COMPUTER APPLICATION IN SOCIAL WORK

Subject Code: **MSW 33A**

II - MSW
III – Semester

PG DEPARTMENT OF SOCIAL WORK
Periyar Government Arts College
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NOVEMBER - 2020

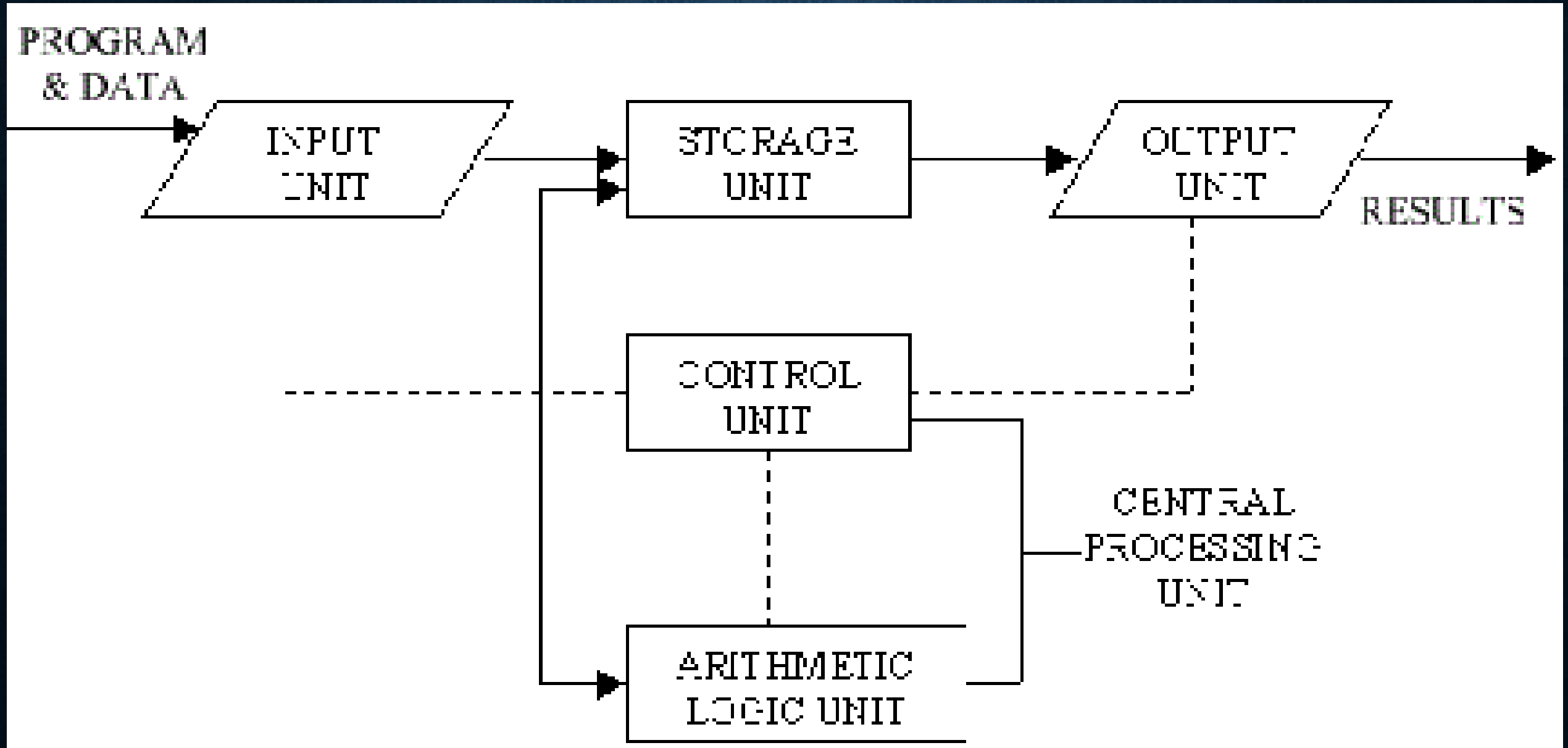
BASIC OPERATIONS OF COMPUTER

COMPUTER

- A computer can process data, pictures, sound and graphics. They can solve highly complicated problems quickly and accurately. There are five basic operations of computer or functions.

- 1) it accepts data or instructions by way of input,
  2) it stores data,
  3) it can process data as required by the user,
  4) it gives results in the form of output, and
  5) it controls all operations inside a computer.

OPERATIONS OF COMPUTER



INPUT

- This is the process of entering data and programs in to the computer system. You should know that computer is an electronic machine like any other machine which takes as inputs raw data and performs some processing giving out processed data. Therefore, the input unit takes data from us to the computer in an organized manner for processing.

CENTRAL PROCESSING UNIT (CPU)

- **The ALU and the CU of a computer system are jointly known as the central processing unit. You may call CPU as the brain of any computer system. It is just like brain that takes all major decisions, makes all sorts of calculations and directs different parts of the computer functions by activating and controlling the operations.**

ARITHMETIC LOGICAL UNIT (ALU)

- Logical Unit : After you enter data through the input device it is stored in the primary_storage_unit. The actual processing of the data and instruction are performed by Arithmetic Logical Unit. The major operations performed by the ALU are addition, subtraction, multiplication, division, logic and comparison. Data is transferred to ALU from storage unit when required. After processing the output is returned back to storage unit for further processing or getting stored.

CONTROL UNIT (CU)

- The next component of computer is the Control Unit, which acts like the supervisor seeing that things are done in proper fashion. Control Unit is responsible for co ordinating various operations using time signal. The control unit determines the sequence in which computer programs and instructions are executed. Things like processing of programs stored in the main memory, interpretation of the instructions and issuing of signals for other units of the computer to execute them. It also acts as a switch board operator when several users access the computer simultaneously. Thereby it coordinates the activities of computer's peripheral equipment as they perform the input and output.

STORAGE/ MEMORY UNIT

- The process of saving data and instructions permanently is known as storage. This unit consists of locations or cells on which the data can be stored. If you want to retrieve the data, the data can be retrieved from the same unit. This unit consists of two types of memories namely, Permanent memory and secondary memory. A permanent memory is nothing but the semiconductor memory device available with int computer. i.e. Hard disc. The secondary memory is the memory which is movable and can be taken away frm the computer and can be kept safely. Floppy disks, compact discs and memory strics are th eexamples of secondary memory devices.

PROCESSING

- The task of performing operations like arithmetic and logical operations is called processing. The Central Processing Unit (CPU) takes data and instructions from the storage unit and makes all sorts of calculations based on the instructions given and the type of data provided. It is then sent back to the storage unit.

OUTPUT

- This is the process of producing results from the data for getting useful information. Similarly the output produced by the computer after processing must also be kept somewhere inside the computer before being given to you in human readable form. Again the output is also stored inside the computer for further processing.

FUNCTIONAL UNITS

- In order to carry out the operations mentioned in the previous section the computer allocates the task between its various functional units. The computer system is divided into three separate units for its operation. They are

THANK YOU

Device of Computer

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What is computer device?

- Device which means a collection of components which is called device or hard ward.

Eg.

- Input device --→ Storage Device --→ Out Device

Input device

- Data
- Program
- Command
- User Response
- Keyboard
- Mouse
- Other input device
  - Touch pads,
  - Joystick
  - Light pens
  - Microphones
  - Web camera
  - Scanner
  - Bar code reader

Storage Device

- A Storage device is the mechanism used to record and retrieve items to and from a storage medium . A storage medium is the physical material on which the items are kept.
- There are two types of storage device
  - 1. Primary Storage device
  - 2. Secondary storage devic e

Primary Storage Device

- Random Access memory (RAM)
- Read only Memory (ROM)

Secondary Storage Device

- Floppy Disk
- CD & DVD
- Pen Drive
- Memory Cards
- External hard disk

Out put Device

- Text
- Graphics
- Audio
- Video
- Monitor
- Printer

Computer Application in Social Work

Topic : Software

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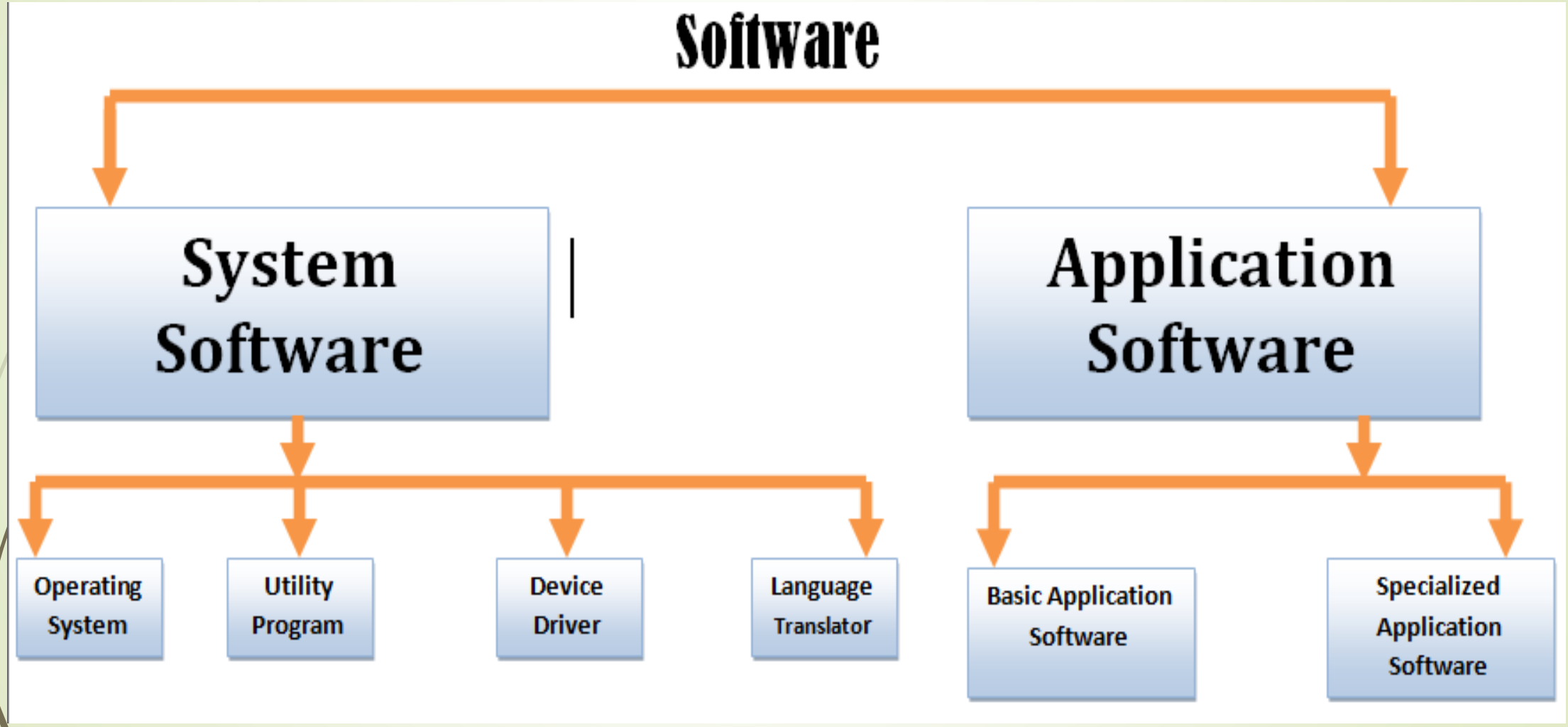
What is Software?

- Software is a set of instructions, data or programs used to operate computers and execute specific tasks.

Types of Software



System Software

- A set of programmes which are used to control the system or used to improve the efficiency of the computer is called system software.

ex.

- Operating system, such DOS, Unix etc.
- Utility programe – Virus scanner progamme
- Language Processor, such as complier, interpreter etc.

Operating systems

- Operating systems is a programme that allows different application and various pieces of hardware such as monitor, mouse, printer, keyboard etc. to communicate each other.
- Other Operating system
  - Windows 95, Windows 98, windows 2000
  - Windows ME, Windows NT, Windows XP and Windows vista.
  - Windows 7, Windows 8 etc.
- Cell phone Operating system
  - IOS, Android, windows 8.

Device Driver - Software

- A device driver is a software program that controls a particular types of (or) specific type of hardware.

- Examples: Sound card driver, video card driver, etc.

Application Software

- A set of programs which are developed by the user (software engineers) for day-to-day activities like accounting is called application software.

- Word Processors – Such as MS-Word, Notepad etc.
- Spread Sheets – Such as MS –Excel, Lotus 1-2-3
- Data bases package – Such as Foxpro, MS-access etc.
- Other GUP software – Windows photo gallery, Adobe photoshop, Adope pagemaker, Coral draw etc

Internet Browsers

- Chrome
- Mozilla Firefox
- Internet explore and
- Opera etc.

Meaning of Progamme

- A computer program is a collection of instructions that can be executed by a computer to perform a specific task.

- A computer program is usually written by a computer programmer in a programming language.

Computer Language

- It translate programming code into the machine code. So, that computer can understand it and can process further. Computer converts the High Level Language into Machine Language (binary language i.e, 0 and 1)

- The language processors are given below-
  - Assembler – An assembler is a program that converts assembly language into machine code. It takes the basic commands and operations from assembly code and converts them into binary code that can be recognized by a specific type of processor.
  - Interpreter - An interpreter is a computer program that directly executes instructions written in a programming or scripting language, without requiring them previously to have been compiled into a machine language program.
  - Compiler - The language processor that reads the complete source program written in high level language as a whole in one go and translates it into an equivalent program in machine language is called as a Compiler.

Example: C, C++, C#, JavaIn a compiler, the source code is translated to object code successfully if it is free of errors. The compiler specifies the errors at the end of compilation with line numbers when there are any errors in the source code. The errors must be removed before the compiler can successfully recompile the source code again

Unit – 2

WORD PROCESSING

Introduction

Microsoft Office is a family of client software, server software, and different services developed by Microsoft. It was first announced by Bill Gates on 1 August 1988, at COMDEX in Las Vegas. Initially a marketing term for an office suite (bundled set of productivity applications), the first version of Office contained Microsoft Word, Microsoft Excel, and Microsoft PowerPoint.

What is mean by Microsoft Office?

Microsoft Office is an integrated set of software tools, software applications for Windows in computers. MS Office includes word processing, spreadsheet, presentation. Apart from this MS-Access (data based application, MS paint etc. and email communication programs

Office 2010 for Microsoft Windows, Office 2008 computer are the versions available as of July 2010.

Word Processing

Word processing is one of the most important activities carried out in a work place. It is a technique used or formatting text into a more readable rom.

In early days, a manual type writer was commonly used which was later replaced by electronic typewriter to carryout letter writing, statement preparation, report generation etc. as computers are fast replacing most of the manual documentation work, software technically called word processors were introduced to process text.

Microsoft word processors are application software that are used for creating, editing, transmitting, storing and printing all kinds of documents. Word processors are applied in the field of journalism, publishing, DTP (Desk top Publishing) etc. Thus, word processing is integral or the preparation and presentation of documents.

Features of MS Word

MS word was developed by Microsoft incorporation. It gained popularity due to its advanced features. Some of them, are….

a. Working with multiple documents simultaneously.
b. Auto correction of mistakes.
c. Inserting tables, charts and graphics into a document.
d. Saving and protection of documents.
e. Printing any number of copies of error free documents in desired formats.

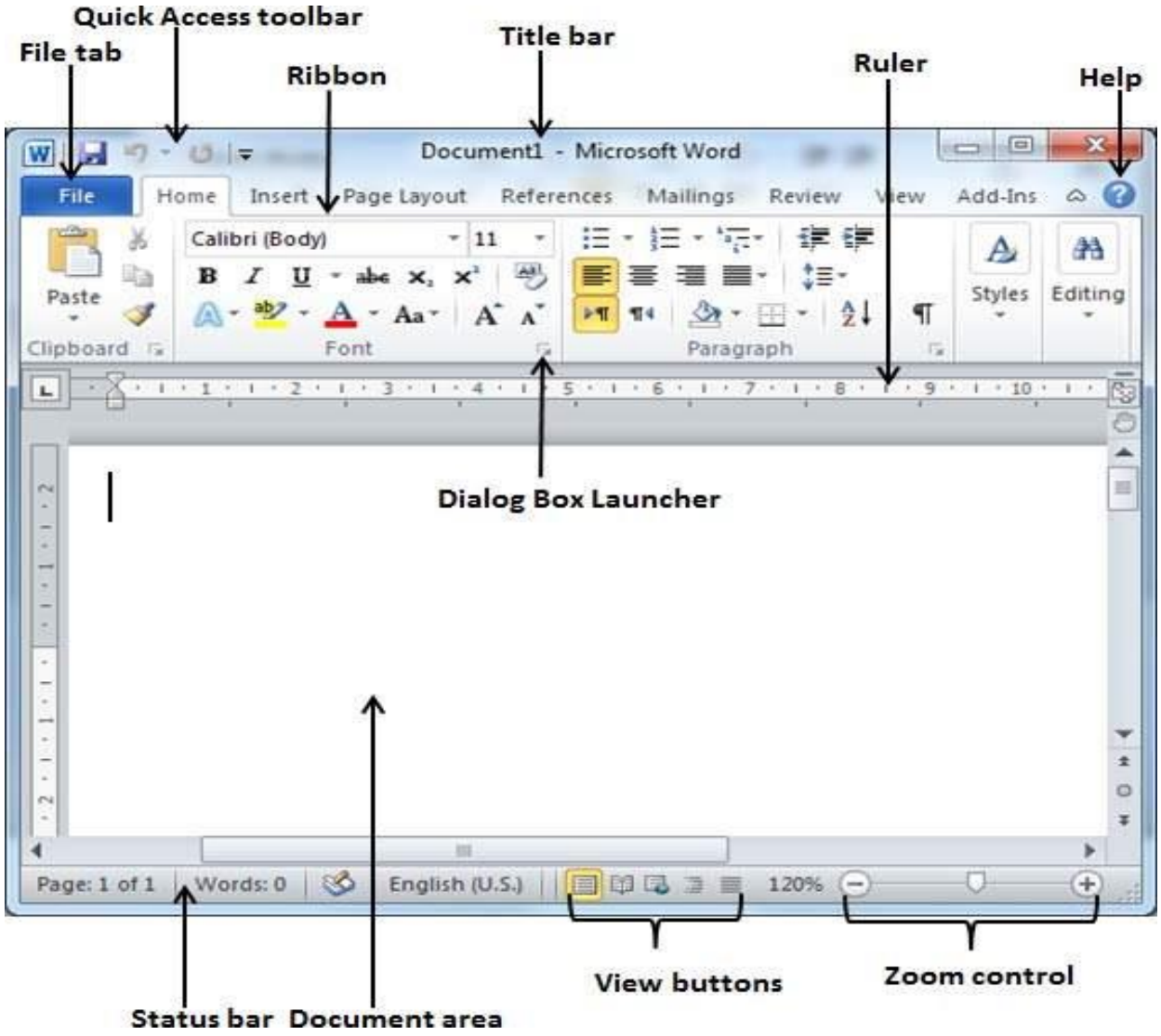
Advantages of MS word

Microsoft Word is a great tool as typing is faster than ever,

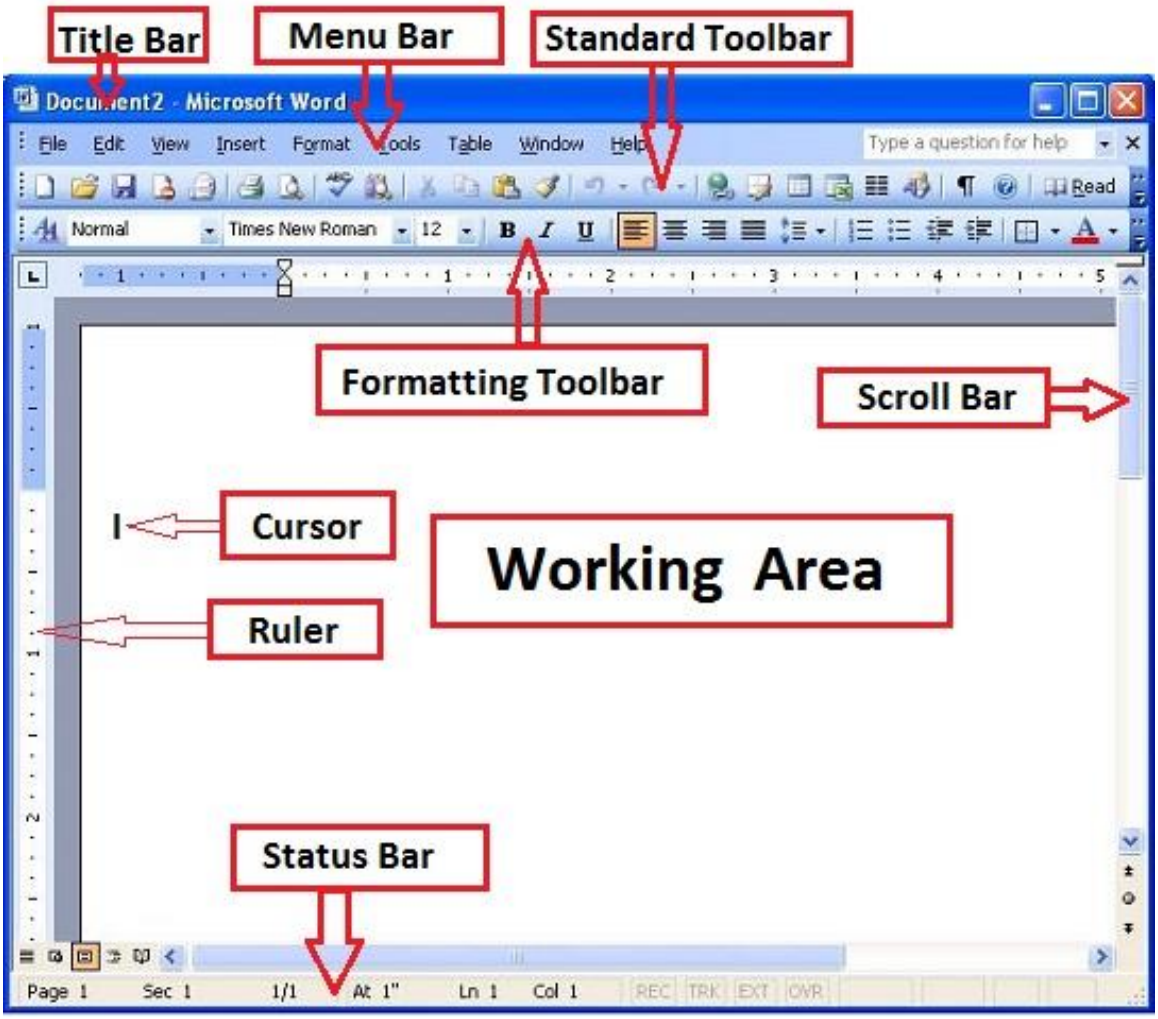
- It is easy to correct the mistakes by just hitting the backspace or delete button.
- There are the templates for any type of document and mail merge from a database so that user can easily send out the letters to multiple people at a time.
- Can align the text whether at the center, right or left margins or justified takes just one click,
- Spelling and grammatical mistakes are pointed out instantly, You can correct any mistakes which are made easily,
- The bullets and numbers are done automatically and there is always an option to ask for help.

Getting into MS Word

1. By clicking on the MS Word icon on the office toolbar ----------→ click



2. By using right click on the desktop ----→ the list of programe appear ----→ click MS Word – the MS word window will displayed as follows\



Components o MS Word Window

There are 7 major components designed in the ms word window which included Title bar, Menu bar, Tool bar, Work area, Ruler, Status bar and Scroll bar.

- **Title bar:** the title bar is displayed at the top of the window. It contains the name of the active document on the left corner and three buttons on the right corner that is called closed button, maximize button, and minimize button.

- **Menu bar:** As the name suggest, the menu bar comprises of various menus. Each of the menu contains a list of options, which can be selected.

- **Tool bar:** The toolbar contains the collection of icons, each preforming a specific task. These icons perform the command available under sub menu of the menu bar. There are different toolbars available and the most frequently used toolbars are standard and formatting.

- **Work area:** It is a blank area where the text can be keyed in it has a blinking vertical line called cursor that indicates where the t4ext will appear.

- **Ruler:** Ruler controls the margins of the page. They appear on the top and left positions of the work area.

- **Status Bar:** The status bar is displayed at the bottom of the window. It shows the current location of the insertion point (row, column), page number and various other modes.

- **Scroll bar:** Scroll bars are used to scroll across the window. There are two types of scroll bar – horizontal scroll bar and vertical scroll bar.

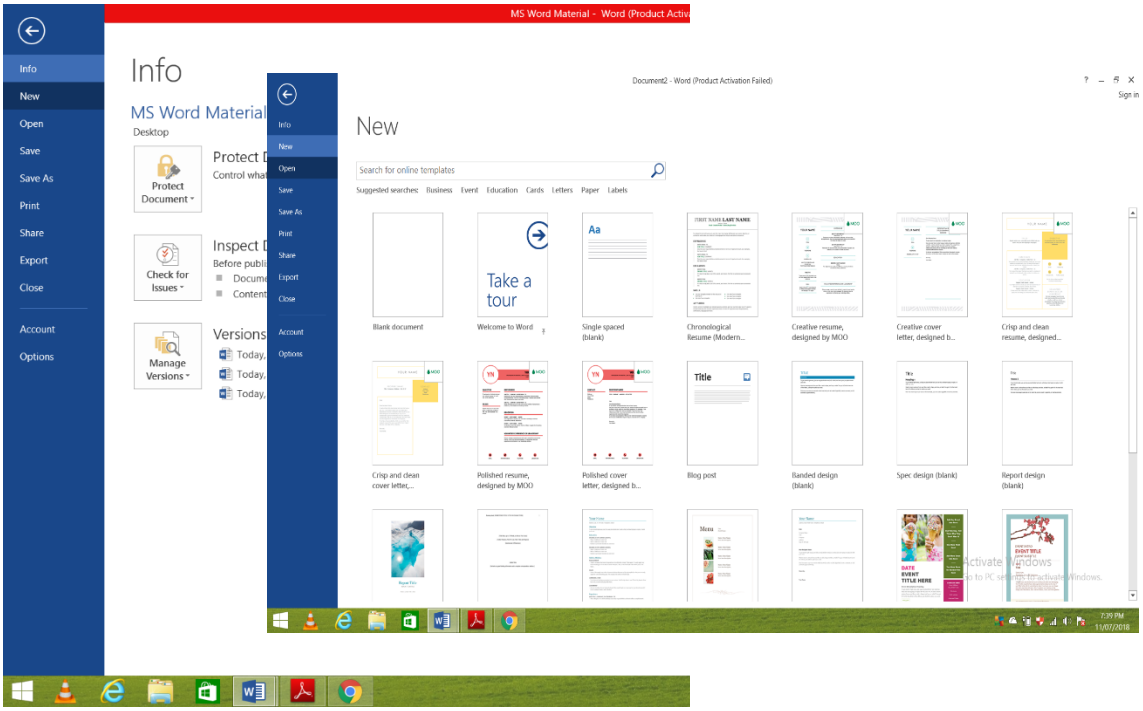
File Operations

A file is a collection of information stored in a computer that includes text, pictures, sounds, movies etc. File operations included creating new files, opening an existing file, savings and closing the active file. In MS word files are technically called documents.

