



وزارة التعليم العالي والبحث العلمي

جامعة المستقبل

كلية التقنيات الصحية والطبية

قسم تقنيات البصريات

محاورة التطبيقات الأحصائية 1 العلمي

اعداد

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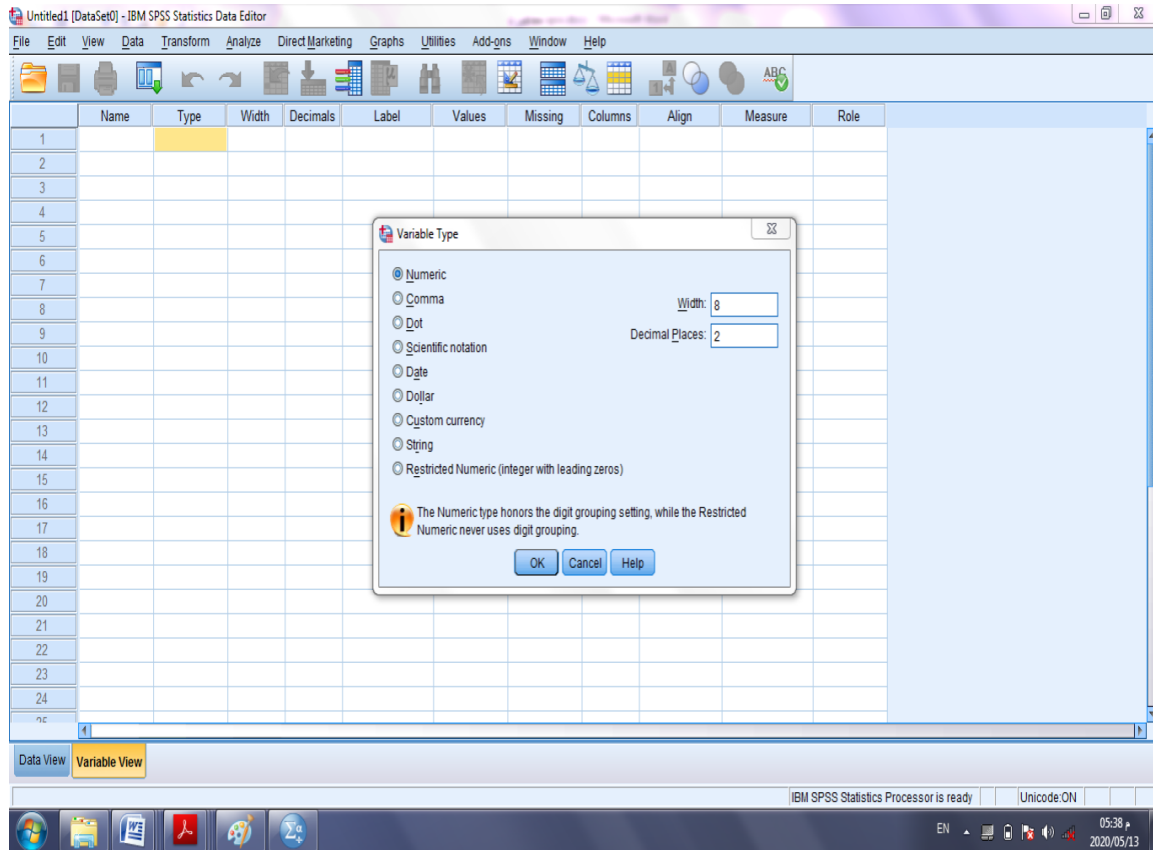
المبرمج مصطفى مرتضى خلف

مدخل الى برنامج SPSS V22

المحاورة الثانية



2. Variable Type: The function of this column is to specify the data type that will be entered for this variable in the data view sheet. When selecting it, a button appears, and upon clicking it, a dialog box containing several types of variables appears. We choose one of them, and these types are:



1-Numeric: A numerical variable, which is the default type for variables in the data view sheet.

2- Comma: A numerical variable with the addition of a comma (,) as a separator between every three decimal places. For example, the number 622776.022 is written as 622,776.022 using this type.

3- Dot: A numerical variable using (.) to separate every three decimal places. A comma (,) is used to separate the integer part from the decimal part. For example, the previous number is written as 622.776,022 based on this choice.

3- Scientific notation: A symbol written in exponential notation (E-notation). For example, the number 5^{10} is written as 1.0E+05.

4- Date: A variable representing the date or time, such as time in hours.

5- Dollar: Used as a symbol for the U.S. dollar.

6- Custom currency: Used to define the currency for the function, adjustable from Edit > Options > Currency.

7- String: A symbolic variable (e.g., a name) used when the variable's data consists of symbols or names, not numbers.

3. Variable Width Display:

The variable width represents the number of characters allocated for the numeric part plus the decimal point character, and the remaining characters are assigned to the integer part in the case of numeric variables. As for non-numeric variables, the variable width represents the number of characters allocated to the non-numeric variable. Note that the variable width can also be specified from the variable type dialog box.

