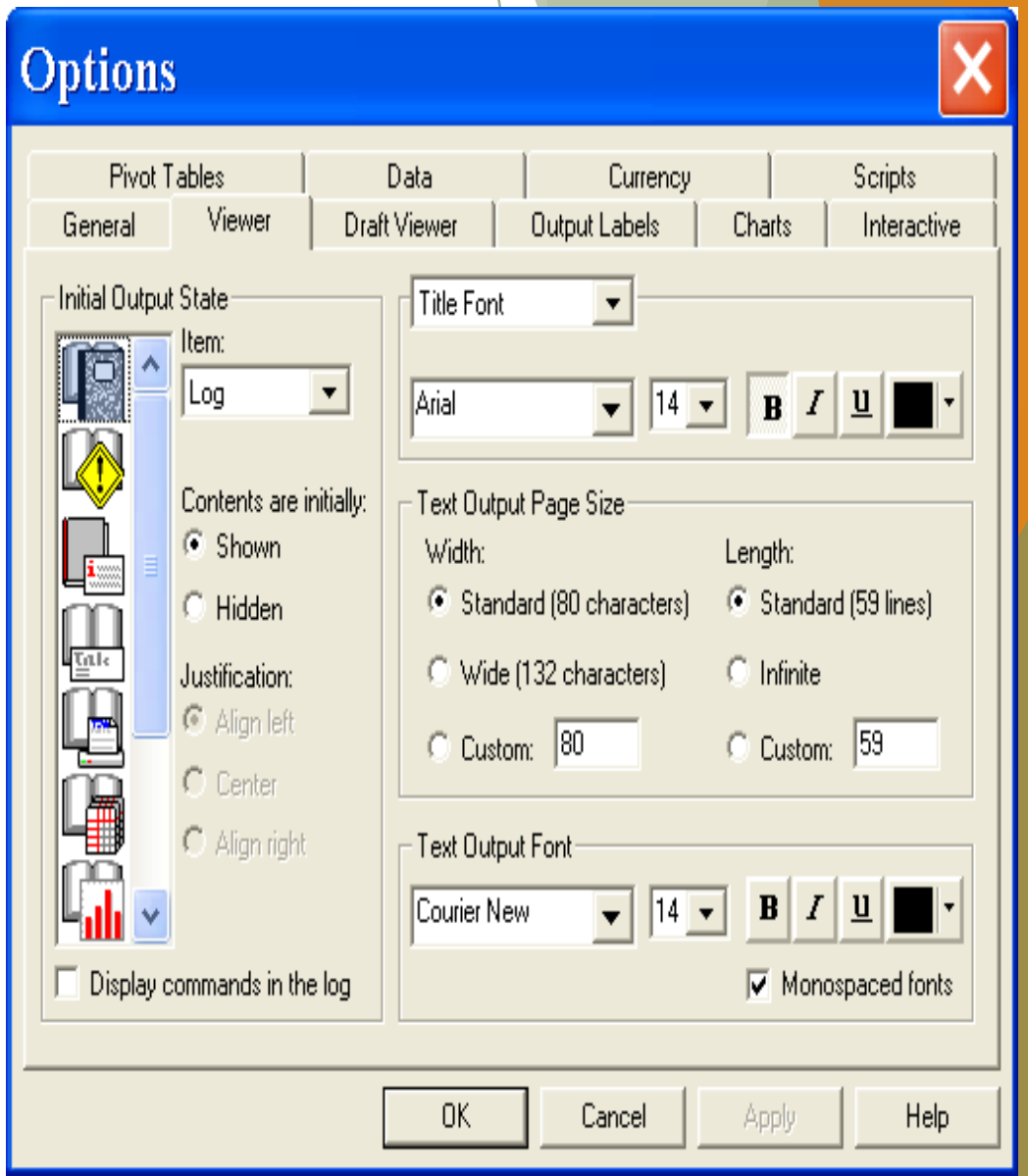
- ***Analyze*** *includes all of the commands to carry out statistical analyses and to calculate descriptive statistics. Much of this book will focus on using commands located in this menu.*

- ***Graphs*** *includes the commands to create various types of graphs including box plots, histograms, line graphs, and bar charts.*



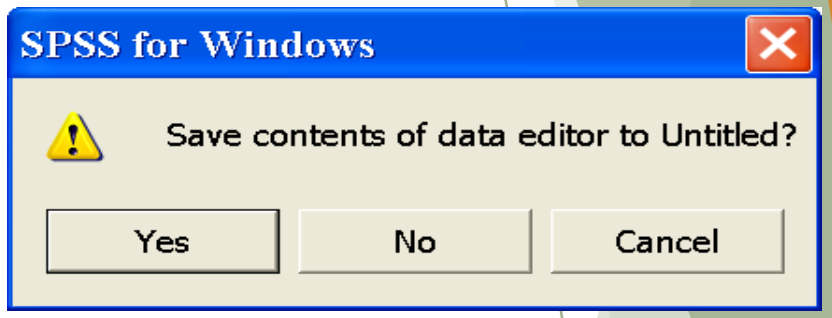
SPSS MENUS AND ICONS

- ***Utilities*** *allows you to list file information which is a list of all variables, there labels, values, locations in the data file, and type.*
- ***Add-ons*** *are programs that can be added to the base SPSS package. You probably do not have access to any of those.*
- ***Window*** *can be used to select which window you want to view (i.e., Data Editor, Output Viewer, or Syntax).*
- ***Help*** *has many useful options including a link to the SPSS homepage, a statistics coach, and a syntax guide.*
- ***Using topics****, can be used for the index option to type in any key word and get a list of options, or to view the categories and subcategories available under contents. This is an excellent tool and can be used to troubleshoot most problems.*



EXITING SPSS

- *To close SPSS, either left click on the close button*  *located on the upper right hand corner of the screen*



- *Select **Exit** from the **File** menu*

Choose one of these approaches.

- *A dialog box like the one below will appear for every open window asking to save it before exiting.*
- *Output files may be large, so you should ask yourself if you need to save them or if you simply want to print them.*
- ***Click No** for each dialog box if we do not have any new files or changed files to save.*

BASIC STEPS IN DATA ANALYSIS

1. Get Your Data Into SPSS: We can open a previously saved SPSS data file, read a spreadsheet, database ,or text data file, or enter directly in the data editor.

2. Select a Procedure: Select a procedure from the menus to calculate statistics or to create a chart.

3. Select The Variable For TheAnalysis: Variables in the data file are displayed in a dialog box for the procedure.

4. Run The Procedure: Results are displayed in the viewer

ADVANTAGES/ DISADVANTAGES

Advantages:

- *SPSS offers a user friendliness that most packages are only now catching up to.*
- *It is popular, and though that is certainly not a reason for choosing a statistical package, many data sets are easily loaded into it and other programs can easily import SPSS files.*

Disadvantages:

- *For academic use SPSS lags notably behind SAS, R and even perhaps others that are on the more mathematical rather than statistical side for modern data analysis.*
- *Its menu offerings are typically the most basic of an analysis and sometimes lacking even then, and it makes doing an inappropriate analysis very easy.*
- *It is expensive, sometimes ridiculously so, and even when you do buy you're really only leasing, and its license is definitely not user friendly.*

EXERCISE

- **Short Answer Questions**
  1. Explain the features of SPSS tool.
  2. Explain the rules for naming Variables.
- **Long Answer Questions**
  1. What are the various SPSS menus and icons?
  2. What are the advantages and disadvantages of SPSS?

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--Prof. Krishna Kumar Agarwal

Prof. Krishna Kumar Agrawal