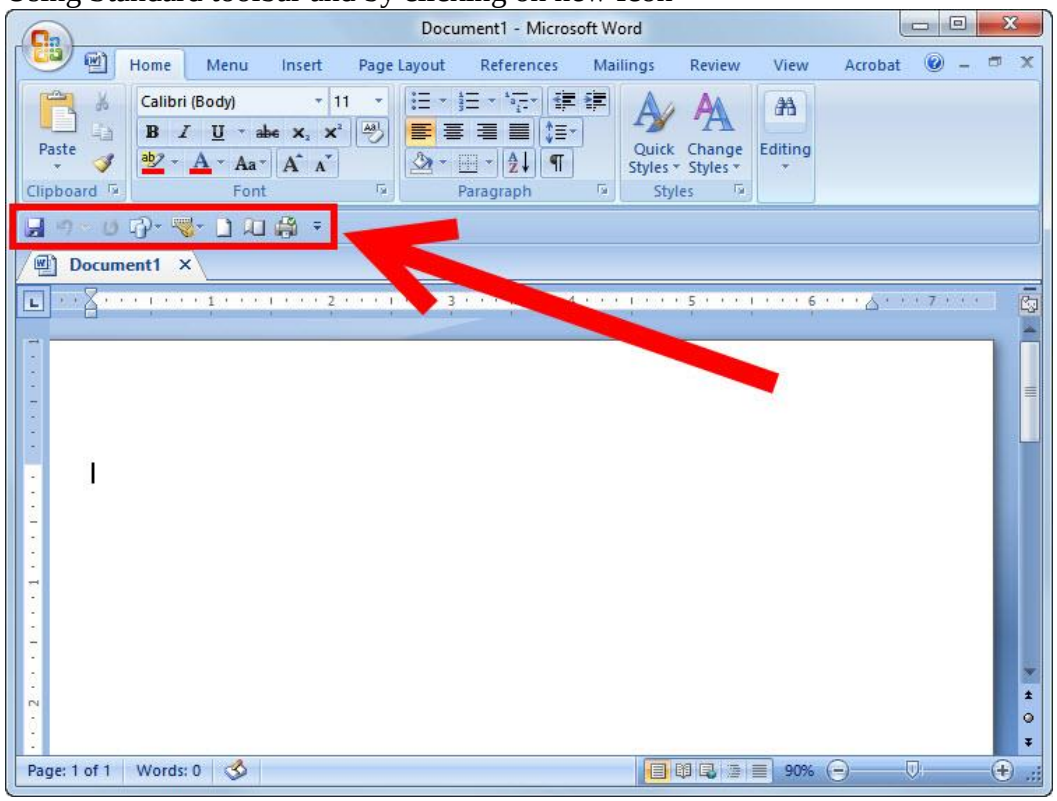
Creating a new Document.

There are three ways to create a new document in MS word

1. Using file menu and choosing **New option** ----→ click



2. Using Standard toolbar and by clicking on new Icon



3. Using the Key board shortcut Ctrl + N

How to enter text?

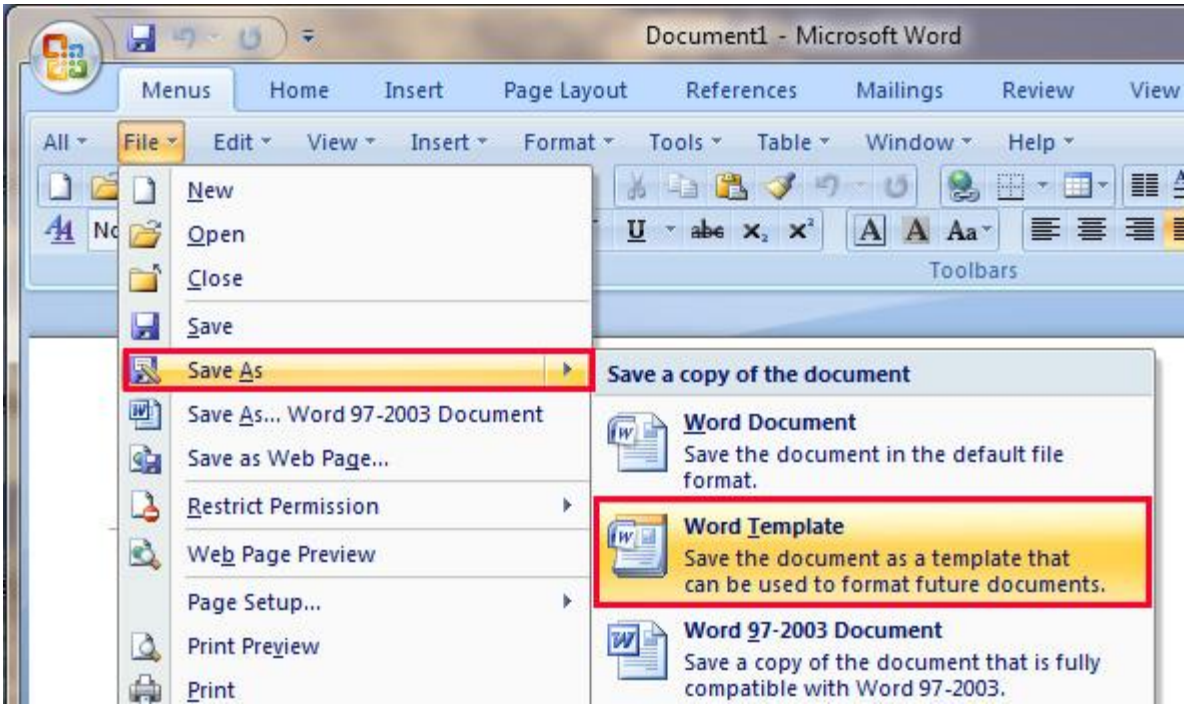
Once the new document is created, it is ready or insertion of text. The text is entered in the work area. As the text is keyed in the lashing vertical line moves towards the right of the work area.

Saving a Document

Saving a document is another important aspect in file operation. This helps to conserve the file or future purpose.

Now let us see how to save a file in MS word.

1. Using file menu and choosing the option save menu ---- click

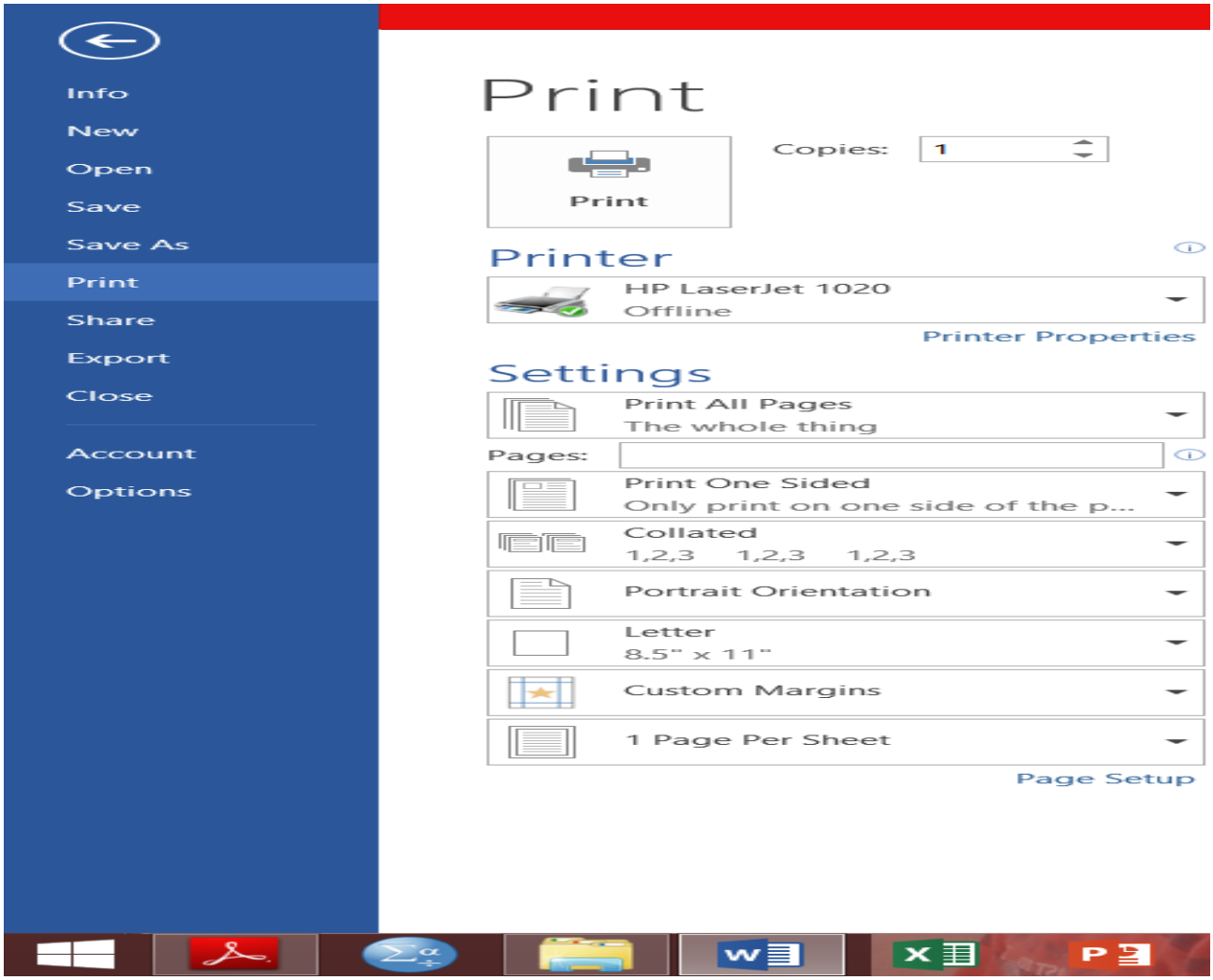


2. Clicking on the Save icon rom Standard toolbar
3. Using the Keyboard shortcut, Ctrl + S

Printing

Go to file

----→ click print



Unit – 4

What is Internet?

The internet is a global collection of peoples computers which are linked together by cables and telephone lines making communication possible among them in a common language.

It is a global collection of inter connected networks.

Network means a facility to share computer equipment, programmes and messages and the information available at one site.

Internet features:

Internet Takes data from one computer to the other. For such a communication we require

1. The address of the destination
2. A safe way of moving data in the form of electronic signals.

- For safe movement of data two set of rules namely Transmission control protocol (TCP) and Internet protocol (IP) are used in the network software.

- For sending a large block of data, to another machine, TCP divides the data into little data packets.

- It also adds special information regarding packet position, error correction code etc. to make sure that the packets at the destination can be reassembled correctly and without any damage to data.

- The role of IP is to put destination address information on such packets.

- On Internet it is not necessary that all the packets will follow the same path from source to destination.

- A special machine called routers tries to load balance various paths that exists on networks.

- Another special machine called Gate ways allows different electronic networks to talk to Internet which uses TCP / IP.

- *Internet address have two forms:*

    a. Person understandable expressed as words
    b. Machine understandable expressed as numbers
       (eg). Jhenryrozario/@ rediffmail.com

- The user name is general is the name of the Internet account. This name is the same as the one, which you may use when logging in to the computer on which you have Internet account.

Setting up Internet Connection:

1. Dial – up connection:

2. By using a modern and a telephone line, you can connect to a Internet access provider (VSNL) Satyam, Online, Dishne t etc). Modems can be internal or external

3. On applying for the account you can generally select your user name and password.

4. For using the account you must provide the host machine with username and password. This process is called as logging in.

5. In dial up account, modem is used to convert computer bits and bytes into modulated signals that phone lines can transmit.

6. You need communication software like internet explorer, Netscape navigator

Types of Networks:

LAN (Local Area Network) – The computers are geographically else to each other (that is in the same building).

WAN (Wide Area Network) – The computers are farther apart and are connected by telephone lines or radio waves. The largest WAN in existence is the Internet.

On LAN can be connected to another LAN over any distance via telephone lines and radio waves. A System of LANS connected in this way is called WAN.

Uses of LAN:

LANs are used to connect personal computers. So any computer is able to access data anywhere in the LAN. Thus many uses can share expensive devices such as laser printers or data. Users can also send e-mail or engage in chat sessions.

TCP / IP

Transmission control protocol / Internet Protocol TCP / IP is nothing but collection of rules (or protocols) that governs the way data travels form one machine to another access networks. Internet is bared on TCP / IP.

The IP does the Following:

1. Envelopes and addresses the data
2. Enables the network to read the envelope and forward the data to the destination.
3. Defines how much data can fit into a single envelope. (a packet).
4. The addressed and packaged data is sent over the network to its destination.

The TCP Component does the following:

1. Breaks data up into packets so that the network can handle it efficiently.
2. Verifies whether all the packets arrived at their destination.
3. Reassembles data.

TCP / IP can be compared to transfer from one part of the country to other part.

Hypertext Transfer Protocol (ATTP):

It is a set of rules that governs the transfer of hypertext between two or more computers.

http://WWW.rediffmail.com

The World Wide Web (WWW) encompasses the universe of information that is available via http. Hypertext is a text that is specially coded using a standard system called Hypertext markup Language (HTML). The HTML codes are used to create links. There links can be textual or graphic, and when clicked on can link the user to another resource.

Usually hypertext links will be blue in colour and will be underlined. When you more the more pointer over a hypertext links the pointer changes its shape to that of a hand, as will be highlighted.

Domain Name:

A domain name is a way to identify and locate computers connected to the internet. A domain name always contains two or more components reparated by periods called dots.

(eg). microsoft.com

The last portion of the domain name is the top level domain name and describes the type of organization holding that name.

Some of the major Categories are:

.com	-	commercial entities
.deu	-	education institutions
.org	-	miscellaneous organizations that don't fit any other category such as not profit groups
.net	-	organization directly involved in Internet operations.
".in, uk"	-	Country codes. "in " for India and "uk" for United Kingdom

World Wide Web (WWW):

It is the graphical Internet service that provides a network of interactive documents and the software to access them.

It is based on documents called pages that combine text, pictures, forms sound, animation and hypertext links.

To navigate the WWW, users 'surf' from one page to another by pointing and clicking on the hyper links in text or graphics.

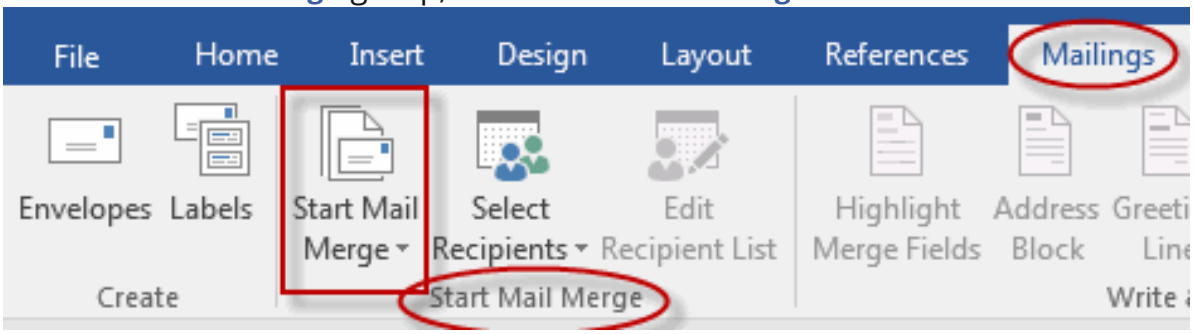
WWW is not hierarchical. It is non – linear. that names we can jump from on links to another. We can go directly to a resource if we know the URL (Uniform Resource Locator)

Use Mail Merge in Microsoft Word

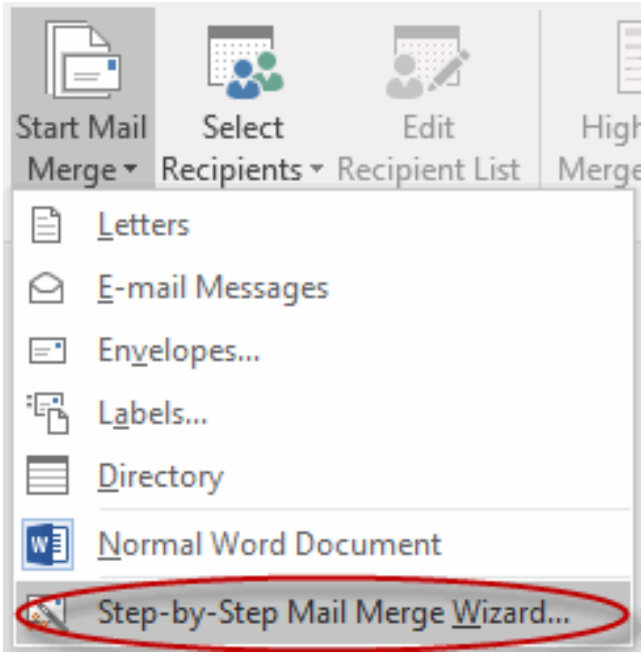
Mail Merge is most often used to print or email form letters to multiple recipients. Using Mail Merge, you can easily customize form letters for individual recipients. Mail merge is also used to create envelopes or labels in bulk.

This feature works the same in all modern versions of Microsoft Word: 2010, 2013, and 2016.

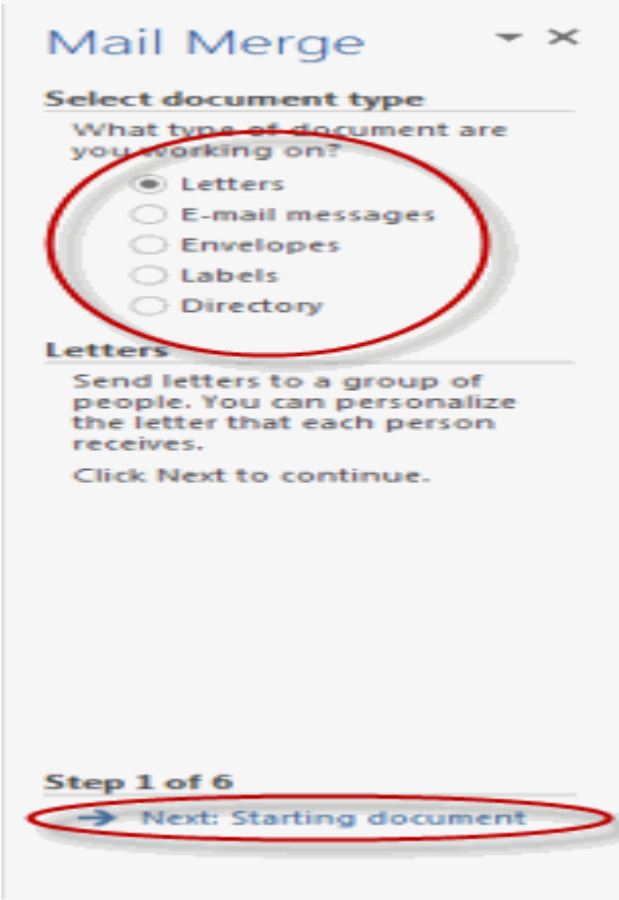
1. In a blank Microsoft Word document, click on the **`Mailings`** tab, and in the **`Start Mail Merge`** group, click **`Start Mail Merge`**.



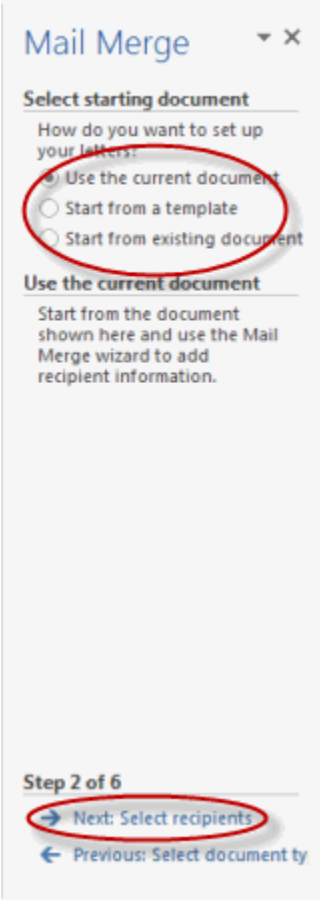
2. Click **`Step-by-Step Mail Merge Wizard`**.



3. Select your document type. In this demo we will select **Letters**. Click **`Next: Starting document`**.

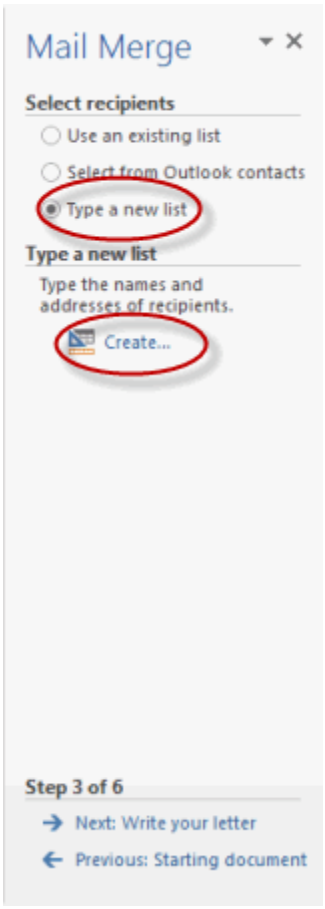


4. Select the starting document. In this demo we will use the current (blank) document. Select **Use the current document** and then click **`Next: Select`**

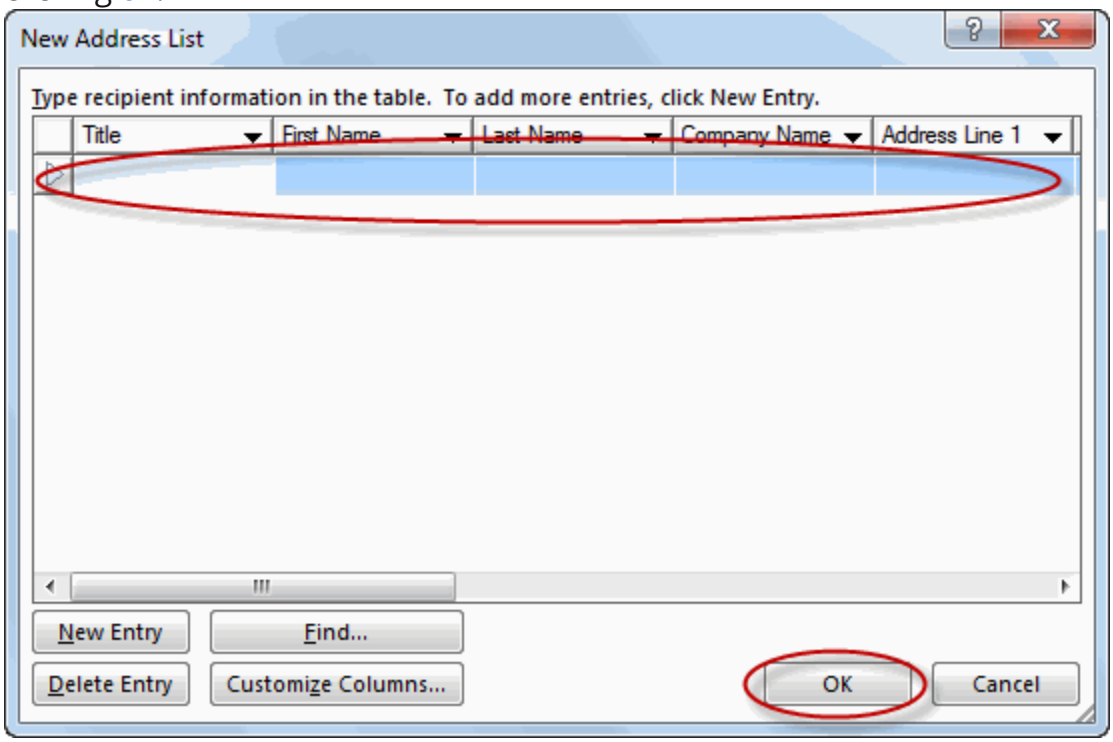


   - Note that selecting **Start from existing document** (which we are not doing in this demo) changes the view and gives you the option to choose your document. After you choose it, the Mail Merge Wizard reverts to **Use the current document**.

5. Select recipients. In this demo we will create a new list, so select **Type a new list** and then click **`Create`**.


Mail Merge
Select recipients
Use an existing list
Select from Outlook contacts
Type a new list
Type a new list
Type the names and addresses of recipients.
Create...
Step 3 of 6
Next: Write your letter
Previous: Starting document

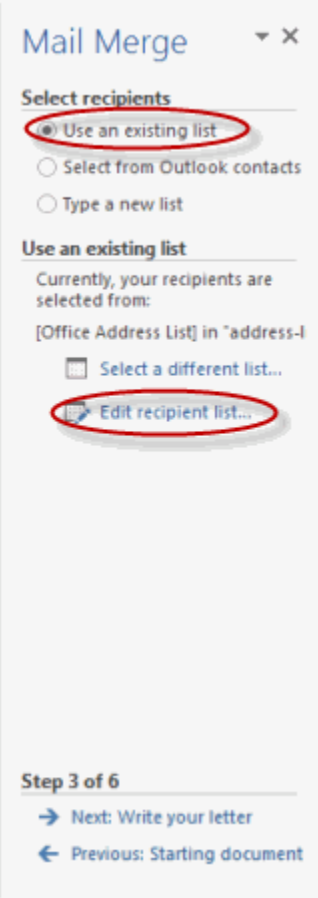
- Create a list by adding data in the **New Address List** dialog box and clicking **OK**.



- Save the list.

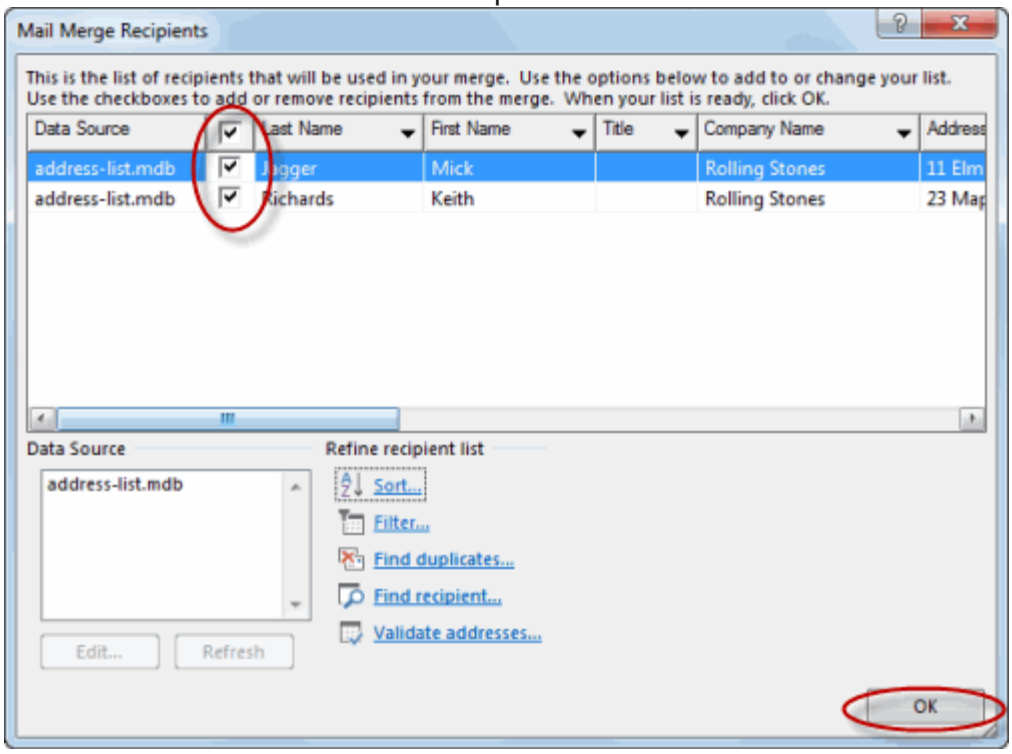
- Note that now that a list has been created, the Mail Merge Wizard reverts to **Use an existing list** and you have the option to edit the

recipient list.