4. Decimal Places:

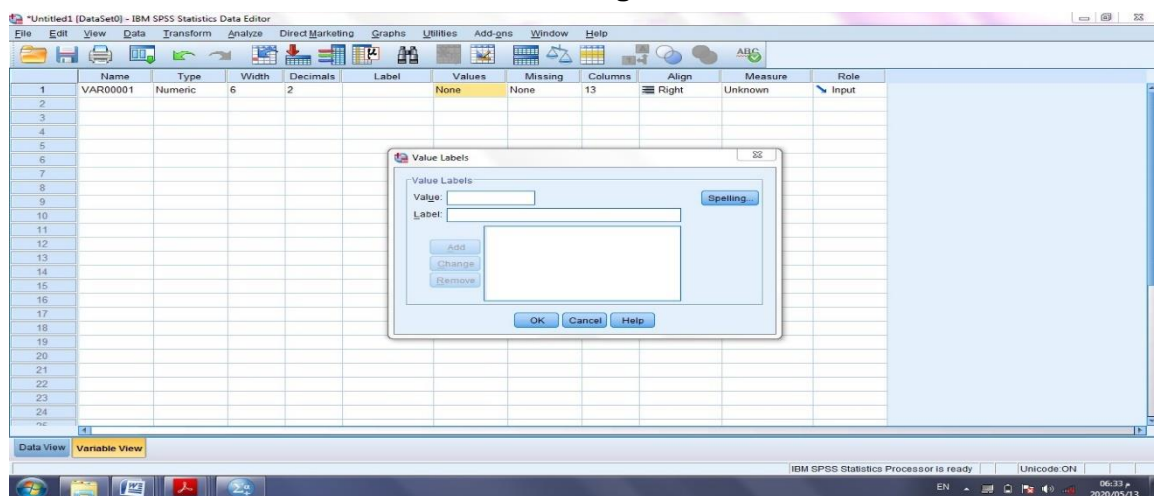
Decimals represent the number of decimal places assigned for the decimal fraction in numeric variables (dot, comma, numeric). The decimal places can be increased or decreased using arrows up or down. It is worth noting that decimal places can also be specified from the variable type dialog box.

5. Variable Label:

A variable label can cover an address of up to 256 characters used to describe the variable. This label is used instead of the variable name in outputs (tables) in the SPSS program.

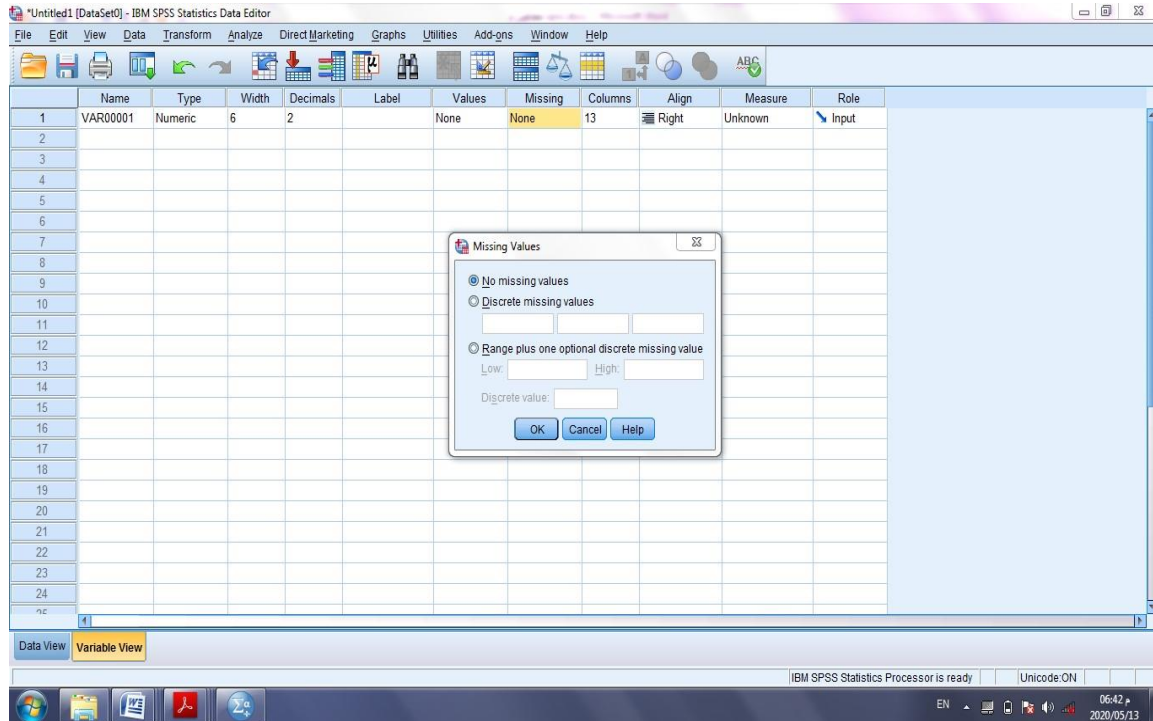
6. Value Label:

Sometimes there is a need to assign a label to a value since the variable uses numerical values to express non-numeric values. For example, the number 1 may represent males, and the number 2 may represent females. Alternatively, letters can be used instead of words, as in the image:



The dialogue box in the above image appears, where we enter the number or letter in the "value" field and the word or phrase in the "label" field. After activating it, we press the "Add" key, and the corresponding number and symbol are added.