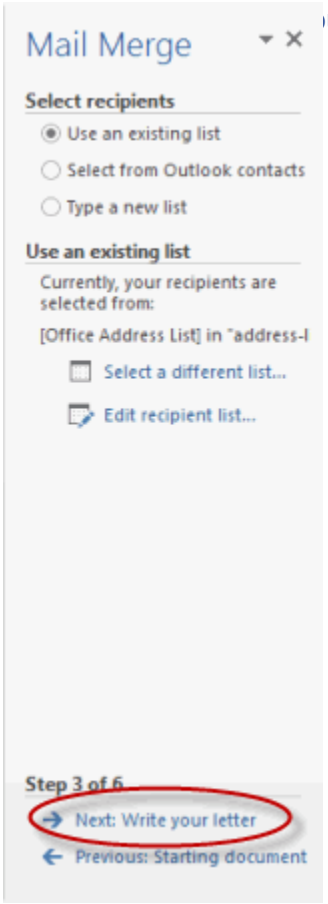


- Selecting **`Edit recipient list`** opens up the **`Mail Merge Recipients`** dialog box, where you can edit the list and select or

unselect records. Click **OK** to accept the list as is.

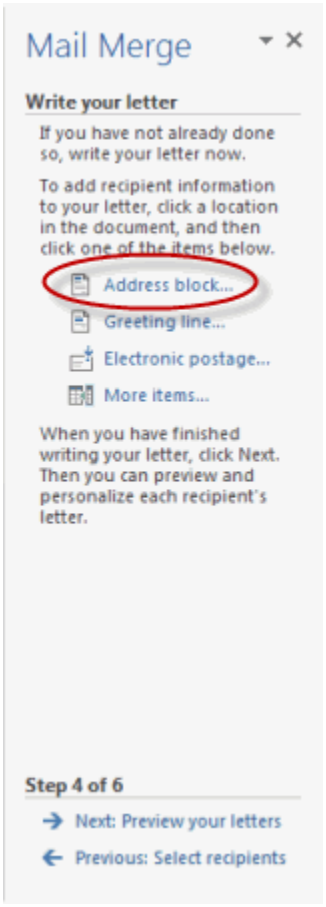


- ur letter.



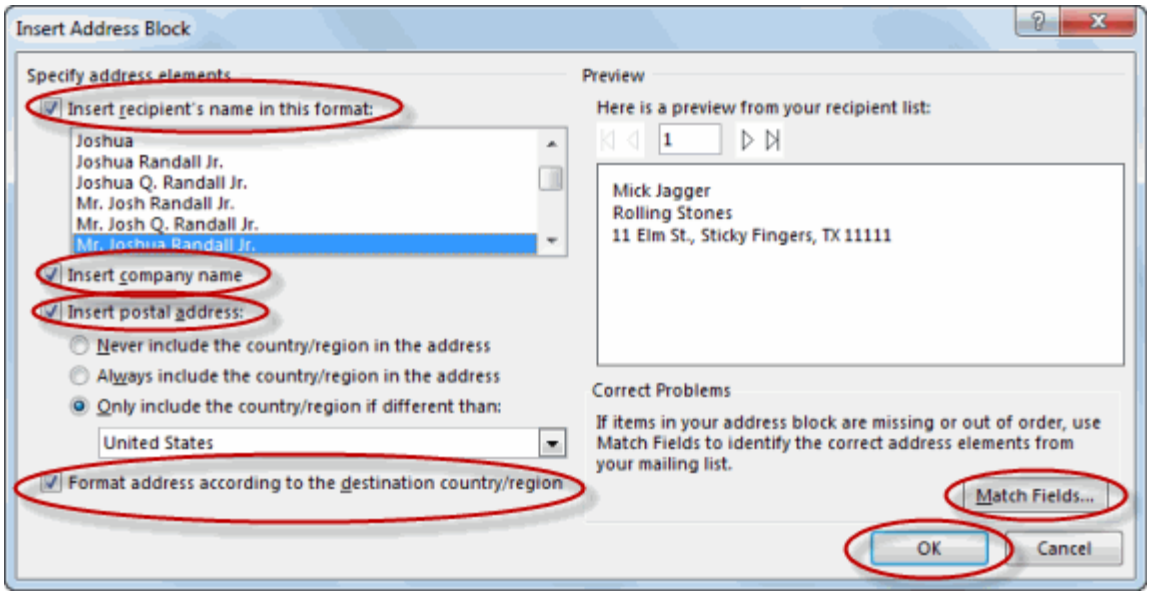
6. Write the letter and add custom fields.

- Click **`Address block`** to add the recipients' addresses at the top of the document.

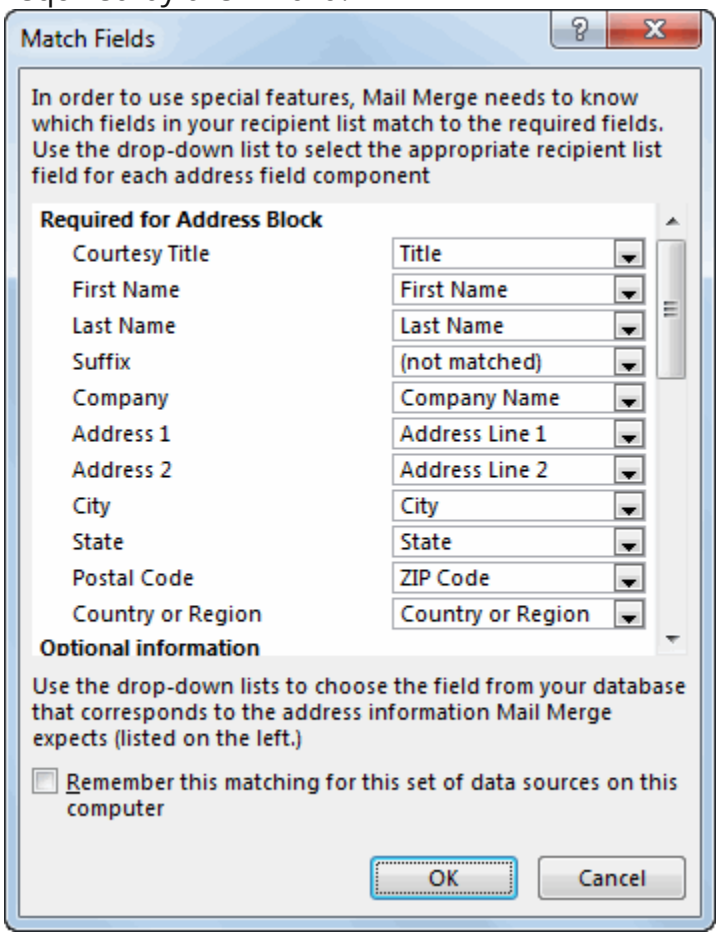


- In the **`Insert Address Block`** dialog box, check or uncheck boxes and select options on the left until the address appears the way you want it

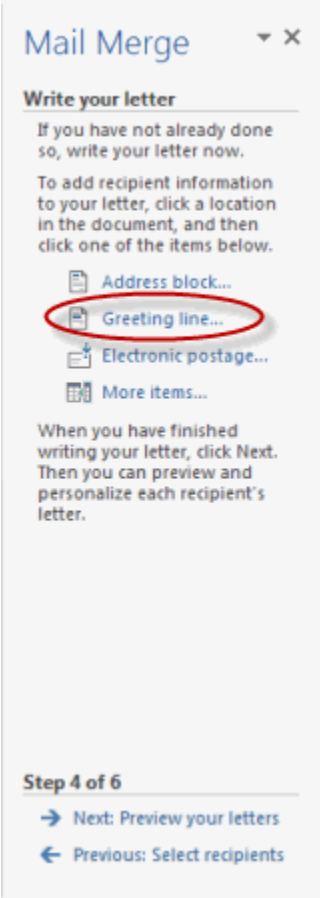
to.



- Note that you can use **`Match Fields`** to correct any problems. Clicking **`Match Fields`** opens up the **`Match Fields`** dialog box, in which you can associate the fields from your list with the fields required by the wizard.

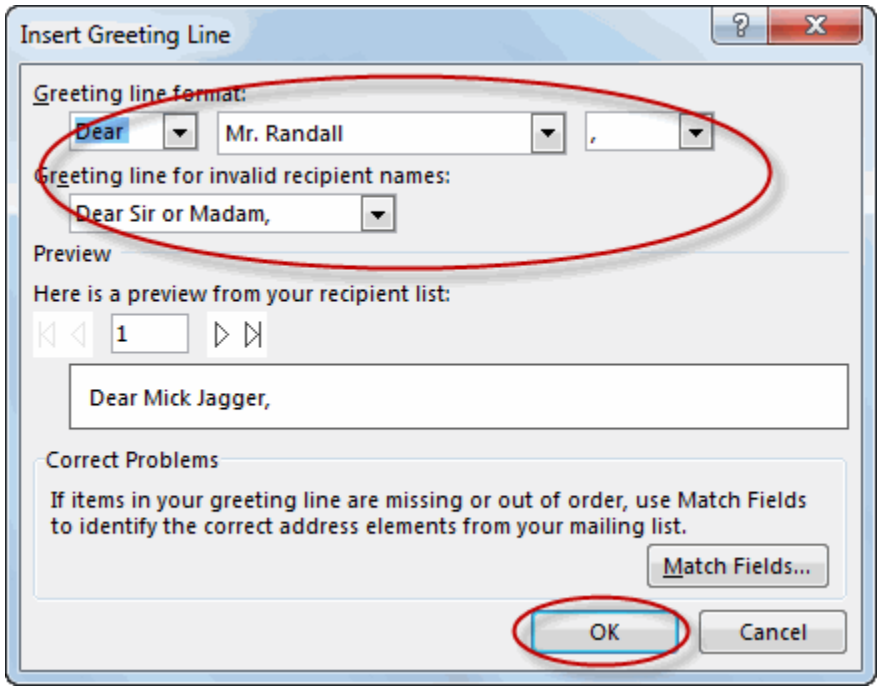


7. Press `Enter` on your keyboard and click **`Greeting line...`** to enter a greeting.

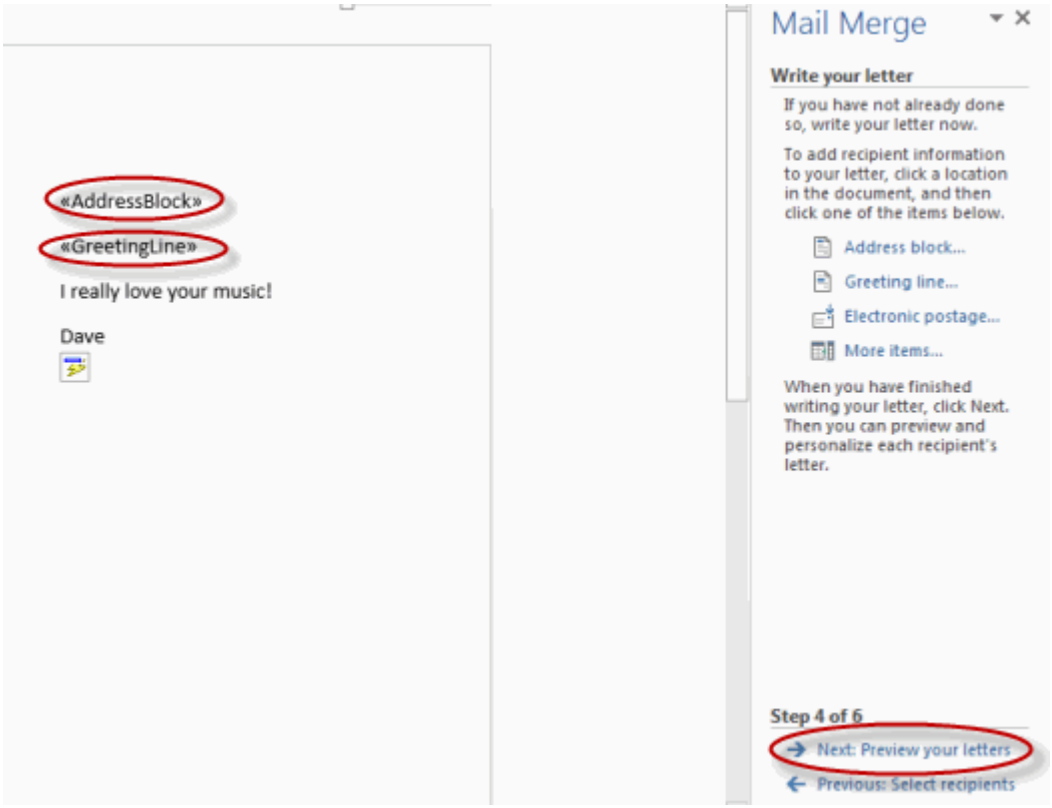


8. In the **`Insert Greeting Line`** dialog box, choose the greeting line format by clicking the drop-down arrows and selecting the options of your choice, and

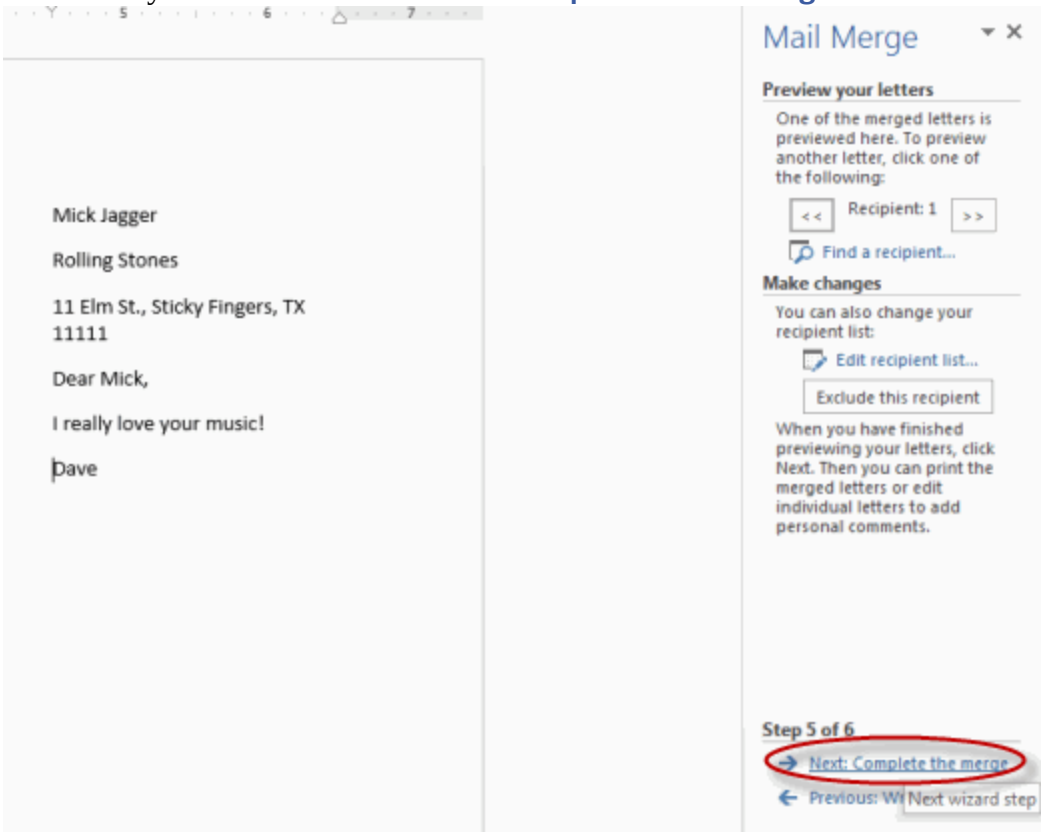
then click **OK**.



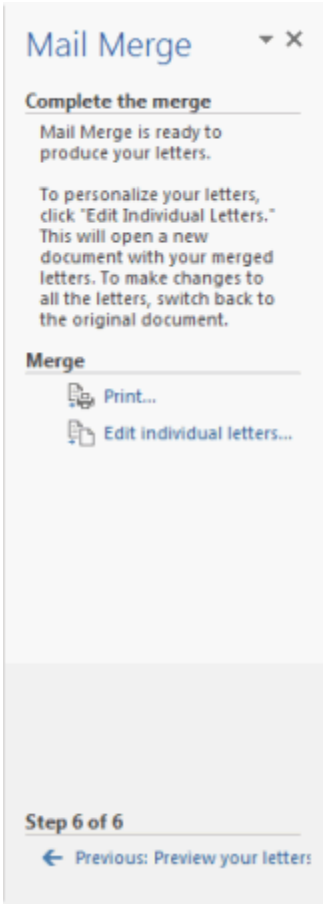
9. Note that the address block and greeting line are surrounded by chevrons («



- Preview your letter and click **`Next: Complete the merge`**.



- Click **`Print`** to print your letters or **`Edit individual letters`** to further personalize some or all of the letters.



MS - Excel
Microsoft Excel Basics

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Objectives

- Define the terms *spreadsheet* and *worksheet.*
- Identify the parts of a worksheet.
- Start Excel, open an existing workbook, and save a workbook.
- Move the active cell in a worksheet.

Objectives (continued)

- Select cells and enter data in a worksheet.
- Edit and replace data in cells.
- Zoom, preview, and print a worksheet.
- Close a workbook and exit Excel.

Vocabulary

- active cell
- active worksheet
- adjacent range
- cell
- cell reference
- column
- formula
- Formula Bar
- landscape orientation
- Microsoft Excel 2010 (Excel)
- Name Box
- nonadjacent range
- portrait orientation

Vocabulary (continued)

- range
- range reference
- row
- sheet tab
- spreadsheet
- workbook
- worksheet

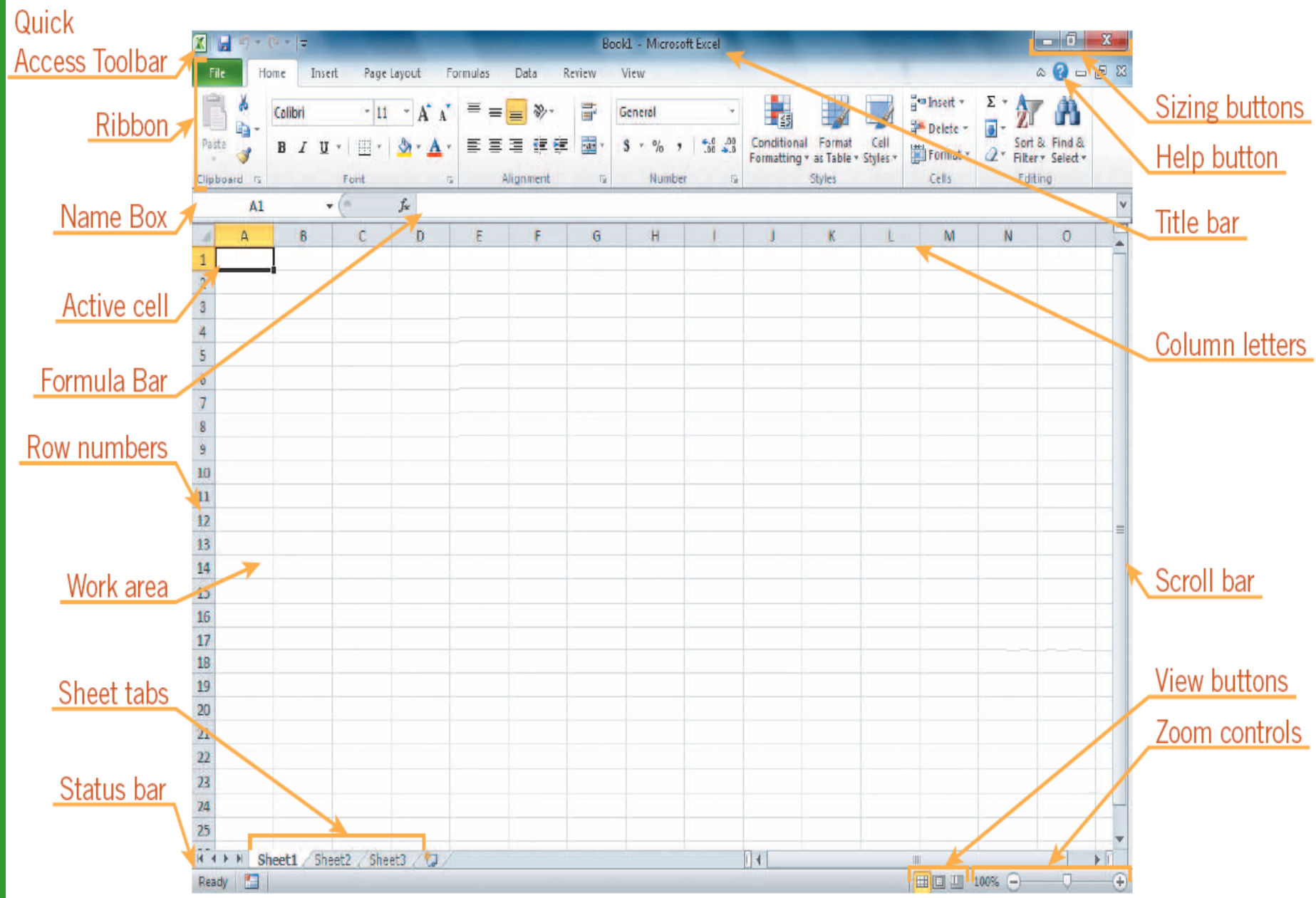
Introduction to Spreadsheets

- **Microsoft Excel 2010** is the spreadsheet program in Microsoft Office 2010.
- A **spreadsheet** is a grid of rows and columns in which you enter text, numbers, and the results of calculations.
- In Excel, a computerized spreadsheet is called a **worksheet**. The file used to store worksheets is called a **workbook**.

Starting Excel

- Start Excel from the Start menu in Windows. Click the Start button, click All Programs, click Microsoft Office, and then click Microsoft Excel 2010.
- The Excel program window has the same basic parts as all Office programs: the title bar, the Quick Access Toolbar, the Ribbon, Backstage view, and the status bar.

Starting Excel (continued)



Exploring the Parts of the Workbook

- Each workbook contains three worksheets by default. The worksheet displayed in the work area is the active worksheet.
- **Columns** appear vertically and are identified by letters. **Rows** appear horizontally and are identified by numbers.
- A **cell** is the intersection of a row and a column. Each cell is identified by a unique **cell reference**.

Exploring the Parts of the Workbook (continued)

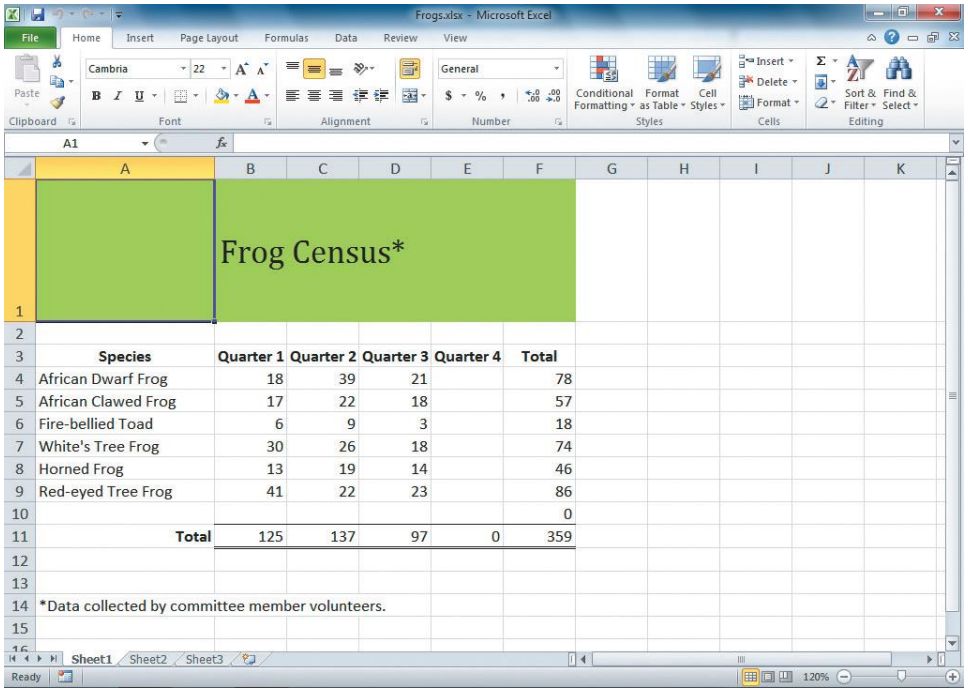
- The cell in the worksheet in which you can type data is called the **active cell**.
- The **Name Box**, or cell reference area, displays the cell reference of the active cell.
- The **Formula Bar** displays a formula when a worksheet cell contains a calculated value.
- A **formula** is an equation that calculates a new value from values currently in a worksheet.

Opening an Existing Workbook

- Opening a workbook means loading an existing workbook file from a drive into the program window.
- To open an existing workbook, you click the File tab on the Ribbon to display Backstage view, and then click Open in the navigation bar. The Open dialog box appears.

Opening an Existing Workbook (continued)

- Frogs workbook open in Excel



Saving a Workbook

- The Save command saves an existing workbook, using its current name and save location.
- The Save As command lets you save a workbook with a new name or to a new location.

Moving the Active Cell in a Worksheet

- The easiest way to change the active cell in a worksheet is to move the pointer to the cell you want to make active and click.
- You can display different parts of the worksheet by using the mouse to drag the scroll box in the scroll bar to another position.
- You can also move the active cell to different parts of the worksheet using the keyboard or the Go To command.

Moving the Active Cell in a Worksheet (continued)

- Keys for moving the active cell in a worksheet

TO MOVE	PRESS
Left one column	Left arrow key
Right one column	Right arrow key
Up one row	Up arrow key
Down one row	Down arrow key
To the first cell of a row	Home key
To cell A1	Ctrl+Home keys
To the last cell of the column and row that contain data	Ctrl+End keys
Up one window	Page Up key
Down one window	Page Down key

Selecting a Group of Cells

- A group of selected cells is called a **range**. The range is identified by its range reference, for example, A3:C5.
- In an **adjacent range**, all cells touch each other and form a rectangle.
  - To select an adjacent range, click the cell in a corner of the range, drag the pointer to the cell in the opposite corner of the range, and release the mouse button.

Selecting a Group of Cells (continued)

- A **nonadjacent range** includes two or more adjacent ranges and selected cells.
  - To select a nonadjacent range, select the first adjacent range or cell, press the Ctrl key as you select the other cells or ranges you want to include, and then release the Ctrl key and the mouse button.

Entering Data in a Cell

- Worksheet cells can contain text, numbers, or formulas.
  - Text is any combination of letters and numbers and symbols.
  - Numbers are values, dates, or times.
  - Formulas are equations that calculate a value.
- You enter data in the active cell.

Changing Data in a Cell

- You can edit, replace, or clear data.
- You can edit cell data in the Formula Bar or in the cell. The contents of the active cell always appear in the Formula Bar.
- To replace cell data, select the cell, type new data, and press the Enter button on the Formula Bar or the Enter key or the Tab key.
- To clear the active cell, you can use the Ribbon, the keyboard, or the mouse.

Searching for Data

- The Find command locates data in a worksheet, which is particularly helpful when a worksheet contains a large amount of data. You can use the Find command to locate words or parts of words.
- The Replace command is an extension of the Find command. Replacing data substitutes new data for the data that the Find command locates.

Searching for Data (continued)

- Find and Replace options

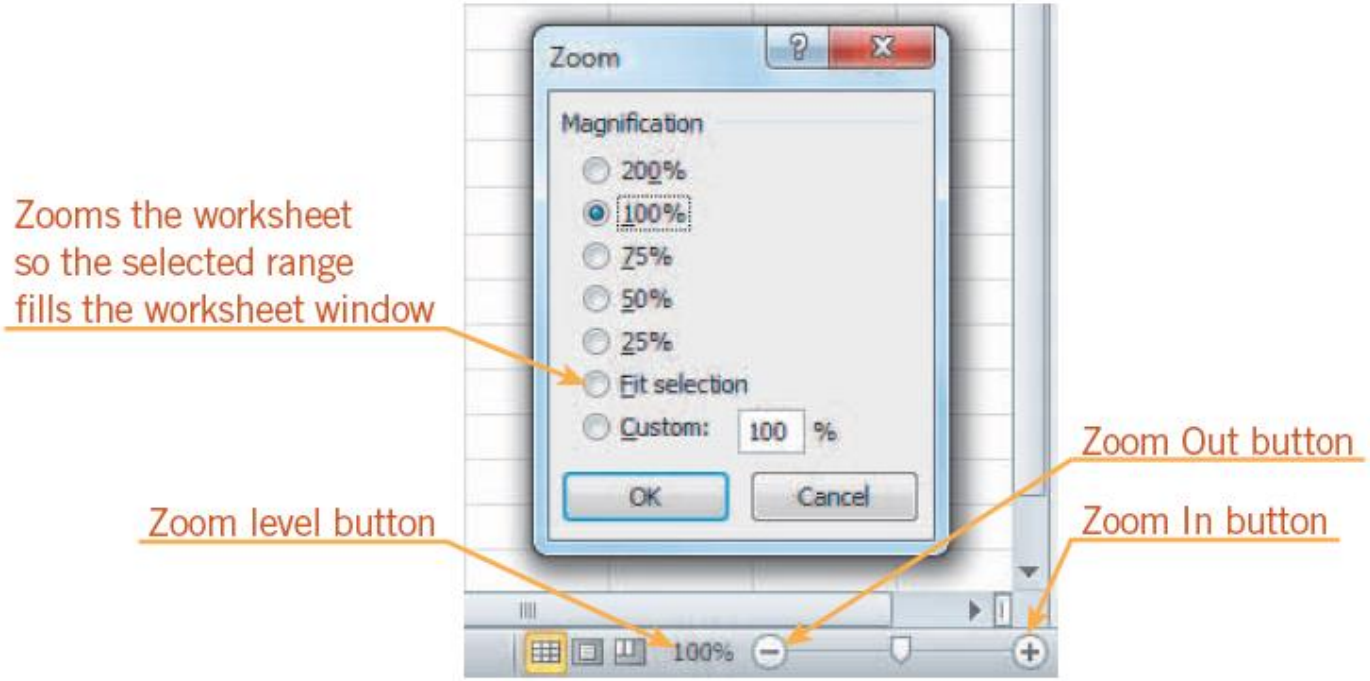
SEARCH OPTION	SPECIFIES
Find what	The data to locate
Replace with	The data to insert in place of the located data
Format	The format of the data you want to find or replace
Within	Whether to search the worksheet or the entire workbook
Search	The direction to search: across rows or down columns
Look in	Whether to search cell contents (values) or formulas
Match case	Whether the search must match the capitalization you used for the search data
Match entire cell contents	Whether the search should locate cells whose contents exactly match the search data

Zooming a Worksheet

- You can change the magnification of a worksheet using the Zoom controls on the status bar.
- The default magnification for a workbook is 100%.
- For a closer view of a worksheet, click the Zoom In button or drag the Zoom slider to the right to increase the zoom percentage.

Zooming a Worksheet (continued)

- Zoom dialog box and controls



Previewing and Printing a Worksheet

- You can print a worksheet by clicking the File tab on the Ribbon, and then clicking Print in the navigation bar to display the Print tab.
- The Print tab enables you to choose print settings.
- The Print tab also allows you to preview your pages before printing.

Closing a Workbook and Exiting Excel

- You can close a workbook by clicking the File tab on the Ribbon, and then clicking Close in the navigation bar. Excel remains open.
- To exit the workbook, click the Exit command in the navigation bar.

Summary

In this lesson, you learned:

- The primary purpose of a spreadsheet is to solve problems involving numbers. The advantage of using a computer spreadsheet is that you can complete complex and repetitious calculations quickly and accurately.
- A worksheet consists of columns and rows that intersect to form cells. Each cell is identified by a cell reference, which combines the letter of the column and the number of the row.

Summary (continued)

- The first time you save a workbook, the Save As dialog box opens so you can enter a descriptive name and select a save location. After that, you can use the Save command in Backstage view or the Save button on the Quick Access Toolbar to save the latest version of the workbook.
- You can change the active cell in the worksheet by clicking the cell with the pointer, pressing keys, or using the scroll bars. The Go To dialog box lets you quickly move the active cell anywhere in the worksheet.

Summary (continued)

- A group of selected cells is called a range. A range is identified by the cells in the upper-left and lower-right corners of the range, separated by a colon. To select an adjacent range, drag the pointer across the rectangle of cells you want to include. To select a nonadjacent range, select the first adjacent range, hold down the Ctrl key, select each additional cell or range, and then release the Ctrl key.

Summary (continued)

- Worksheet cells can contain text, numbers, and formulas. After you enter data or a formula in a cell, you can change the cell contents by editing, replacing, or deleting it.
- You can search for specific characters in a worksheet. You can also replace data you have searched for with specific characters.

Summary (continued)

- The zoom controls on the status bar enable you to enlarge or reduce the magnification of the worksheet in the worksheet window.
- Before you print a worksheet, you should check the page preview to see how the printed pages will look.
- When you finish your work session, you should save your final changes and close the workbook.

UNIT - 3

SPSS
Statistical Package for Social Science

Introduction

- Software tool
- Comprehensive
- All type of data

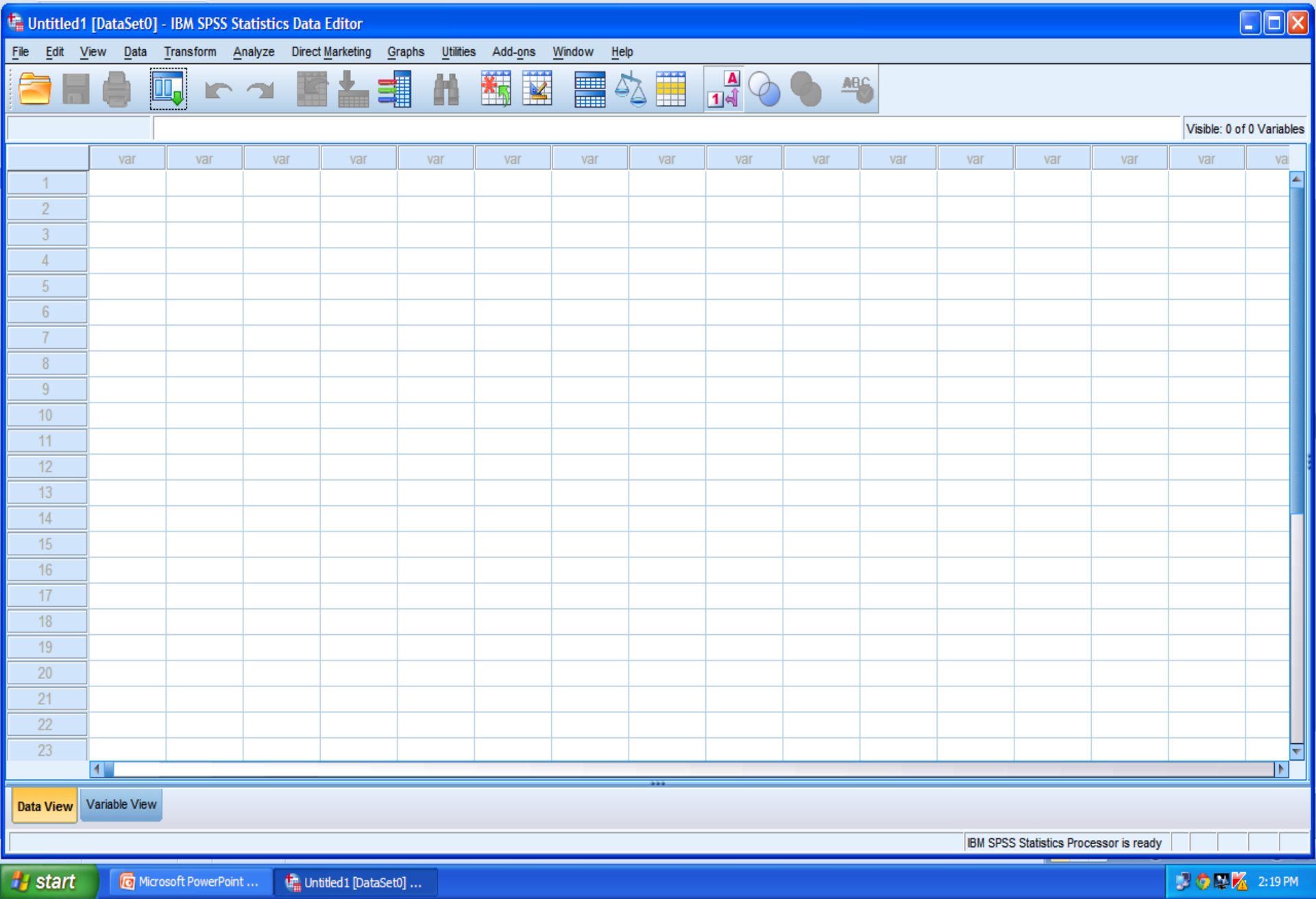
Features of SPSS

- It is easy to learn and use
- It is full range of Data management and editing tool
- It provides in-depth statistical analysis
- It offers complete reporting and preventative

Opening SPSS

- Start → All Programs → SPSS 20

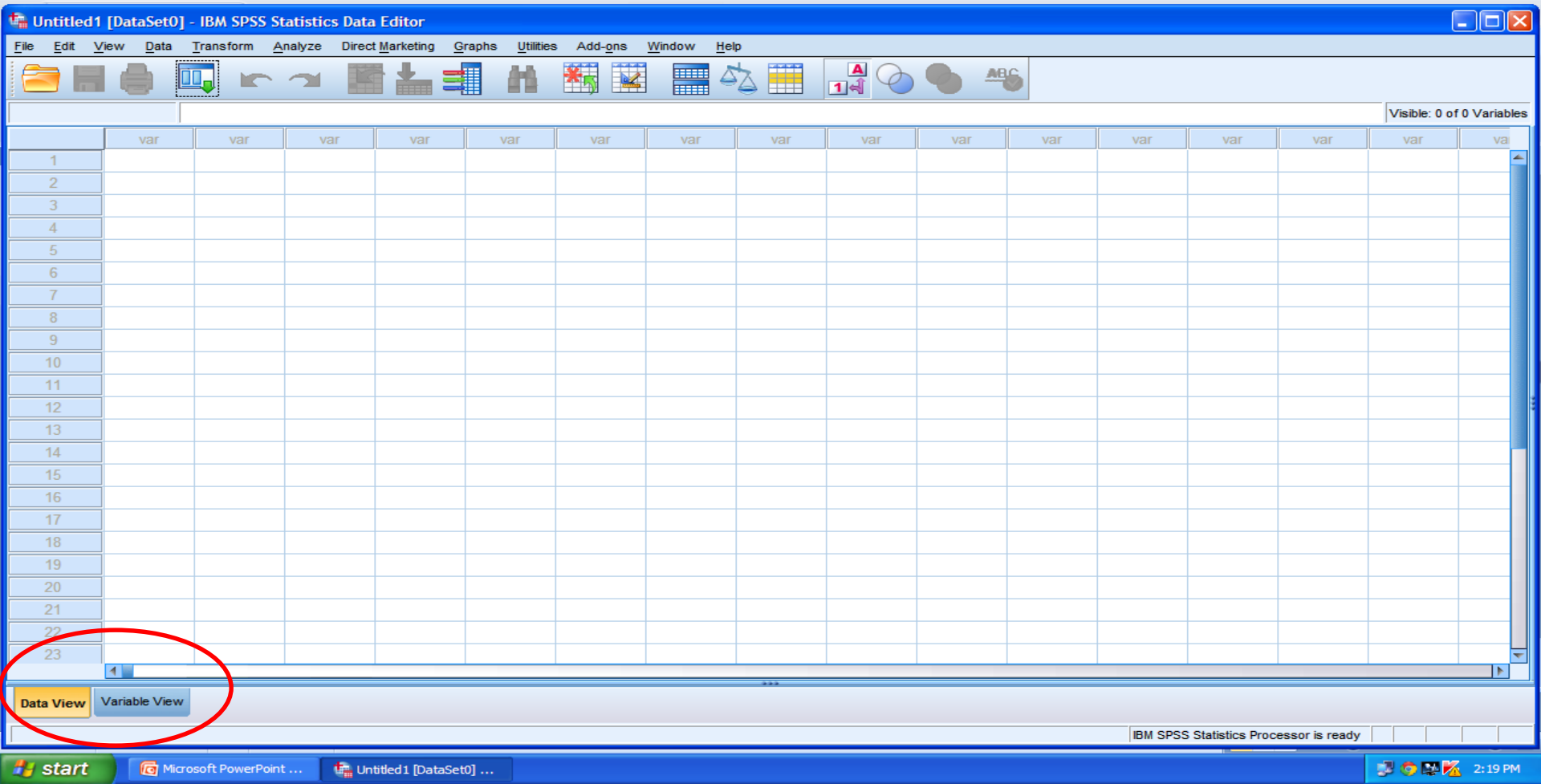
SPSS Window


Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor
File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Add-ons Window Help
Visible: 0 of 0 Variables
var
Data View
Variable View
IBM SPSS Statistics Processor is ready
start
Microsoft PowerPoint ...
Untitled1 [DataSet0] ...
2:19 PM

Opening SPSS

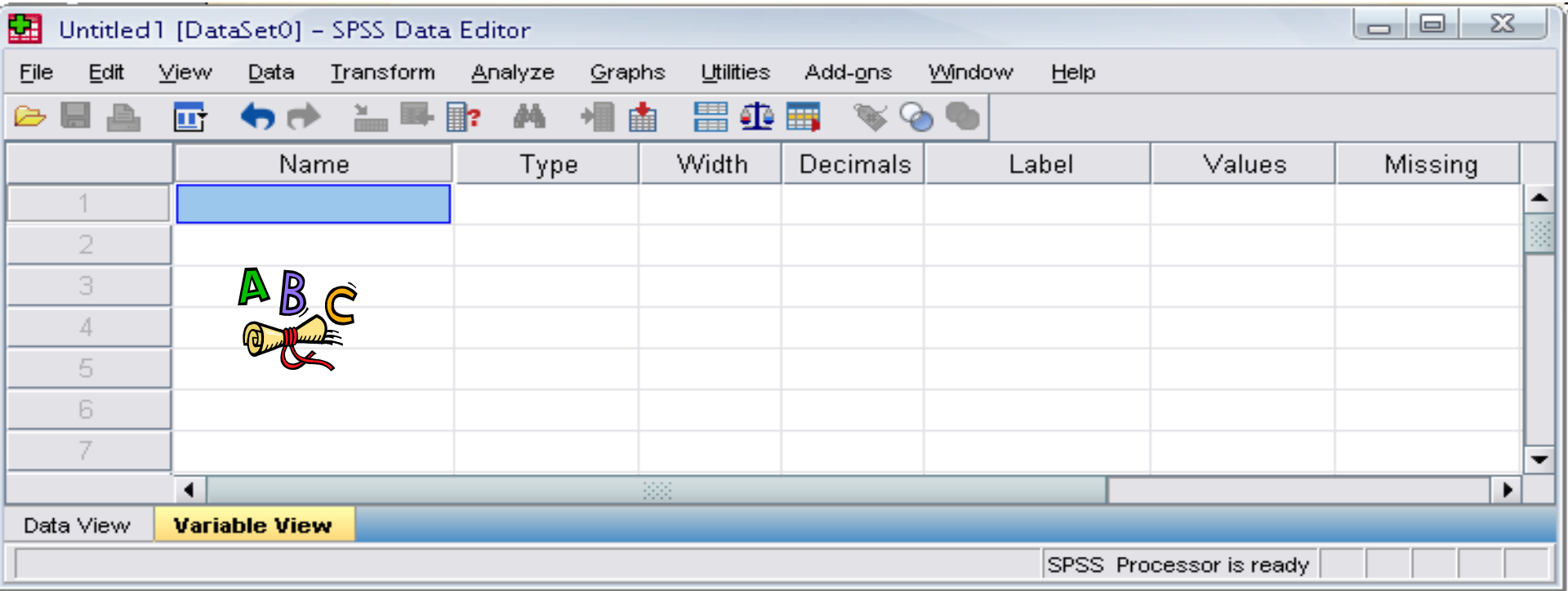
- The default window will have the data editor
- There are two sheets in the window:

  1. Data view
  2. Variable view



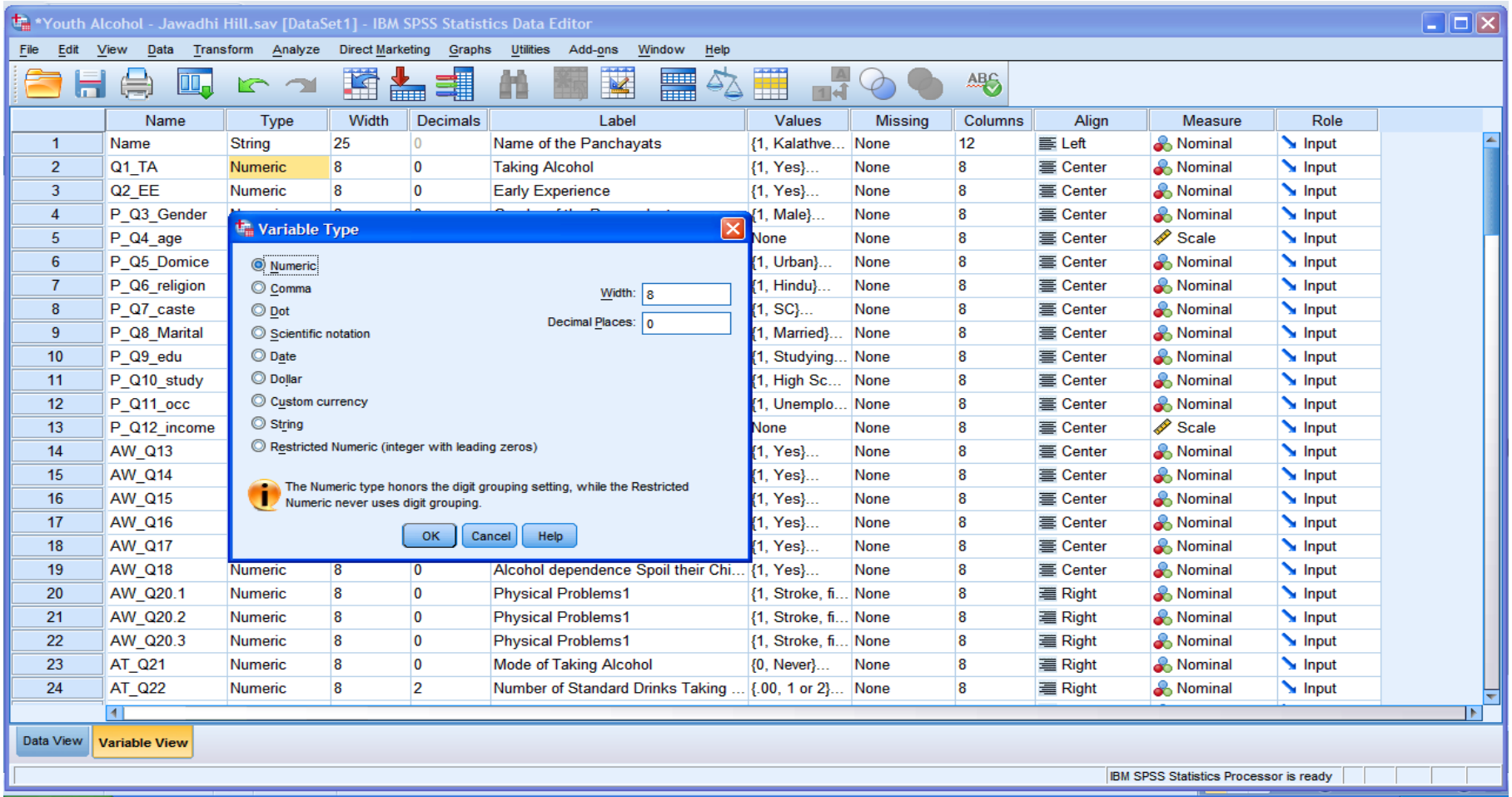
Variable View window

- This sheet contains information about the data set that is stored with the dataset
- Name
  - The first character of the variable name must be alphabetic
  - Variable names must be unique, and have to be less than 64 characters.
  - Spaces are NOT allowed.



Variable View window: Type

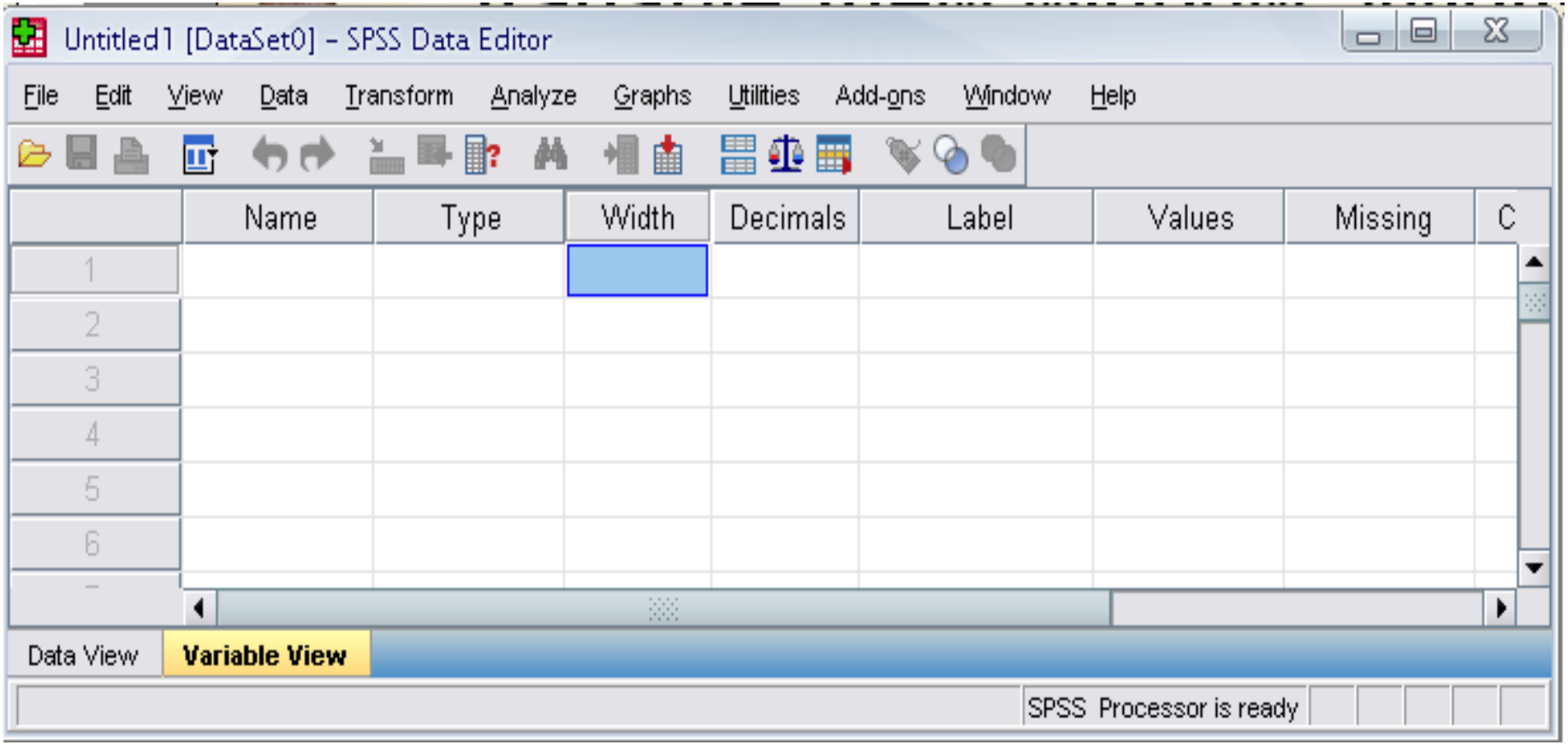
- Type
  - Click on the ‘type’ box. The two basic types of variables that you will use are numeric and string. This column enables you to specify the type of variable.



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Name	String	25	0	Name of the Panchayats	{1, Kalathve...	None	12	Left	Nominal	Input
2	Q1_TA	Numeric	8	0	Taking Alcohol	{1, Yes}...	None	8	Center	Nominal	Input
3	Q2_EE	Numeric	8	0	Early Experience	{1, Yes}...	None	8	Center	Nominal	Input
4	P_Q3_Gender					{1, Male}...	None	8	Center	Nominal	Input
5	P_Q4_age					None	None	8	Center	Scale	Input
6	P_Q5_Domice					{1, Urban}...	None	8	Center	Nominal	Input
7	P_Q6_religion					{1, Hindu}...	None	8	Center	Nominal	Input
8	P_Q7_caste					{1, SC}...	None	8	Center	Nominal	Input
9	P_Q8_Marital					{1, Married}...	None	8	Center	Nominal	Input
10	P_Q9_edu					{1, Studying...	None	8	Center	Nominal	Input
11	P_Q10_study					{1, High Sc...	None	8	Center	Nominal	Input
12	P_Q11_occ					{1, Unemplo...	None	8	Center	Nominal	Input
13	P_Q12_income					None	None	8	Center	Scale	Input
14	AW_Q13					{1, Yes}...	None	8	Center	Nominal	Input
15	AW_Q14					{1, Yes}...	None	8	Center	Nominal	Input
16	AW_Q15					{1, Yes}...	None	8	Center	Nominal	Input
17	AW_Q16					{1, Yes}...	None	8	Center	Nominal	Input
18	AW_Q17					{1, Yes}...	None	8	Center	Nominal	Input
19	AW_Q18	Numeric	8	0	Alcohol dependence Spoil their Chi...	{1, Yes}...	None	8	Center	Nominal	Input
20	AW_Q20.1	Numeric	8	0	Physical Problems1	{1, Stroke, fi...	None	8	Right	Nominal	Input
21	AW_Q20.2	Numeric	8	0	Physical Problems1	{1, Stroke, fi...	None	8	Right	Nominal	Input
22	AW_Q20.3	Numeric	8	0	Physical Problems1	{1, Stroke, fi...	None	8	Right	Nominal	Input
23	AT_Q21	Numeric	8	0	Mode of Taking Alcohol	{0, Never}...	None	8	Right	Nominal	Input
24	AT_Q22	Numeric	8	2	Number of Standard Drinks Taking ...	{.00, 1 or 2}...	None	8	Right	Nominal	Input

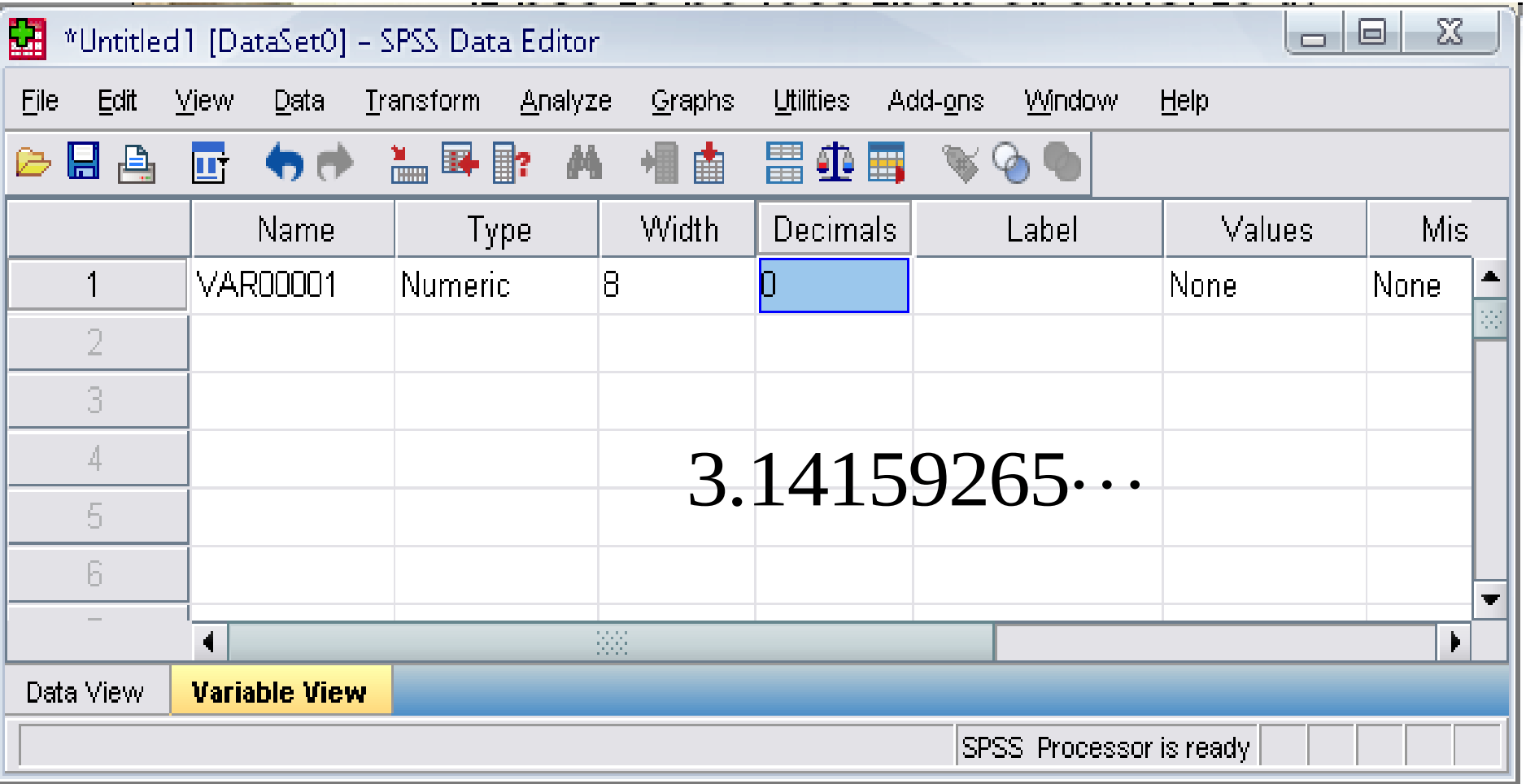
Variable View window: Width

- Width
  - Width allows you to determine the number of characters SPSS will allow to be entered for the variable



Variable View window: Decimals

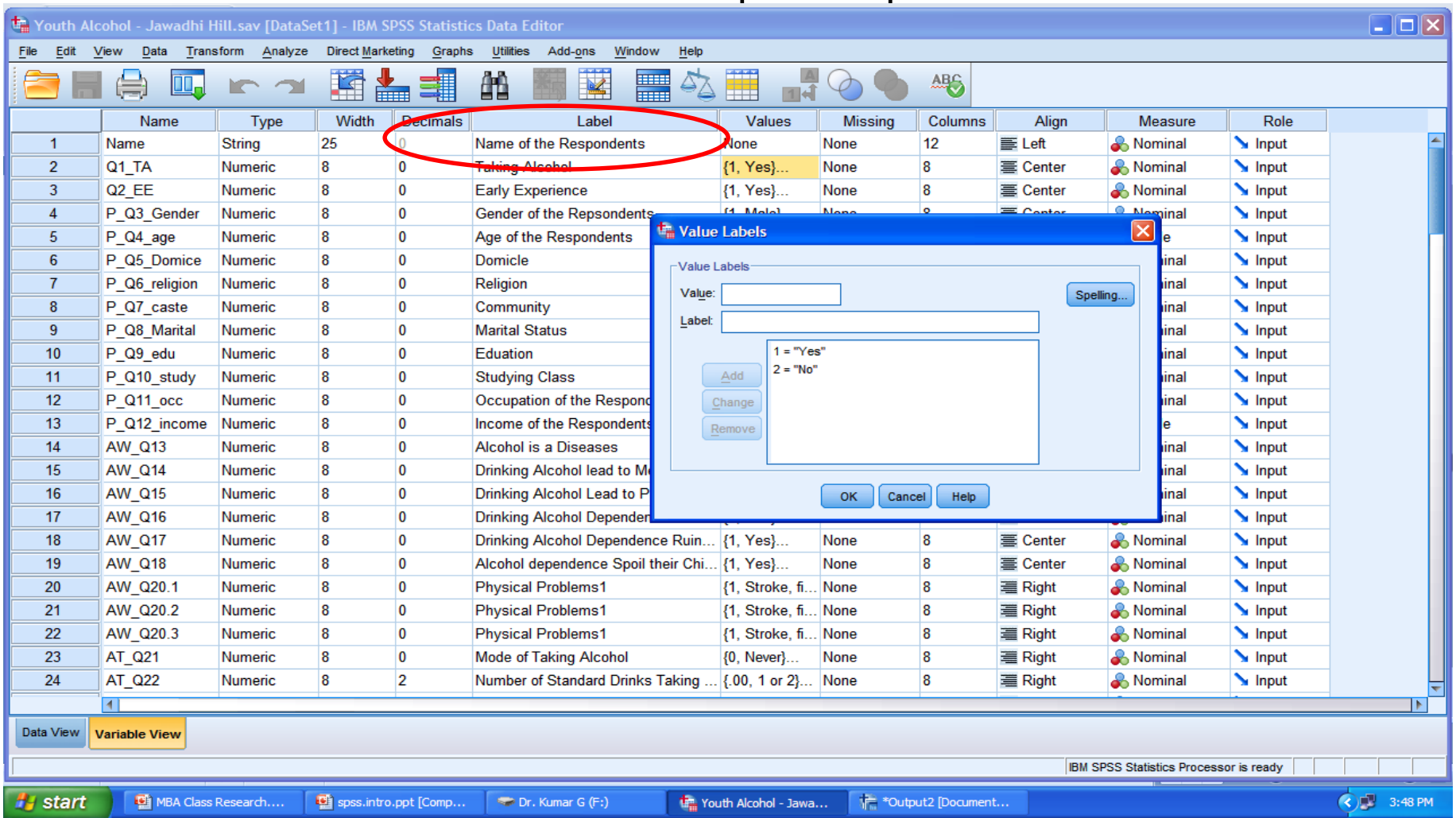
- Decimals
  - Number of decimals
  - It has to be less than or equal to 16



Variable View window: Label

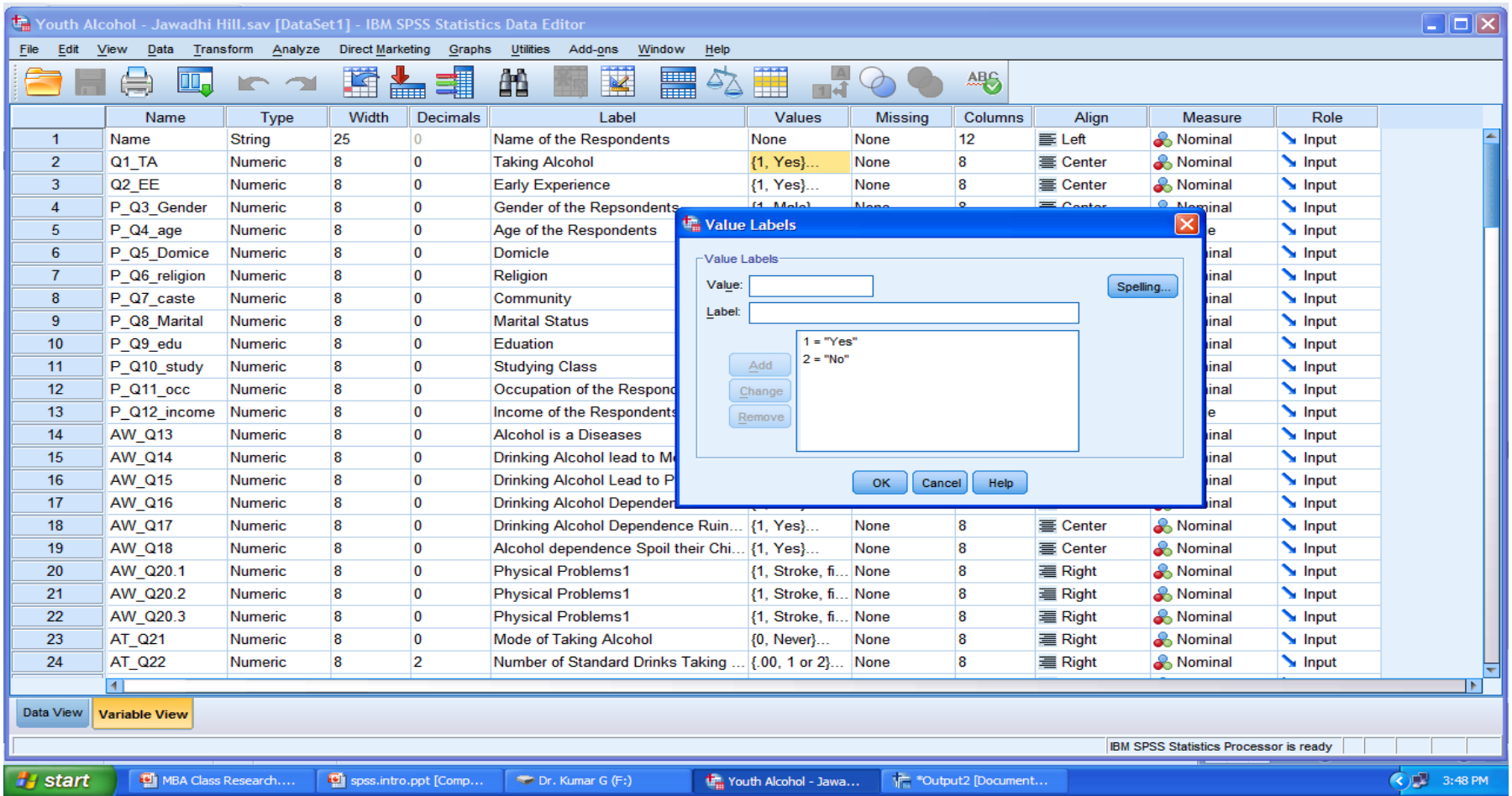
Label

- You can specify the details of the variable
- You can write characters with spaces up to 256 characters



Variable View Window: Values

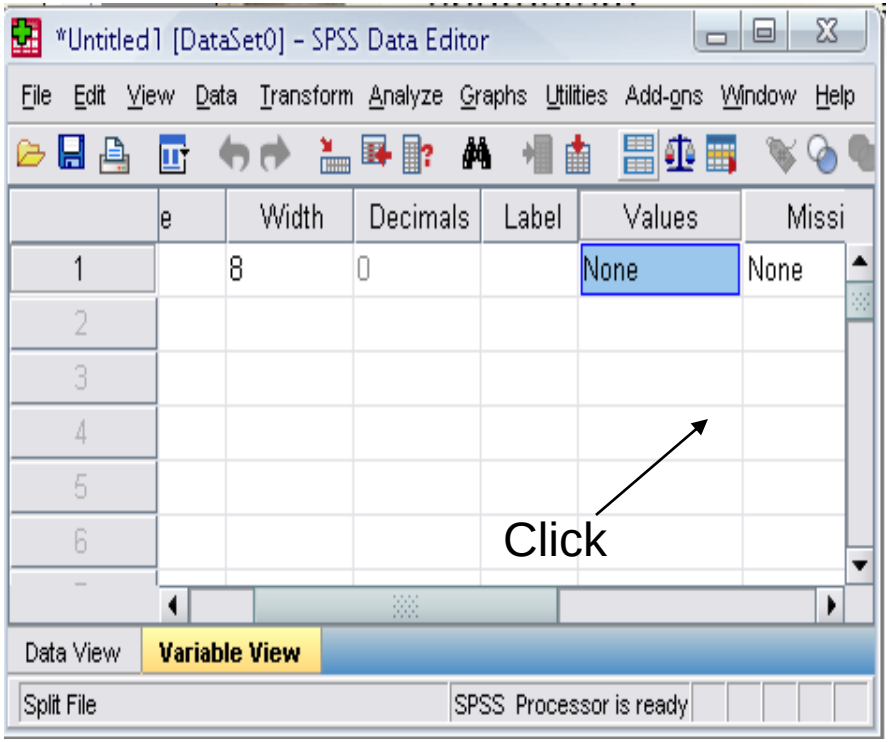
- Values
  - This is used and to suggest which numbers represent which categories when the variable represents a category

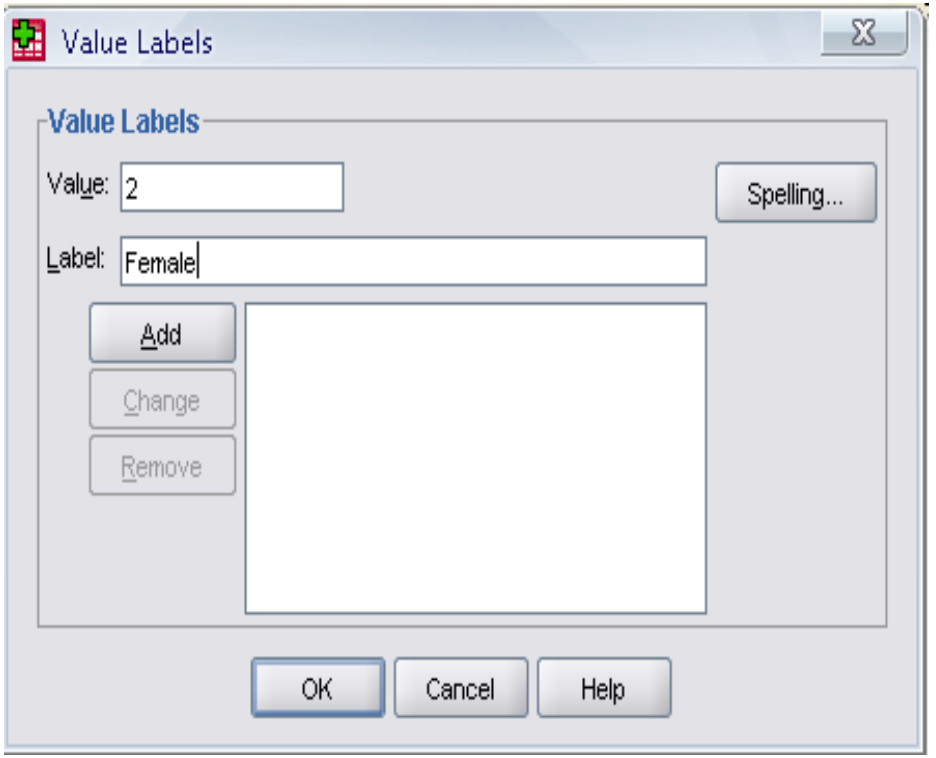


	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Name	String	25	0	Name of the Respondents	None	None	12	Left	Nominal	Input
2	Q1_TA	Numeric	8	0	Taking Alcohol	{1, Yes}...	None	8	Center	Nominal	Input
3	Q2_EE	Numeric	8	0	Early Experience	{1, Yes}...	None	8	Center	Nominal	Input
4	P_Q3_Gender	Numeric	8	0	Gender of the Repsondents	{1, Male}	None	8	Center	Nominal	Input
5	P_Q4_age	Numeric	8	0	Age of the Respondents						Input
6	P_Q5_Domice	Numeric	8	0	Domicle						Input
7	P_Q6_religion	Numeric	8	0	Religion						Input
8	P_Q7_caste	Numeric	8	0	Community						Input
9	P_Q8_Marital	Numeric	8	0	Marital Status						Input
10	P_Q9_edu	Numeric	8	0	Eduation						Input
11	P_Q10_study	Numeric	8	0	Studying Class						Input
12	P_Q11_occ	Numeric	8	0	Occupation of the Respond						Input
13	P_Q12_income	Numeric	8	0	Income of the Respondents						Input
14	AW_Q13	Numeric	8	0	Alcohol is a Diseases						Input
15	AW_Q14	Numeric	8	0	Drinking Alcohol lead to M						Input
16	AW_Q15	Numeric	8	0	Drinking Alcohol Lead to P						Input
17	AW_Q16	Numeric	8	0	Drinking Alcohol Dependen						Input
18	AW_Q17	Numeric	8	0	Drinking Alcohol Dependence Ruin...	{1, Yes}...	None	8	Center	Nominal	Input
19	AW_Q18	Numeric	8	0	Alcohol dependence Spoil their Chi...	{1, Yes}...	None	8	Center	Nominal	Input
20	AW_Q20.1	Numeric	8	0	Physical Problems1	{1, Stroke, fi...	None	8	Right	Nominal	Input
21	AW_Q20.2	Numeric	8	0	Physical Problems1	{1, Stroke, fi...	None	8	Right	Nominal	Input
22	AW_Q20.3	Numeric	8	0	Physical Problems1	{1, Stroke, fi...	None	8	Right	Nominal	Input
23	AT_Q21	Numeric	8	0	Mode of Taking Alcohol	{0, Never}...	None	8	Right	Nominal	Input
24	AT_Q22	Numeric	8	2	Number of Standard Drinks Taking ...	{.00, 1 or 2}...	None	8	Right	Nominal	Input

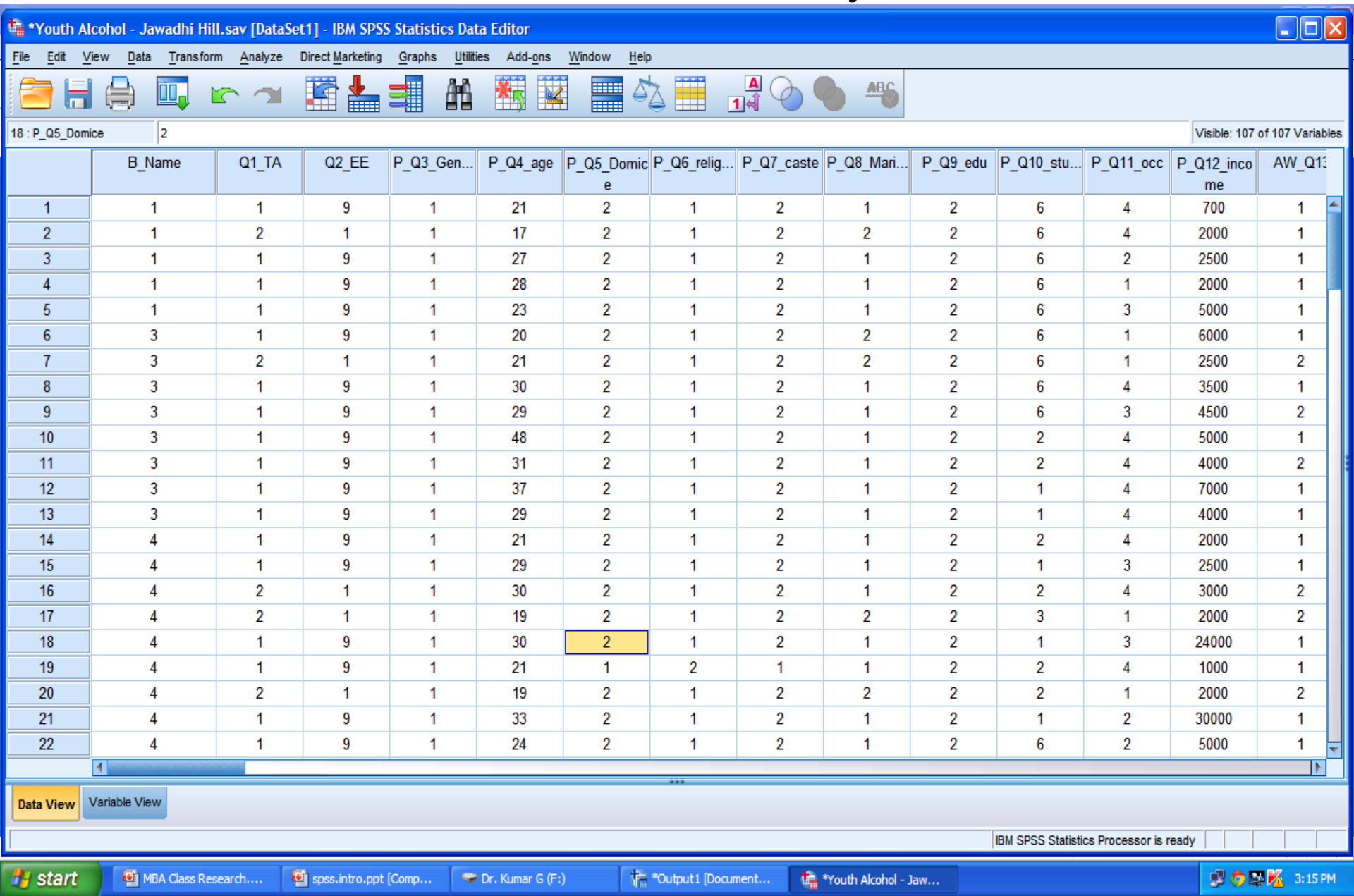
Defining the value labels

- Click the cell in the values column as shown below
- For the value, and the label, you can put up to 60 characters.
- After defining the values click add and then click OK.



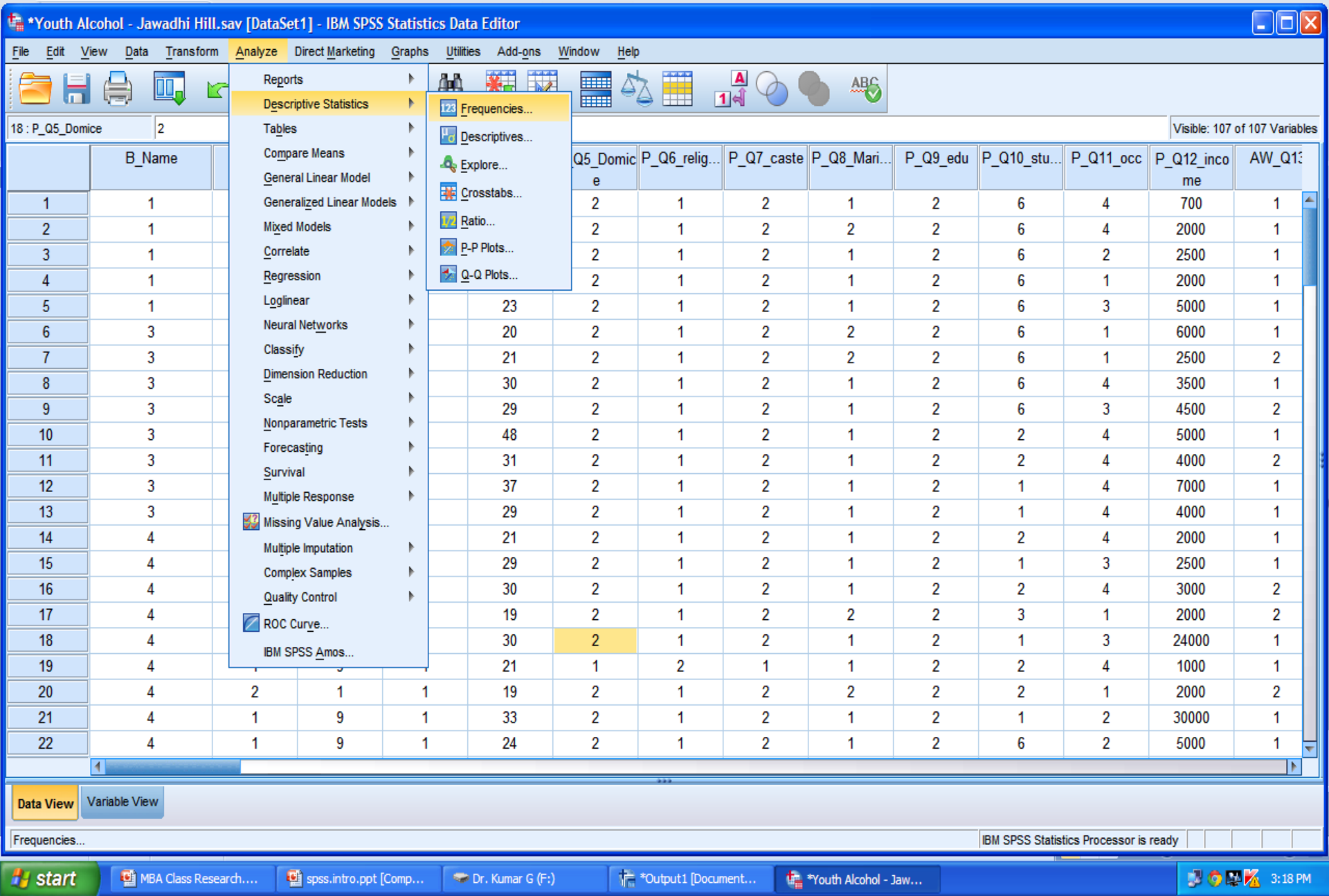


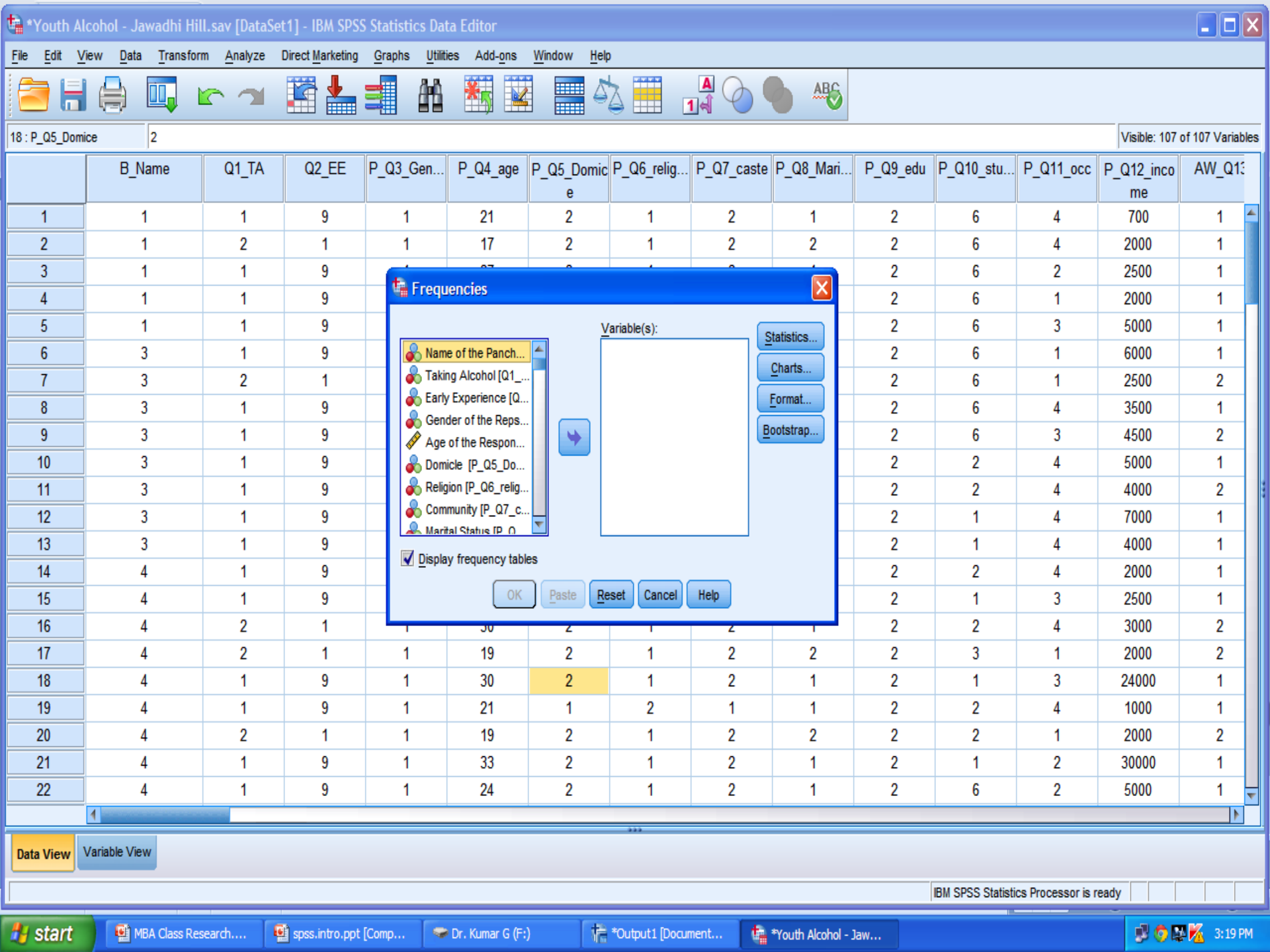
Data Entry



	B_Name	Q1_TA	Q2_EE	P_Q3_Gen...	P_Q4_age	P_Q5_Domice	P_Q6_relig...	P_Q7_caste	P_Q8_Mari...	P_Q9_edu	P_Q10_stu...	P_Q11_occ	P_Q12_income	AW_Q13
1	1	1	9	1	21	2	1	2	1	2	6	4	700	1
2	1	2	1	1	17	2	1	2	2	2	6	4	2000	1
3	1	1	9	1	27	2	1	2	1	2	6	2	2500	1
4	1	1	9	1	28	2	1	2	1	2	6	1	2000	1
5	1	1	9	1	23	2	1	2	1	2	6	3	5000	1
6	3	1	9	1	20	2	1	2	2	2	6	1	6000	1
7	3	2	1	1	21	2	1	2	2	2	6	1	2500	2
8	3	1	9	1	30	2	1	2	1	2	6	4	3500	1
9	3	1	9	1	29	2	1	2	1	2	6	3	4500	2
10	3	1	9	1	48	2	1	2	1	2	2	4	5000	1
11	3	1	9	1	31	2	1	2	1	2	2	4	4000	2
12	3	1	9	1	37	2	1	2	1	2	1	4	7000	1
13	3	1	9	1	29	2	1	2	1	2	1	4	4000	1
14	4	1	9	1	21	2	1	2	1	2	2	4	2000	1
15	4	1	9	1	29	2	1	2	1	2	1	3	2500	1
16	4	2	1	1	30	2	1	2	1	2	2	4	3000	2
17	4	2	1	1	19	2	1	2	2	2	3	1	2000	2
18	4	1	9	1	30	2	1	2	1	2	1	3	24000	1
19	4	1	9	1	21	1	2	1	1	2	2	4	1000	1
20	4	2	1	1	19	2	1	2	2	2	2	1	2000	2
21	4	1	9	1	33	2	1	2	1	2	1	2	30000	1
22	4	1	9	1	24	2	1	2	1	2	6	2	5000	1

The basic analysis




*Youth Alcohol - Jawadhi Hill.sav [DataSet1] - IBM SPSS Statistics Data Editor
File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Add-ons Window Help
18 : P_Q5_Domice
2
Visible: 107 of 107 Variables
B_Name Q1_TA Q2_EE P_Q3_Gen... P_Q4_age P_Q5_Domice P_Q6_relig... P_Q7_caste P_Q8_Mari... P_Q9_edu P_Q10_stu... P_Q11_occ P_Q12_income AW_Q13
1 1 1 9 1 21 2 1 2 1 2 6 4 700 1
2 1 2 1 1 17 2 1 2 2 2 6 4 2000 1
3 1 1 9 2 6 2 2500 1
4 1 1 9 2 6 1 2000 1
5 1 1 9 2 6 3 5000 1
6 3 1 9 2 6 1 6000 1
7 3 2 1 2 6 1 2500 2
8 3 1 9 2 6 4 3500 1
9 3 1 9 2 6 3 4500 2
10 3 1 9 2 2 4 5000 1
11 3 1 9 2 2 4 4000 2
12 3 1 9 2 1 4 7000 1
13 3 1 9 2 1 4 4000 1
14 4 1 9 2 2 4 2000 1
15 4 1 9 2 1 3 2500 1
16 4 2 1 2 2 4 3000 2
17 4 2 1 1 19 2 1 2 2 2 3 1 2000 2
18 4 1 9 1 30 2 1 2 1 2 1 3 24000 1
19 4 1 9 1 21 1 2 1 1 2 2 4 1000 1
20 4 2 1 1 19 2 1 2 2 2 2 1 2000 2
21 4 1 9 1 33 2 1 2 1 2 1 2 30000 1
22 4 1 9 1 24 2 1 2 1 2 6 2 5000 1
Frequencies
Variable(s):
Name of the Panch...
Taking Alcohol [Q1_...
Early Experience [Q...
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Age of the Respon...
Domicle [P_Q5_Do...
Religion [P_Q6_relig...
Community [P_Q7_c...
Marital Status [P_Q...
Statistics...
Charts...
Format...
Bootstrap...
Display frequency tables
OK Paste Reset Cancel Help
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Variable View
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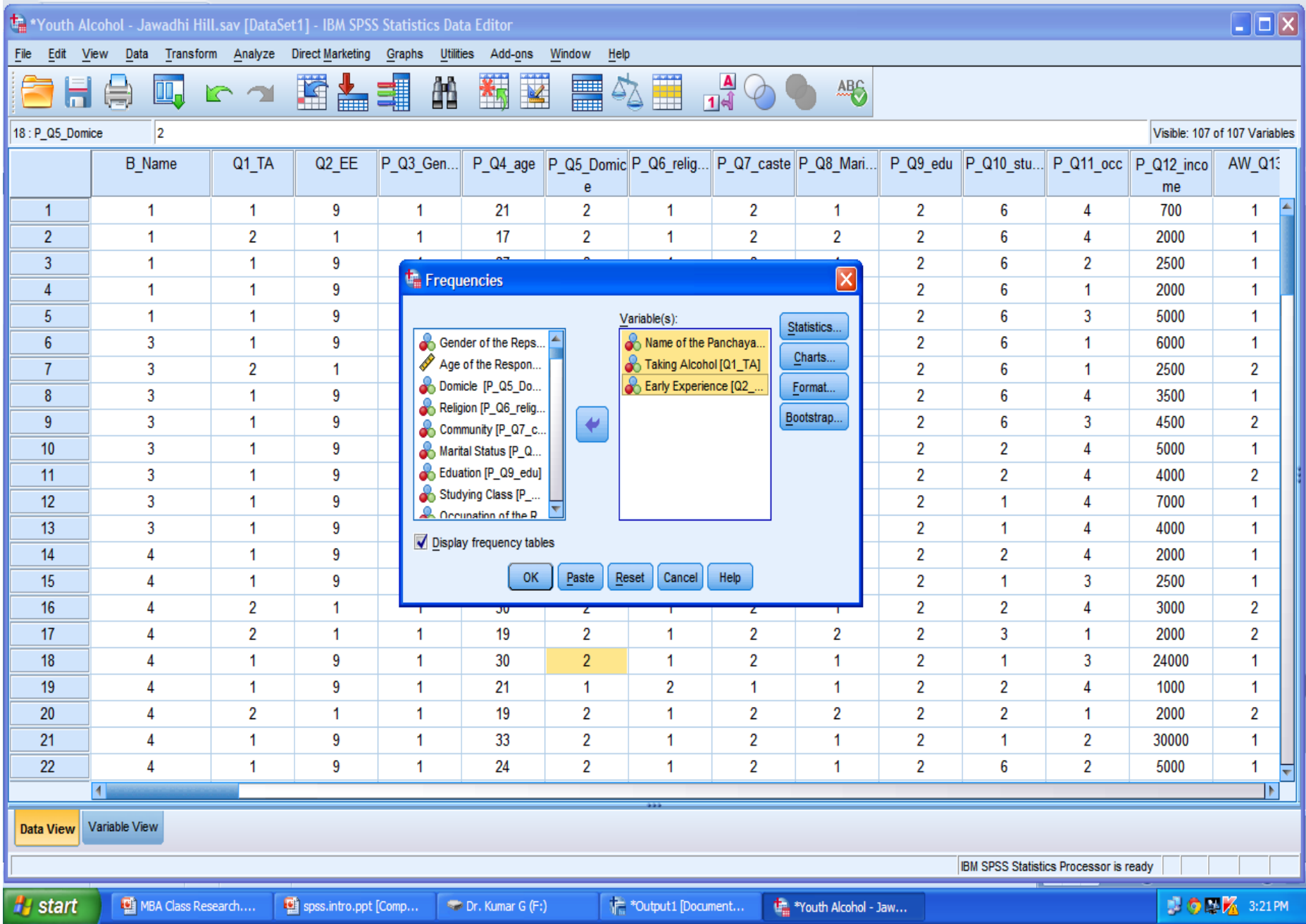
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File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Add-ons Window Help
18 : P_Q5_Domice
2
Visible: 107 of 107 Variables
B_Name Q1_TA Q2_EE P_Q3_Gen... P_Q4_age P_Q5_Domice P_Q6_relig... P_Q7_caste P_Q8_Mari... P_Q9_edu P_Q10_stu... P_Q11_occ P_Q12_income AW_Q13
1 1 1 9 1 21 2 1 2 1 2 6 4 700 1
2 1 2 1 1 17 2 1 2 2 2 6 4 2000 1
3 1 1 9 2 6 2 2500 1
4 1 1 9 2 6 1 2000 1
5 1 1 9 2 6 3 5000 1
6 3 1 9 2 6 1 6000 1
7 3 2 1 2 6 1 2500 2
8 3 1 9 2 6 4 3500 1
9 3 1 9 2 6 3 4500 2
10 3 1 9 2 2 4 5000 1
11 3 1 9 2 2 4 4000 2
12 3 1 9 2 1 4 7000 1
13 3 1 9 2 1 4 4000 1
14 4 1 9 2 2 4 2000 1
15 4 1 9 2 1 3 2500 1
16 4 2 1 2 2 4 3000 2
17 4 2 1 1 19 2 1 2 2 2 3 1 2000 2
18 4 1 9 1 30 2 1 2 1 2 1 3 24000 1
19 4 1 9 1 21 1 2 1 1 2 2 4 1000 1
20 4 2 1 1 19 2 1 2 2 2 2 1 2000 2
21 4 1 9 1 33 2 1 2 1 2 1 2 30000 1
22 4 1 9 1 24 2 1 2 1 2 6 2 5000 1
Frequencies
Gender of the Reps...
Age of the Respon...
Domicle [P_Q5_Do...
Religion [P_Q6_relig...
Community [P_Q7_c...
Marital Status [P_Q...
Eduation [P_Q9_edu]
Studying Class [P_...
Occupation of the R...
Variable(s):
Name of the Panchaya...
Taking Alcohol [Q1_TA]
Early Experience [Q2_...
Statistics...
Charts...
Format...
Bootstrap...
Display frequency tables
OK Paste Reset Cancel Help
Data View
Variable View
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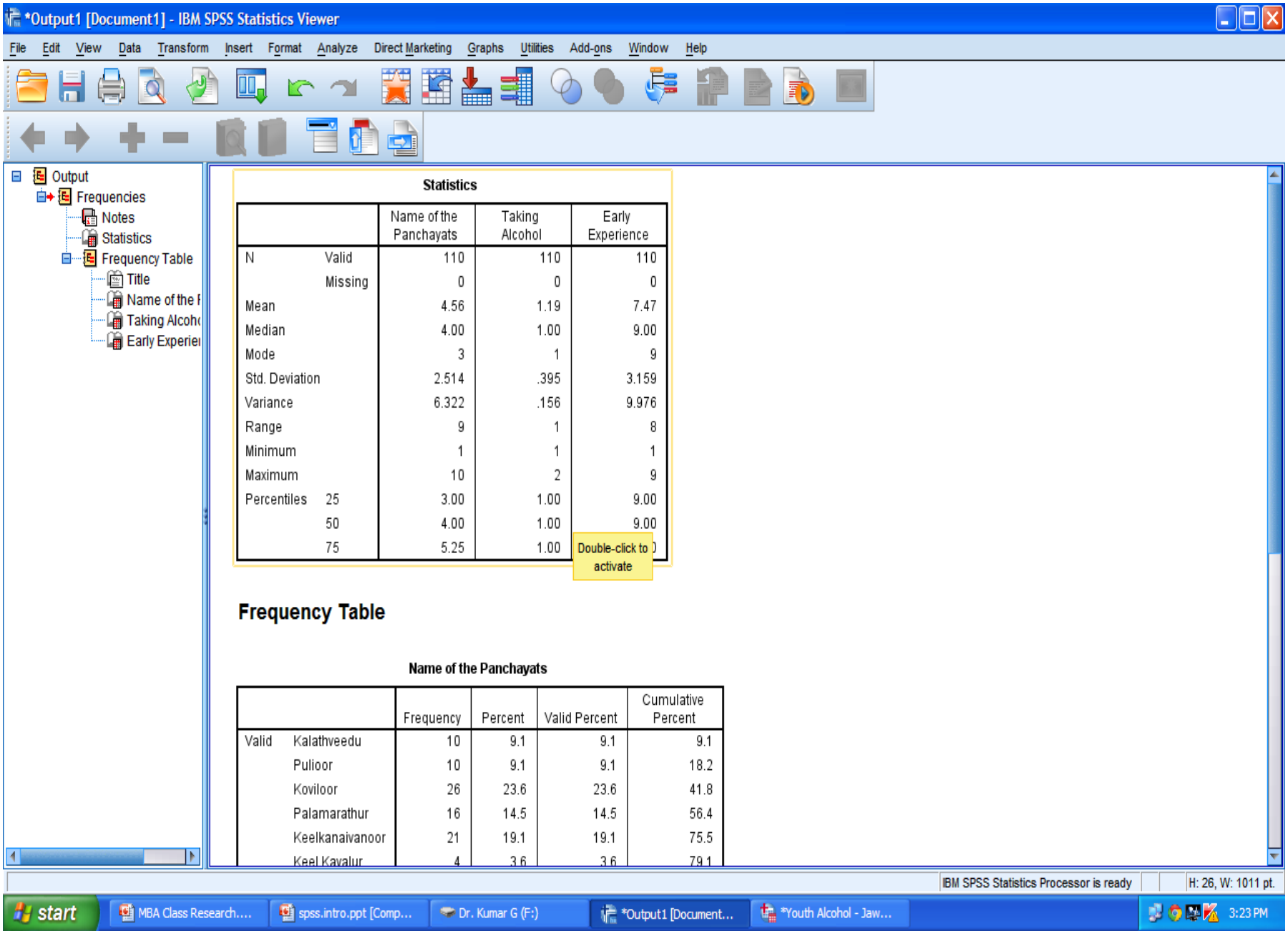
3:21 PM

Table and Statistics



Bar chart

*Output2 [Document2] - IBM SPSS Statistics Viewer

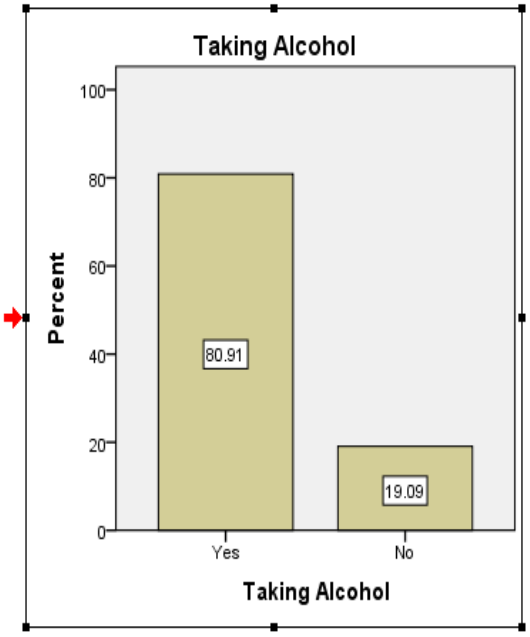
File Edit View Data Transform Insert Format Analyze Direct Marketing Graphs Utilities Add-ons Window Help

- Output
  - Frequencies
    - Notes
    - Frequency Table
      - Title
      - Taking Alcohol
    - Bar Chart
      - Taking Alcohol

Frequency Table

Taking Alcohol

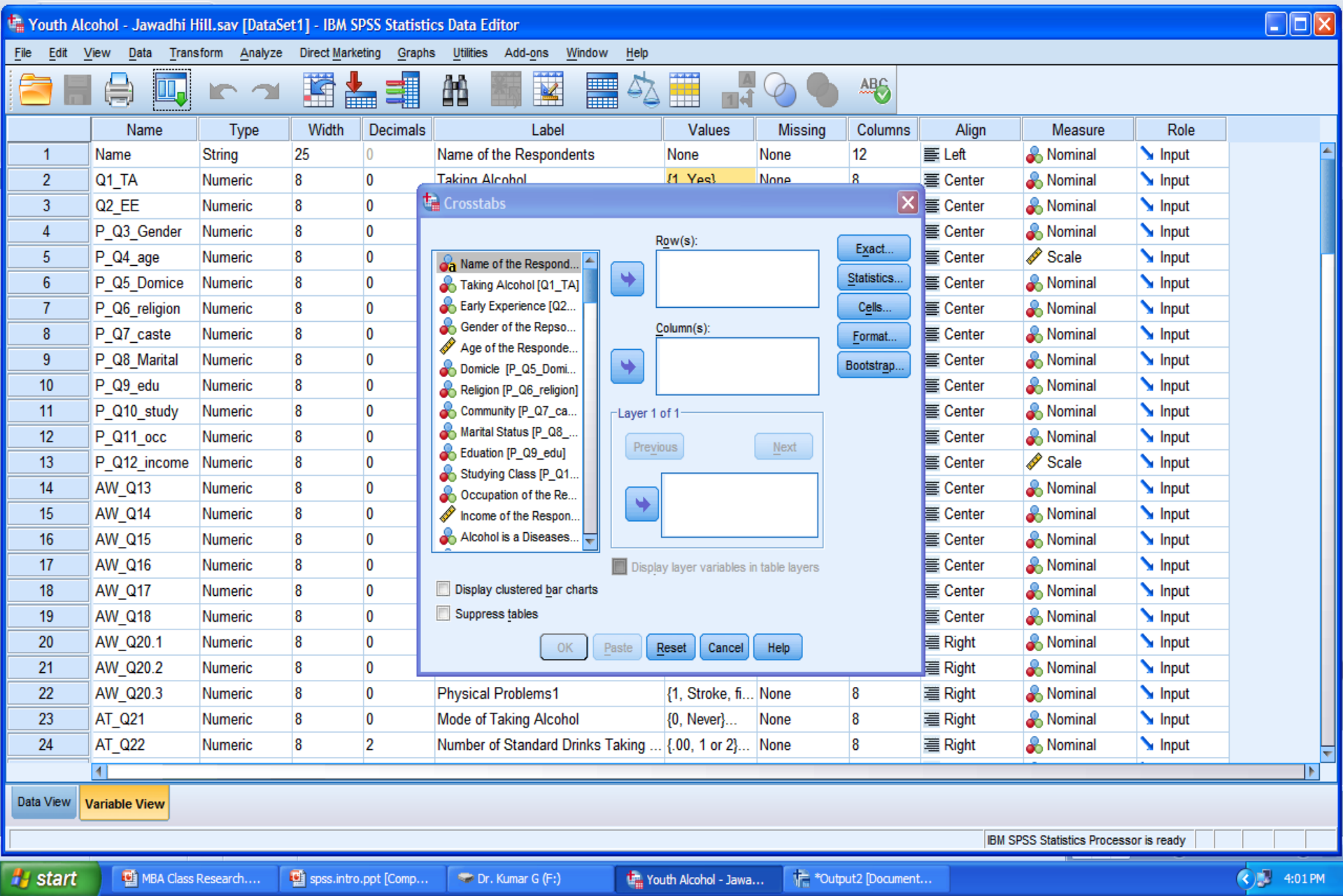
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	89	80.9	80.9	80.9
	No	21	19.1	19.1	100.0
	Total	110	100.0	100.0	



IBM SPSS Statistics Processor is ready H: 377, W: 349 pt.

start | MBA Class Research.... | spss.intro.ppt [Comp... | Dr. Kumar G (F:) | *Youth Alcohol - Jaw... | *Output2 [Document... | 3:27 PM

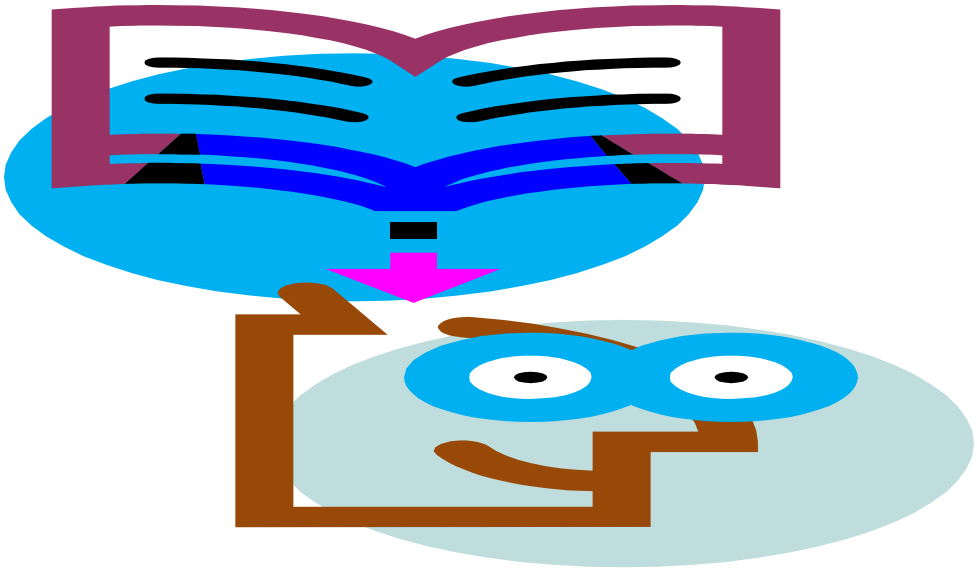
Cross Table & Chi-square test



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Name	String	25	0	Name of the Respondents	None	None	12	Left	Nominal	Input
2	Q1_TA	Numeric	8	0	Taking Alcohol	{1, Yes}	None	8	Center	Nominal	Input
3	Q2_EE	Numeric	8	0					Center	Nominal	Input
4	P_Q3_Gender	Numeric	8	0					Center	Nominal	Input
5	P_Q4_age	Numeric	8	0					Center	Scale	Input
6	P_Q5_Domice	Numeric	8	0					Center	Nominal	Input
7	P_Q6_religion	Numeric	8	0					Center	Nominal	Input
8	P_Q7_caste	Numeric	8	0					Center	Nominal	Input
9	P_Q8_Marital	Numeric	8	0					Center	Nominal	Input
10	P_Q9_edu	Numeric	8	0					Center	Nominal	Input
11	P_Q10_study	Numeric	8	0					Center	Nominal	Input
12	P_Q11_occ	Numeric	8	0					Center	Nominal	Input
13	P_Q12_income	Numeric	8	0					Center	Scale	Input
14	AW_Q13	Numeric	8	0					Center	Nominal	Input
15	AW_Q14	Numeric	8	0					Center	Nominal	Input
16	AW_Q15	Numeric	8	0					Center	Nominal	Input
17	AW_Q16	Numeric	8	0					Center	Nominal	Input
18	AW_Q17	Numeric	8	0					Center	Nominal	Input
19	AW_Q18	Numeric	8	0					Center	Nominal	Input
20	AW_Q20.1	Numeric	8	0					Right	Nominal	Input
21	AW_Q20.2	Numeric	8	0					Right	Nominal	Input
22	AW_Q20.3	Numeric	8	0	Physical Problems1	{1, Stroke, fi...	None	8	Right	Nominal	Input
23	AT_Q21	Numeric	8	0	Mode of Taking Alcohol	{0, Never}...	None	8	Right	Nominal	Input
24	AT_Q22	Numeric	8	2	Number of Standard Drinks Taking ...	{.00, 1 or 2}...	None	8	Right	Nominal	Input

Recode

Thank You



Unit – IV

Creating data file, syntax file and output file

Unit – IV

Creating data file, syntax file and output file

Assigning names and labels to Variables and Values:

Variable Names: are names used by SPSS to refer to variables e.g Var000001. Since this is not informative, we need to give meaningful headings to column headings. Choose any name that makes meaning to you. But they cannot be longer than 8 characters. The name can be used only once. No full stop, no punctuation characters and no blank in between.

Variable Label: Variable labels explain what the variable is. They can have upto 120 characters and can contain any space or characters. They are added to the output.

Value Labels: are added to the output to explain what a particular value on a variable denotes.

Indo different variable

1. Click on one of the cells in the column which has to be named.
2. From the menu bar select Data Define Variable.
3. You will get a dialogue box with the curser in the box marked variable name.
4. Type the new name of the variable.

Variable Labels:

To assign variable labels …..

1. Click on the labels button in the define variable dialogue box.
2. You will get another dialogue box with heading Define labels.
3. Type the label into the text box.

Value Labels:

1. Go to Define labels dialogue box
2. Move the curser to the value text box and type the value (e.g) 1,2.
3. Then type the text in the value label text box and click on ‘Add’ button.
4. Use ‘change’ ‘Remove’ button to modify values

Missing Value:

When a respondent fails to provide a response on a variable, it is encoded as ‘missing value’

1. Go to Define variable dialogue box and click on missing values, button.
2. You will get ‘Define missing values box’
3. Go to Discrete missing value boxes and type the missing value numbers and click continue.
4. You can give one number no response given, another for don’t know and another for undecided.
5. Don’t give genuine data value.

Retrieving Data Files:

To retrieve data from floppy disk

1. Insert the floppy in the disk driver.
2. Click the word file.
3. Click on open and you will be presented with open file window.
4. Click on the look in field and select A: drive (any drive you want C: , D:)
5. Next go to files of type click on SPSS (*.rav)
6. Now you will see names of files your disk.
7. Click the name of the file you want. Click.
8. It will appear in the file name.
9. Click open.
10.

Importing or Transferring of Data files:

Data can be entered out side SPSS. It can be entered in EXCEL or MS WORD, and can be imported to SPSS.

From word Processor:

1. When using MS-WORD, use tab between each variable for simplicity and save it.
2. Go to file, click open.
3. Open 'Files of type' drop down menu.
4. Choose Tab- delimited
5. Type the name of the file in the file name box. If it is in a floppy, select A drive, and the file and click OK.

Transforming data files from others packages:

You can save data in Excel, and for that you do not need a computer with SPSS. When preparing the data in Excel put variable names in the first row of the sheet. When imported there will form column names in SPSS file.

1. Select file, click open.
2. Open file dialogue box presented.
3. Go to types of files – select Excel
4. Open driver drop down menu and select appropriate drive.
5. Select the file and click open. It will be inserted in the file name box.
6. Click open, data will be transferred in SPSS.

Saving the Data file: (For the first time)

1. From menu bar, select file – save as
2. You will be presented with save data as dialogue box.

3. Type the file name in the file name box. Choose an appropriate name you will renumber.
4. Open the drives drop – down list and click on the icon for the drive 'J' this means the your file will be stared in that drive.
5. Open save as type drop down list. It will contain many file formats. Choose SPSS (*sa).
6. Click OK
7. The name will appear in the Title bar of the data editor window.

Note: It is good idea to restrict file name to 8 characters became some suftares still reconcile only the first 8 characters.

Saving the Data file for successive times:

1. Select file - Save or save save icon on menu bar or control – s
2. The version you are saving will overwrite the existing one.
3. If you want to keep the old version as well as current one, use file/ save as and type a different name for the current one.

Printing the data file:

1. Check the window to be printed.
2. Go to file – print
3. Print dialogue box will appear with the name of the file to be printed, in the title bar.
4. Type the number required in the copies box.
5. Choose print quality in the properties box.
6. click on OK.

Note:

1. If you do not want grid lines, select view grid lines and use the option suppressing grid lines.
2. Similarly if you want to have value lavesh instced of values to be printed, then GU View / value labels. / or use Icon (Pencial).

Adding cases: (inserting new case)

1. Select any cell in the case row below the parction in which you want to insert the new case
2. From the menus choose. Data
3. Choose Insert cases
4. A new row is inserted for the case and all variables receive the system missing value.

Inserting new Variables:

1. Select any cell in the variables (column) to the right position where you want to insert the new variable.
2. From the menus choose data
3. Choose insert variable.
4. A new variable is inserted with the system missing value for all cases.

Using menus to analysis data:

1. Click the analyse drop down menu in the application window.
2. Each entry (Reparts. Description statistics, non parametere has on arrowhead to show that there is another menu which can be obtained by elicking on the entry)

(e.g) If you click on Descriptive statistics, you will get sub menu such as

- Frequencies ….
- Descriptives
- Explore
- Cross tables.

3. If you click frequencies ….. you will get a dialogue box.

If you want to calculate the frequencies:

For example you want to calculate how much percentage of your respondents are illiterates, and literate.

1. Go to statistics, - Descriptive statistics – Frequencies
2. You will get frequency dialogue box. If will contain list of variables on left side box and an empty box listed variables on the sight side. There will be an arrow in between.
3. Click the variable 'educational status', and click the arrow. That variable will appear in variable box.
4. If you want to simultaneously do frequencies for many variables choose them all in the variable box.
5. click OK button.
6. Once SPSS has completed the analysis, the result will appear in the output navigator window.
7. If you click 'Reset', variable you have selected for analysis will be returned to the list of variables box on the self.
8. If you click 'cancel', no analysis will be done, and you will return to analysis menu bar.
9. If you click help, you will access to SPSS Help facility.

Output Navigator window:

1. The output navigator window is divided into two panes.

2. Pane on the left shows contnts of SPSS output in outline form
   SPSS output
   Descriptives
   Title
   Notes
3. The pane on the right provides results of statistical analysis.
4. By clicking on any item on the outline on the left the corresponding details appears on the right. This in called navigation. Useful when the output in empty.
5. Click xxxxxx will appear. You can edit title by double clicking on that and make the changes.
6. Use Navigation facility to choose other statistical analysis, without sewlling thom entire output researching for the portion you want.
7. Valid column indicater valid cases without missing
8. In the missing indicaters missing value for each cell data final column consist of what variables are analysied next column consxxxx number.

Saving the Output:

1. File pull down manue select save as
2. Enter the name of the file into file name box. Drive, Folder)
3. If you want to switch between data editor window and the output window, use the button at the xxxxxxxx task bar at the button.
4. If you want to save your output in the same file, open that file after opening the data editor window. Keep it active. Switech over to data editor window. Do analysis and end it will be saved in that file.
   (Danger of replacing which saving)

Printing Output file:

1. Load the output file into a word processor.

Creating Charts: Bar charts:

1. Go to graph menu and select 'Bar' the bar charts dialog box will open.
2. This will have three options : simple, dustered stacked. If you have only one variable i.o gender, choose simple. If you have more than one variable, gender and percentage of pass in exams choose dustered or stacked.
3. Choose simple – Click De fine.
4. In the simple Bar dialogue box, choose the variable to be graphed, click it. Then click arrow near the category axis box, (x axis).
5. Go to ' Bars represent' Box at the top. You have different options like N of cases (frequencies) and percentage of cases etc.
6. Click % cases
7. Use option button in the lower right hand cover of you want to tread missing values there will be a box with name Display groups defined by missing values. Deselect it, by clicking on the check mark. Click continues
8. Go to Titles button located in the lowers right hand corner. Open the dialogue box.
9. specify the titles and titles and figure number under foot notes.
10. Click OK. You will get bar chart.

Editing Bar Chart:

1. To edit double click on the chart. You will get Windows chart Editor.
2. Go to chart. Go to axis you will get
3. Axis selection. Choose scale and click OK.
4. Modify axis title if you want. Use title justification In the box titled range, put minimum as 0 and maximum as 100 (If you want the picture of represent for 100%)
5. In the major division and mixor divisions dialogue box, put increments of 10 usually.

6. Use Bar spacing (Bar margin - % of inner frame Inter bar spacing - % of bar width.
7. Instead of using title use foot note. Type figure 1, under food note 1 and the title in foot note 2. justify it to center click OK.
8. You need to choose legend if you are depicting more than one variable. Select legnd and select display legend. If you don't want derelect it.
9. You can modify title and Justify it. If you want to add to labels select the word in tables. If will appear in selected label. Type the word you want to insert click champed, and then OK.
10. Select outer frame and inner frame as you xxxxxx.

Recoding Variables:

1. Under transform menu, choose recode
2. You will get a box with Indo same variable
   Indo different variable
   Choose Indo different variable
   You will get recode into pfifferent variable dialogue bad
3. select the variable to be recoded (Income) and place it in the Input variable – output variable box.
4. Go to output variable box. given a new name the new Income define the label clearly (monthly Income of the respondents). Click change. New name will be added to the emitting name of the variable.
5. Choose old and new values button. You will get the dialogue box. In the left hand side you have old value box on the right side new value box / go to old value box.
6. Several option are available. Select range through for converting actual income into coder select value if you want to give new values to existing old values (e.g) attitude sealer.

7. Exter the range (e.g) Below 1000 (1), 2000 (2) Co to new value box and enter I in value box. Click add. Repeal the procedure for other clarification by giving new value.
8. Click conform click OK
9. If you want to replace existing value with new value in an attitude scale. Enter the old value in old value box and the new value in the new value box and click add.
10. click continue. Click add.
11. Go to data Editor you will see a new variable chech few data created with variable name new Income in the last column. Go to Define variable box and give variable label and value label as it is in the recode box

Creating a Variable Template:

1. Click data. Choose templates. You will get templete dialogue box.
2. Click define in the bottom right hand cover
3. Go to define template you can define type, value labels missing value and column format
4. Choose Type select numeric, width, 8 decimal places 0
5. Value labels
6. Missing values
7. column format: alignment
8. After defining Template, enter a template name (TEST) in the box next to name on the left side of the window under the box lavbelled template description. There will be already a name' default' delete it.
9. Click Add. The name will appear at the top of the dialogue box next to label Template.
10. Go to Apply column. Tich there aspects you want to apply: Type, value label, missing values, & column formed.
11. Click OK to return to data Editor.

Applying a variable Template:

1. To apply a template to other variables, you need not have defined their variable name you can also it later.
2. Highlight the column you want to apply the templete. If you have already given variable names just highlights the names of the variables in the data editor.
3. From the menu choose data and than templates.
4. Your Template 'Test' will appear. If it does not appear, select it byclicking the down arrow
5. Click OK template will be applied to the selected columns
6. If you have not defined, variable name and variable label, do it now.

Cross Tabulation of Variables:

1. Click analysis – Descriptive statistics
2. Go to cross tabs.
3. Highlight the variable and place it in row box.
4. Highlight another variable and place it column box.
5. Click cells under percentages there will be three options. Row total, column total and total number of cases.
6. Choose either column total are both now end column total select continue.
7. click OK.
8. Interpretation need to focus a both row and column percentages and row and column totals.

Application of Chi square test:

1. Chi square is a test of significance that is most appropriate for nominal items.
2. It estimates the probability that the association between variables is a result of randon chance or sampling error by comparing the actual or observed distribution of responses with the distribution of responses we would expect if there were absolutely no association between two variables.

Calculation chi square test:

1. Click analyze – Descriptive statistics
2. Go to cross tabs.
3. Highlight dependent variable and transfer to rows.
4. Highlight independent variable and transfer to columns.
5. Click cells. Select column percentage or both column and row percentage. Click continue.
6. Click statistics click chi square. Click continue.
7. click OK

Reading Output:

The first row gives chi square value, degree of freedom and the probability value (the probability is far less than .001, if that is the p value)

Calculation of central tendency and dispersion:

For continuous variables(e.g) age, income

1. Analyze – Descriptive statistics
2. Choose Descriptives
3. Select mean. Standard deviation, minimum and maximum.
4. Click continue.
5. click OK.

Std. Deviation tells us how far we need to go above and below the means to include roughly tow thirds of all the easssss

To obtain Pie Chart:

1. Graph
2. Pie – pie charts dialogue box.
3. Data in chart : summaries for group of data
4. Click define.

5. Select the variable you want to define the categories or slices.
6. Go to title Go to foot note. Title 1, Title 2,
7. Click OK
8. Double click
9. Chart option : Pie option: Position, collapx slices less than 5%,
10. under labels : Text percent will be already selected not select it.
11. Go to Edit text.
12. Go to label formal position
13. Title fortune outline farm

Discrete / Categorical variable

(e.g) Gender (how many men / woman are there) choose

1. Analysis – Descriptive statistics
2. Frequencies.
3. Variables name on the box
4. Click statistics choose option.(mode etc)
5. Click continue. Click OK.

Mode (the most frequent response)

Creating a Syntax File :

A syntax file is a file that contains the commands for the analyses we have requested expressed in SPSS's language.

Uses of Syntax File :

1. It gives a record of the analyses performed.
2. It helps to do the analysis directly by running the commands from systax window. We need not go through the process of selection menu a second time.
3. By saving syntax window as a separate file we have a permanent copy to use it again.

Creating Syntax File :

1. Select items from the menu for performing a statistical test.
2. Click paste. This will paste the SPSS language command for the statistical procedure you have selected into a separate syntax window.
3. Subsequent uses of 'Paste' will add the current commands to the syntax window adding them to the existing contents.
4. The Syntax window can be saved as a file and edited.
5. All commands must start on a new line and must end in a full stop.
6. Sub commands are used to specify how the procedure should operate. Sub Commands are usually separated by / character.

Running Commands from a Syntax Window:

1. Select the commands to be used procedure.
2. Click on the Run button.
3. If you want to run all the commands use Edit / Select All option. To run only one command put the cursor anywhere in the line containing the command and click on Run.

Saving the Syntax Window as a Syntax File :

1. File → Save As

Retrieving a Saved Syntax File :

1. File → Open → SPSS Syntax.

Opening Another Syntax Window :

1. File → New → SPSS Syntax.

Transferring Syntax files to a Word Processar :

List

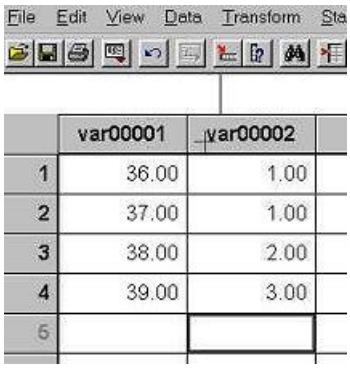
UNIT – 5

ANALYSIS OF DATA

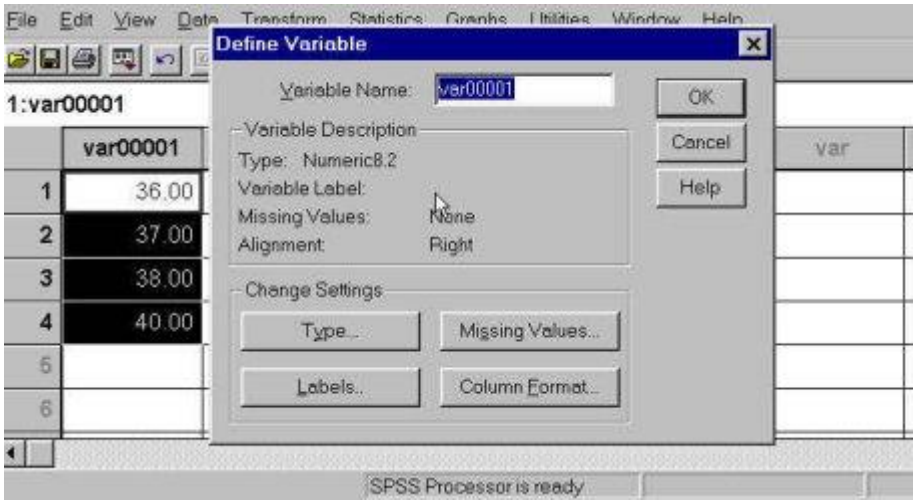
Data

To begin the process of adding data, just click on the first cell that is located in the upper left corner of the datasheet. It's just like a spreadsheet. You can enter your data as shown. Enter each datapoint then hit [Enter]. Once you're done with one column of data you can click on the first cell of the next column.

These data are taken from table2.1 in Howell's text. The first column represents "Reaction Time in 100ths of a second" and the second column indicates "Frequency".

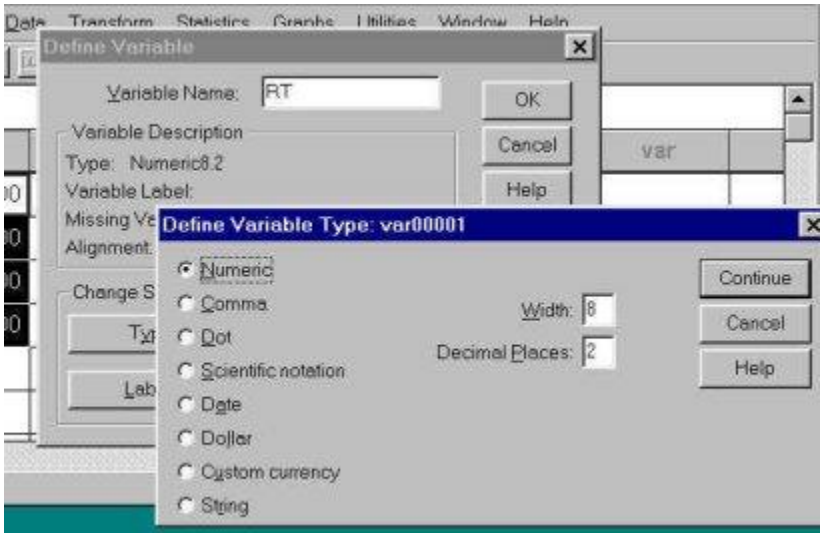


If you're entering data for the first time, like the above example, the variable names will be automatically generated (e.g., var00001, var00002,....). They are not very informative. To change these names, click on the variable name button. For example, double click on the "var00001" button. Once you have done that, a dialog box will appear. The simplest option is to change the name to something meaningful. For instance, replace "var00001" in the textbox with "RT" (see figure below).



In addition to changing the variable name one can make changes specific to **[Type], [Labels], [Missing Values],** and **[Column Format].**

- **[Type]** *One can specify whether the data are in numeric or string format, in addition to a few more formats. The default is numeric format.*



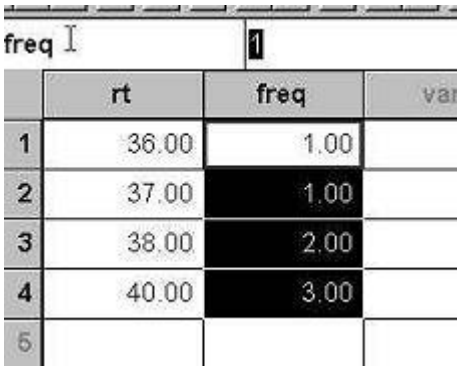
- **[Labels]** *Using the labels option can enhance the readability of the output. A **variable name** is limited to a length of 8 characters, however, by using a **variable label** the length can be as much as 256 characters. This provides the ability to have very descriptive labels that will appear at the output.*

  *Often, there is a need to code categorical variables in numeric format. For example, **male** and **female** can be coded as **1** and **2**, respectively. To reduce confusion, it is recommended that one uses value labels . For the example of*

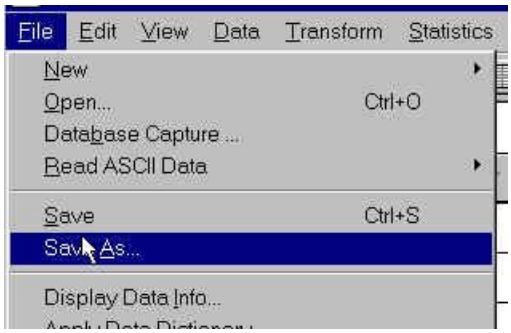
gender coding, ***Value:****1 would have a correspoding* ***Value label:*** *male. Similarly,* ***Value:****2 would be coded with* ***Value Label:*** *female. (click on the* ***[Labels]*** *button to verify the above)*

- **[Missing Values]** *See the accompanying help. This option provides a means to code for various types of missing values.*
- **[Column Format]** *The column format dialog provides control over several features of each column (e.g., width of column).*

The next image reflects the variable name change.



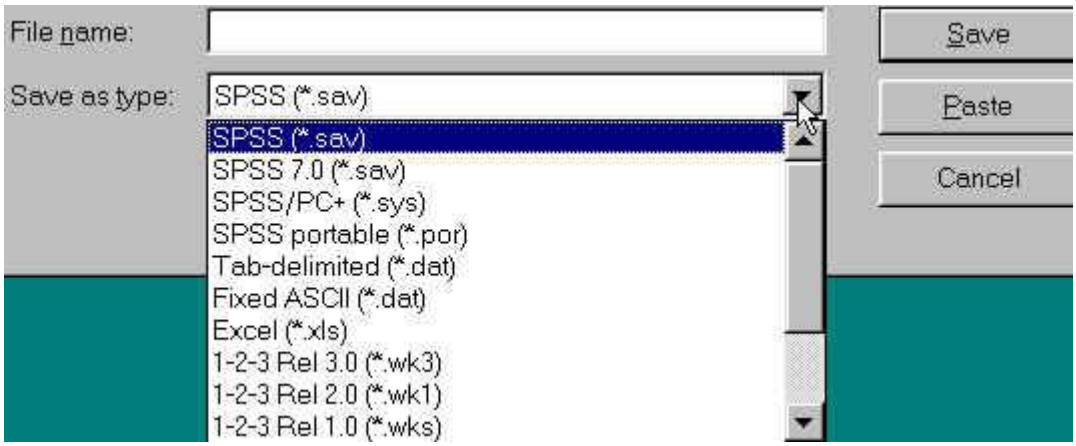
Once data has been entered or modified, it is adviseable to save. In fact, save as often as possible [File => SaveAs].



SPSS offers a large number of possible formats, including their own. A list of the available formats can be viewed and selected by clicking on the **Save as type:** , on the **SaveAs** dialog box. If your intention is to only work in SPSS, then there may be some benefit to saving in the *SPSS(*.sav)* format. I assume that this format allows for faster reading and writing of the data file. However, if your data will be analyzed and looked by other packages (e.g., a spreadsheet), it would be adviseable to save in a more universal format (e.g., Excel(*.xls), 1-2-3 Rel 3.0 (*.wk3).

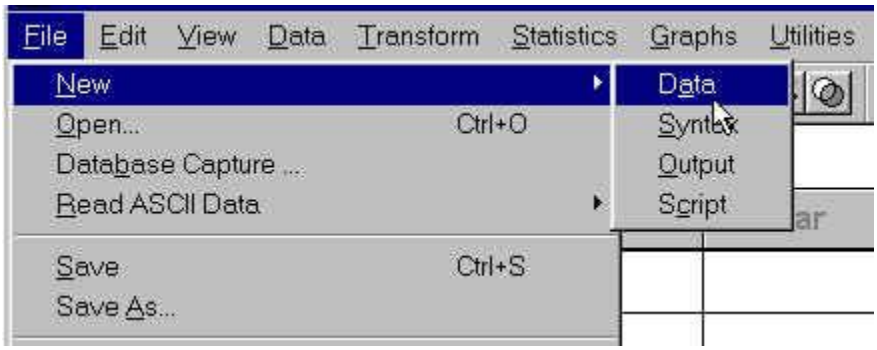
Once the type of file has been selected, enter a filename, minus the extension (e.g., sav, xls). You should also save the file in a meaningful directory, on your harddrive or floppy.

That is, for any given project a separate directory should be created. You don't want your data to get mixed-up.



The process of reading already saved data can be painless if the saved format is in the SPSS or a spreadsheet format. All one has to do is,

- click on [File => New => Data]

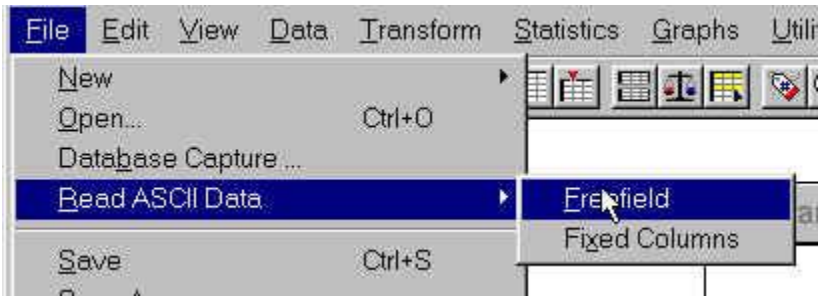


- click on [File => Open] : *a dialog box will appear*
- navigate to desired directory using the **Look in:** menu at the top of the dialog box
- select file type in the **Files of type** menu
- click on the filename that is needed.

The process of reading existing files is slightly more involved if the format is ASCII/plain text (see the earlier description of **[Freefield]** and **[Fixed Columns]**). As an example, the ASCII data from table2.1 in the Howell text will be used. A file containing the data should be included in the accompanying disk for the text. [Note: It was not present in my disk, so I downloaded the file from Howell's webpage.] I've placed the files on my harddrive at **c:\ascdat**. In the case of this set of data,there are four columns

representing observation number, reaction time, setsize, and the presence or absence of the target stimulus. This information can be found in the **readme.txt** file that is also on the disk. Typically, we are aware of the contents of our own data files, however, it doesn't hurt to keep a record of the contents of such files.

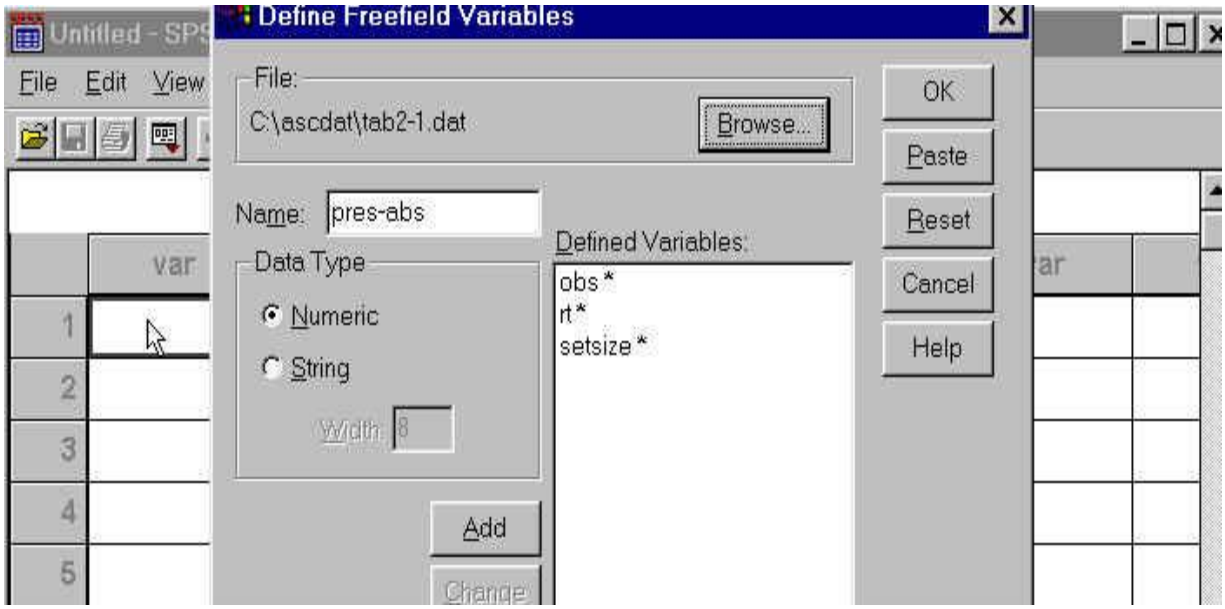
To make life easier the [File => Read ASCII Data => Freefield] will be used.



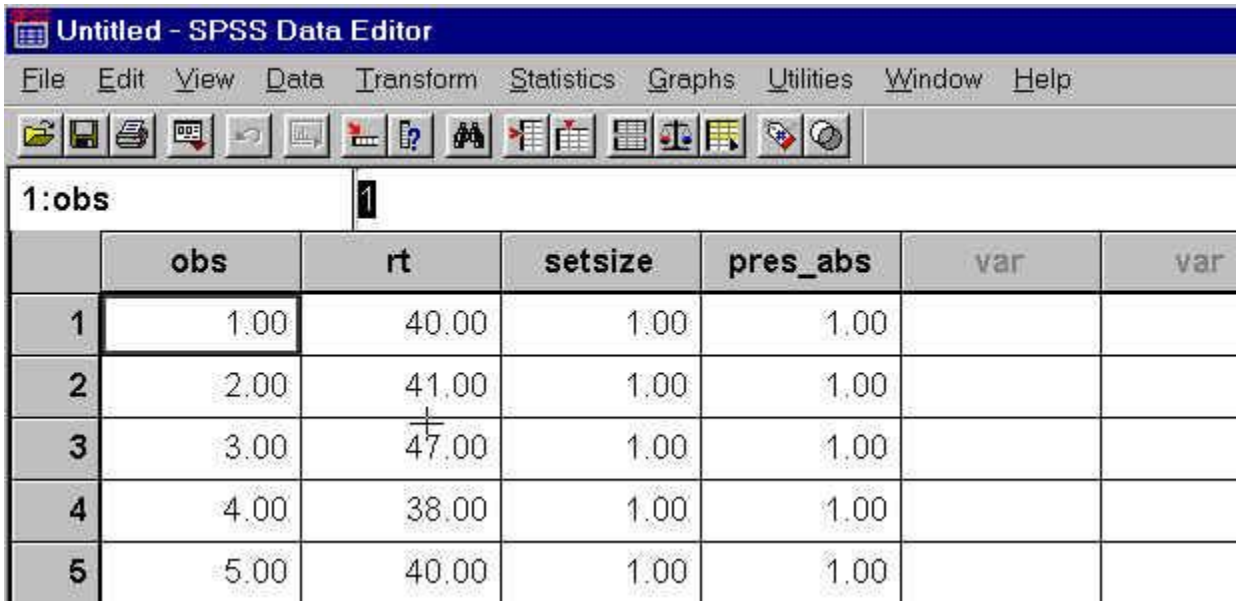
The resulting dialog box requires that a **File** , a **Name** and a **Data Type** be specified for each variable, or column of data. The desired file is accessed by clicking on the **[Browse]** button, and then navigating to the desired location. Since the extension for the sought after file is **dat** there is no need to change the **Files of type:** selection. However, if the extension is something else (e.g., *.txt) then it would be necessary to select **All files(*.*)** from the **Files of type:** menu. Since there are 4 variables in this data set, 4 names with the corresponding type information must be specified. To **Add** the first variable, observations, to the list,

- type "obs" in the **Name** box
- the **Data Type** is set to **Numeric** by default. If "obs" was a string variable, then one would have to click on **String**
- click on the **Add** button to include this variable to the list.
- repeat the above procedure with new names and data types for each of the remaining variables. It is important that all variables be added to the list. Otherwise, the data will be scrambled.

(Please explore the various options by clicking on any accessible menu item.)



The resulting data files appears in the data editor like the following.



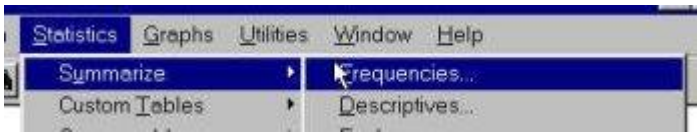
	obs	rt	setsize	pres_abs	var	var
1	1.00	40.00	1.00	1.00		
2	2.00	41.00	1.00	1.00		
3	3.00	47.00	1.00	1.00		
4	4.00	38.00	1.00	1.00		
5	5.00	40.00	1.00	1.00		

The next section will cover some descriptive statistics.

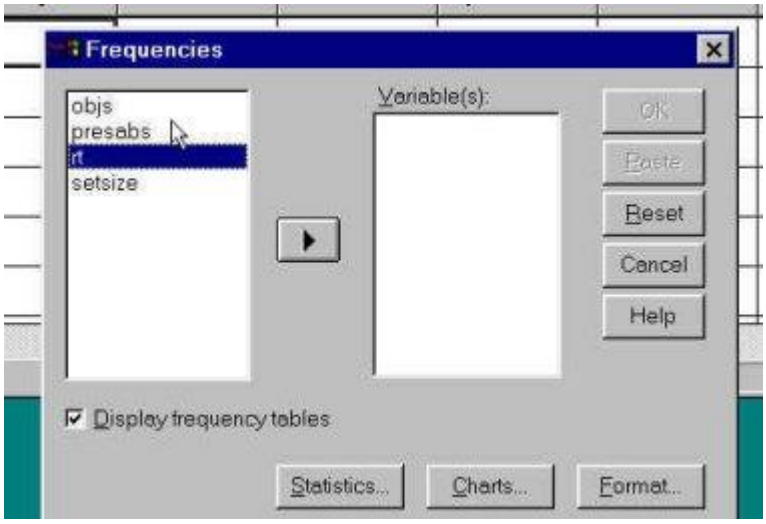
Descriptive Statistics

We can replicate the frequency analyses that are described in chapter 2 of the text, by using the file that was just read into the data editor - tab2-1.dat. These analyses were conducted on the reaction time data. Recall, that we have labelled this data as RT.

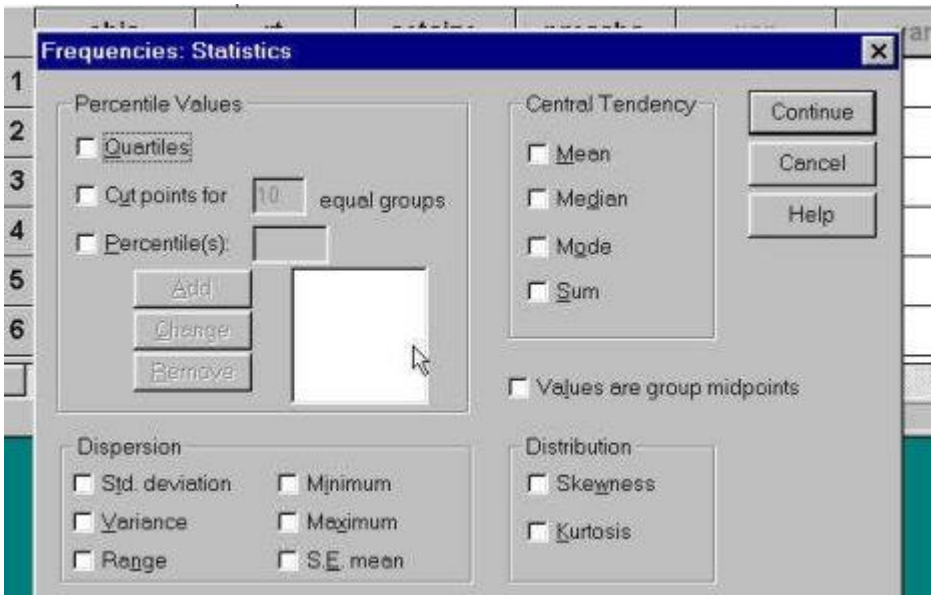
To begin, click on [Statistics=>Summarize=>Frequencies]....



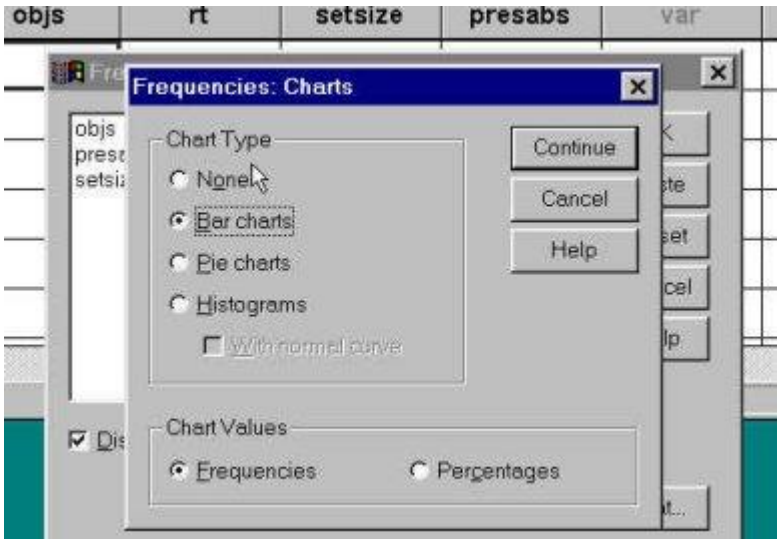
The result is a new dialog box that allows the user to select the variables of interest. Also, note the other clickable buttons along the border of the dialog box. The buttons labelled **[Statistics...]** and **[Charts...]** are of particular importance. Since we're interested in the reaction time data, click on **rt** followed by a mouse click on the arrow pointing right. The consequence of this action is a transference of the rt variable to the **Variables** list. At this point, clicking on the **[OK]** button would spawn an output window with the Frequency information for each of the reaction times. However, more information can be gathered by exploring the options offered by the **[Statistics...]** and **[Charts...]**.



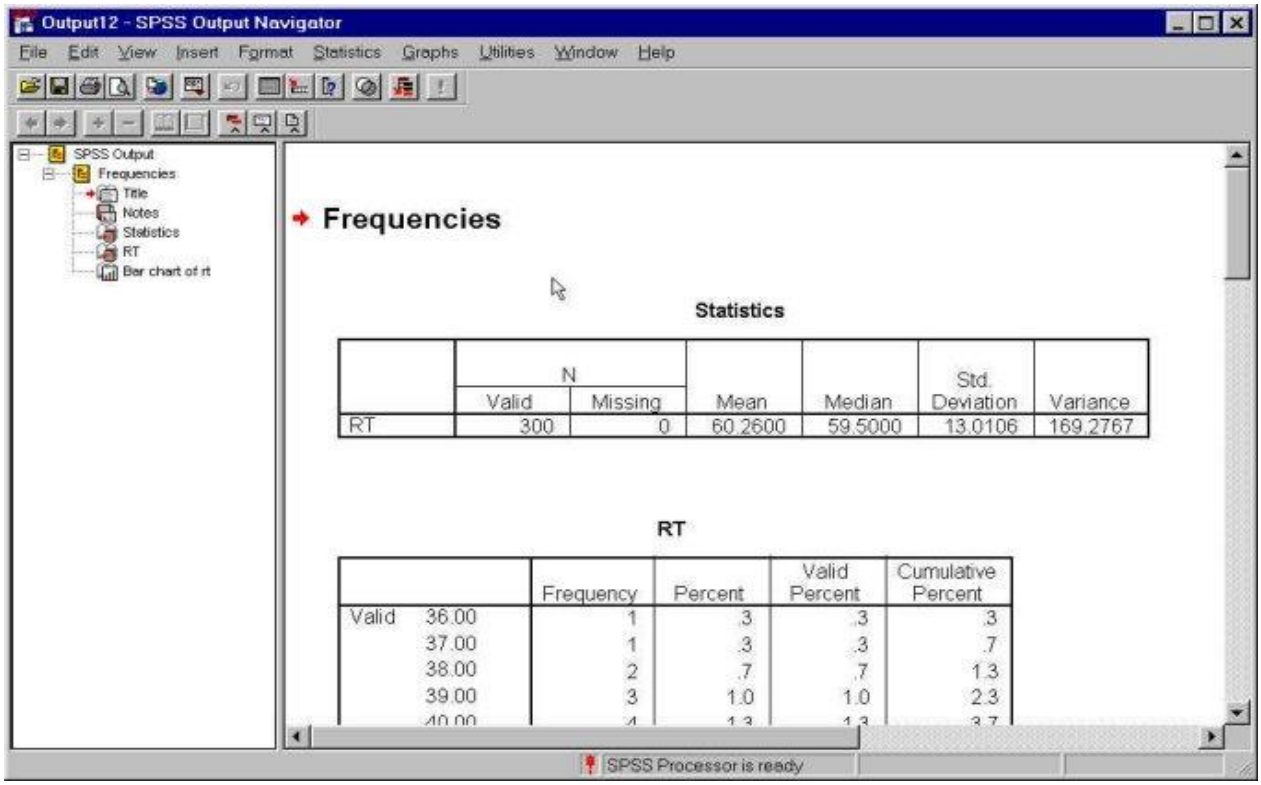
[Statistics...] offers a number of summary statistics. Any statistic that is selected will be summarized in the output window.

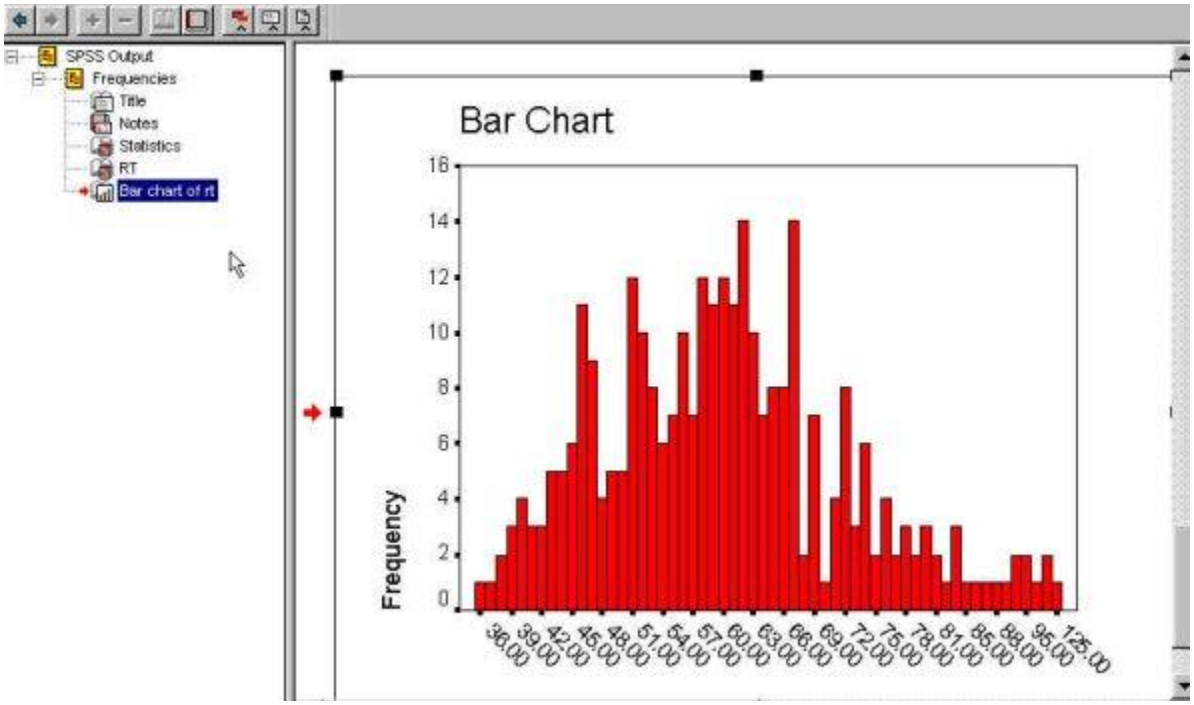


As for the options under **[Charts...]** click on **Bar Charts** to replicate the graph in the text.



Once the options have been selected, click on **[OK]** to run the procedure. The results are then displayed in an output window. In this particular instance the window will include summary statistics for the variable RT, the frequency distribution, and the frequency distribution. You can see all of this by scrolling down the window. The results should also be identical to those in the text.





You may have gathered from the above that calculating summary statistics requires nothing more than selecting variables, and then selecting the desired statistics. The

frequency example allowed us to generate frequency information plus measures of central tendencies and dispersion. These statistics can be had by clicking directly on **[Statistics=>Summarize=>Descriptives]**. Not surprisingly, another dialog box is attached to this procedure. To control the type of statistics produced, click on the **[Options...]** button. Once again, the options include the typical measures of central tendency and dispersion.

Each time as statistical procedure is run, like **[Frequencies...]** and **[Descriptives...]** the results are posted to an Output Window. If several procedures are run during one session the results will be appended to the same window. However, greater organization can be reached by opening new Output windows before running each procedure - **[File=>New=>Output]**. Further, the contents of each of these windows can be saved for later review, or in the case of charts saved to be later included in formattted documents. [Explore by left mouse clicking on any of the output objects (e.g., a frequency table, a chart, ...) followed by a right button click. The left left button click will highlight the desired object, while the right button click will popup a new menu. The next step is to click on the **copy** option. This action will store the object on the clipboard so that it can be pasted to Word for Windows document, for example.....]

Chi-Square & T-Test

The computation of the Chi-Square statistic can be accomplished by clicking on **[Statistics => Summarize => Crosstabs...]**. This particular procedure will be your first introduction to coding of data, in the data editor. To this point data have been entered in a column format. That is, one variable per column. However, that method is not sufficient in a number of situations, including the calculation of Chi-Square, Independent T-tests, and any Factorial ANOVA design with between subjects factors. I'm sure there are many other cases, but they will not be covered in this tutorial. Essentially, the data have to be entered in a specific format that makes the analysis possible. The format typcially reflects the design of the study, as will be demonstrated in the examples.

In your text, the following data appear in section 6.????. Please read the text for a description of the study. Essentially, the table - below - includes the observed data and the expected data in parentheses.

Fault	Guilty	Not Guilty	Total
Low	153(127.559)	24(49.441)	177
High	105(130.441)	76(50.559)	181
Total	258	100	358

In the hopes of minimizing the load time for remaining pages, I will make use of the built in table facilty of HTML to simulate the Data Editor in SPSS. This will reduce the number of images/screen captures to be loaded.

For the Chi-Square statistic, the table of data can be coded by indexing the column and row of the observations. For example, the count for being **guilty** with **Low** fault is 153. This specific cell can be indexed as coming from row=1 and column=1. Similarly, Not Guilty with High fault is coded as row=2 and column=2. For each observation, four in this instance, there is unique code for location on the table. These can be entered as follows,

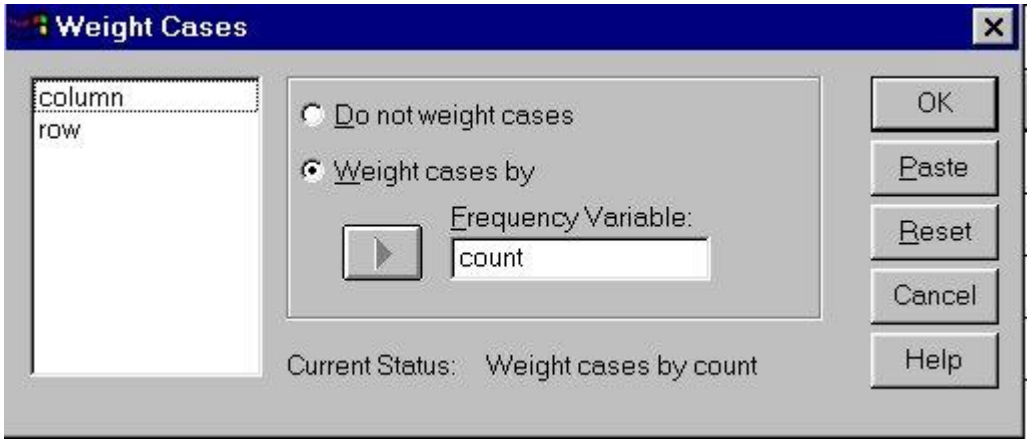
Row	Column	Count
1	1	153
1	2	24
2	1	105
2	2	76

- So, 2 rows * 2 columns equals 4 observations. That should be clear.
- For each of the rows, there are 2 corresponding columns, that is reflected in the **Count** column. The **Count** column represents the number of time each unique combination **Row** and **Column** occurs.

The above presents the data in an unambigous manner. Once entered, the analysis is a matter of selecting the desired menu items, and perhaps selecting additional options for that statistic. [Don't forget to use the labelling facilities, as mentioned earlier, to meaningfully identify the columns/variables. The labels that are chosen will appear in the output window.]

To perform the analysis,

- The first step is to inform SPSS that the COUNT variable represents the frequency for each unique coding of ROW and COLUMN, by invoking the WEIGHT command. To do this, click on **[Data => Weight Cases]**. In the resultant dialog box, enable the **Weight cases by** option, then move the COUNT variable into the **Frequency Variable** box. If this step is forgotten, the count for each cell will be 1 for the table.



- Now that the COUNT variable has been processed as a weighted variable, select **[Statistics => Summarize => Crosstabs...]** to launch the controlling dialog box.
- At the bottom of the dialog box are three buttons, with the most important being the **[Statistics...]** button. You must click on the **[Statistics...]** button and then select the **Chi-square** option, otherwise the statistic will not be calculated. Exploring this dialog box makes it clear that SPSS can be forced to calcuate a number of other statistics in conjuction with Chi-square. For example, one can select the various measures of association (e.g., contingency coefficient, phi and cramer's v,...), among others.
- Move the ROW variable into the **Row(s):** box, and the COLUMN variable into the **Column(s):**, then click **[OK]** to perform the analysis. A subset of the output looks like the following,

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	35.930[b]	1	.000		
Continuity Correction[a]	34.532	1	.000		
Likelihood Ratio	37.351	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	35.830	1	.000		
N of Valid Cases	358				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 49.44.

Although simple, the calculation of the Chi-square statistic is very particular about all the required steps being followed. More generally, as we enter hypothesis testing, the user

should be very careful and should make use of manuals for the programme and textbooks for statistics.

T-tests

By now, you should know that there are two forms of the t-test, one for dependent variables and one for independent variables, or observations. To inform SPSS, or any stats package for that matter, of the type of design it is necessary to have to different ways of laying out the data. For the dependent design, the two variables in question must be entered in two columns. For independent t-tests, the observations for the two groups must be uniquely coded with a Gruop variable. Like the calculation of the Chi-square statistic, these calculations will reinforce the practice of thinking about, and laying out the data in the correct format.

Dependent T-Test

To calculate this statistic, one must select **[Statistics => Compare Means => Paired-Samples T Test...]** after enterin the data. For this analysis, we'll use the data from Table 7.3, in Howell.

- Enter the data into a new datafile. Your data should look a bit like the following. That is, the two variables should occupy separate columns...

Mnths_6	**Mnths_24**
124	114
94	88
115	102
110	2
116	2
139	2
116	2
110	2
129	2
120	2
105	2
88	2
120	2

120	2
116	2
105	2
...	...
...	...
123	132

Note that the variable names start with a letter and are less than 8 characters long. This is a bit constraining, however, one can use the variable label option to label the variable with a longer name. This more descriptive name will then be reproduced in the output window.

- To calculate the *t* statistic click on **[Statistics => Compare Means => Paired-Samples T Test...]**, then select the two variables of interest. To select the two variables, hold the **[Shift]** key down while using the mouse for selection. You will note that the selection box requires that variables be selected two at a time. Once the two variables have been selected, move them to the **Paired Variables:** list. This procedure can be repeated for each pair of variables to be analyzed. In this case, select MNTHS_6 and MNTHS_24 together, then move them to the **Paired Variables** list. Finally, click the **[OK]** button.

  The critical result for the current analysis will appear in the output window as follows,

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	MDI-24 Months - MDI-6 Months	-4.2903	16.0379	2.8805	-10.1731	1.5924	-1.489	30	.147

As you can see an exact t-value is provided along with an exact *p-value*, and this p-value is greater that the expected value of 0.025, for a two-tailed assessment. Closer examination indicates several other statistics are presented in output window.

Quite simply, such calculations require very little effort!

Independent T-tests

When calculating an independent t-test, the only difference involves the way the data are formatted in the datasheet. The datasheet must include both the raw data and group coding, for each variable. For this example, the data from table 7.5 will be used. As an added bonus, the number of observations are unequal for this example.

Take a look at the following table to get a feel for how to code the data.

Group	**Exp_Con**
1	96
1	127
1	127
1	119
1	109
1	143
1	...
1	...
1	106
1	109
2	114
2	88
2	104
2	104
2	91
2	96
2	...
2	...
2	114
2	132

From the above you can see that we used the "Group" variable to code for the two variables. The value of **1** was used to code for "LBW-Experimental", while a value of **2** was used to code for "LBW-Control". If you're confused please study the table, above.

To generate the t-statistic,

- Clik on **[Statistics => Compare Means => Independent-Samples T Test]** to launch the appropriate dialog box.
- Select "exp_con" - the dependent variable list - and move it to the **Test Variable(s):** box.
- Select "group" - the grouping variable list - and move it to the **Grouping Variable:** box.
- The final step requires that the groups be defined. That is, one must specify that Group1 - the experimental group in this case - is coded as **1**, and Group2 - the control group in this case - is coded as **2**. To do this, click on the **[Define Groups...]** button. Click on the **[Continue]** button to return to the controlling dialog box.
- Run the analysis by clicking on the **[OK]** button.

  The output for the current analysis extracted from the output window looks like the following.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Mean	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EXP_CON	Equal variances assumed	.055	.816	3.041	54	.004	10.4903	3.4499	3.5737	17.4069
	Equal variances not assumed			3.048	51.954	.004	10.4903	3.4419	3.5835	17.3971

The p-value of .004 is way lower than the cutoff of 0.025, and that suggests that the means are significantly different. Further, a Levene's Test is performed to ensure that the correct results are used. In this case the variances are equal, however, the calculations for unequal variances are also presented, among some other statistics - some not presented.

In the next section we will briefly demonstrate the calculation of correlations and regression, as discussed in Chapter 9 of Howell. In truth, you should be able to work through many statistics with your current knowledge base and the help files, including correlations and regressions. Most statistics can be calculated with a few clicks of the mouse.

Correlations and Regression

This will be a brief tutorial, since there is very little that is required to calculate correlations and linear regressions. To calculate a simple correlation matrix, one must use **[Statistics => Correlate => Bivariate...]**, and **[Statistics => Regression => Linear]** for the calculation of a linear regression.

For this section, the analyses presented in the computer section of the Correlation and Regression chapter will be replicated. To begin, enter the data as follows,

IQ	**GPA**
102	2.75
108	4.00
109	2.25
118	3.00
79	1.67
88	2.25
...	...
...	...
85	2.50

Simple Correlation

- Click on **[Statistics => Correlate => Bivariate...]**, then select and move "IQ" and "GPA" to the **Variables:** list. [Explore the options presented on this controlling dialog box.]
- Click on **[OK]** to generate the requested statistics.

The results from output window should look like the following,

Correlations

		IQ	GPA
Pearson Correlation	IQ	1.000	.702**
	GPA	.702**	1.000
Sig. (2-tailed)	IQ	.	.000
	GPA	.000	.
N	IQ	30	30
	GPA	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

As you can see, r=0.702, and p=.000. The results suggest that the correlation is significant.

Note: In the above example we only created a correlation matrix based on two variables. The process of generating a matrix based on more than two variables is not different. That is, if the dataset consisted of 10 variables, they could have all been placed in the **Variables:** list. The resulting matrix would include all the possible pairwise correlations.

Correlation and Regression

Linear regression....it is possible to output the regression coefficients necessary to predict one variable from the other - that minimize error. To do so, one must select the **[Statistics => Regression => Linear...]** option. Further, there is a need to know which variable will be used as the dependent variable and which will be used as the independent variable(s). In our current example, GPA will be the dependent variable, and IQ will act as the independent variable. Specifically,

- Initiate the procedure by clicking on **[Statistics => Regression => Linear...]**
- Select and move GPA into the **Dependent:** variable box
- Select andmove IQ into the **Independent(s):** variable box
- Click on the **[OK]** to generate the statistics.

  Note: A variety of options can be accessed via the buttons on the bottom half of this controlling dialog box (e.g., Statistics, Plots,...). Many more statistics can be generated by explore the additional options via the **Statistics** button.

Some of the results of this analysis are presented below,

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.777	.844		-2.105	.044
	IQ	4.48E-02	.009	.702	5.212	.000

a. Dependent Variable: GPA

The correlation is still 0.702, and the p value is still 0.000. The additional statistics are "Constant", or *a* from the text, and "Slope", or *B* from the text. If you recall, the dependent variable is GPA, in this case. As such, one can predict GPA with the following,

GPA = -1.777 + 0.0448*IQ

The next section will discuss the calculation of the ANOVA.