7. Definition of Missing Values: Sometimes, we want to define some missing values, meaning that these values already exist, but we do not want to include them in the statistical analysis, either because they are values, we do not want to include in the statistical analysis or because they are fundamentally nonexistent. The dialogue box appears in the image below:



8. Column Width: The width of a specific column can be determined by selecting the cell within the column in the "Variable View" sheet. The column width can be increased or decreased using the arrows up or down, or by directly entering the column width.

9. Text Alignment: To adjust the text alignment within variable cells, choose the column labeled "align" in the "Variable View" sheet and select one of the following commands:

- Left: Aligns the text to the left of the cell.
- Right: Aligns the text to the right of the cell.
- Center: Aligns the text in the center of the cell.

10. Measurement: To define the measurement scale for a specific variable, click on the cell of the variable located within the "measure" column in the "Variable View" sheet. Three options will appear, as follows:



- **Scale:** Used for numerical data (quantitative measurements) such as length, weight, etc.
- **Ordinal:** Used to measure ordinal variables when the variable has a specific number of categories that can be ordered either in ascending or descending order, but the exact differences between them cannot be accurately determined.
 - **Example:** Grading students in exams (Excellent, Very Good, Good, Average, Pass, Fail). The order is clear, but the precise differences between the categories are not well-defined.
- **Nominal:** Used to measure nominal variables, which are variables with several categories without any preference for one over the other. These categories cannot be ordered in ascending or descending order.
 - **Example:** Classifying a society into males and females. For instance, assigning the number 1 to males and 2 to females doesn't imply any inherent superiority. These numbers do not hold a true meaning for the variable, and arithmetic operations cannot be performed on this type of variable. Nominal variables can be either numerical or symbolic; for example, the variable "Province" (Baghdad, Mosul, Basra) where we use "nominal" due to the lack of a specific order among the provinces.

Enter the data into the SPSS program.

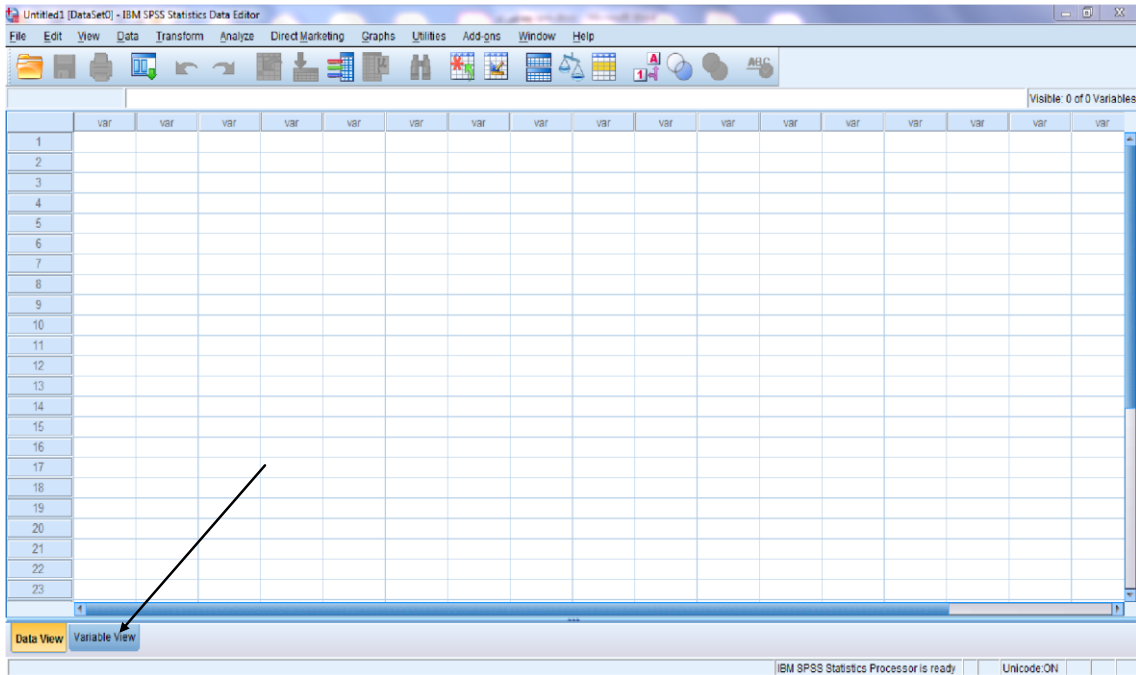
Let's assume we have the following data and want to input it into the SPSS program.

الدخل الكلي	الاستهلاك الكلي
251	211
311	275
151	125
111	51
225	151
175	111
351	311
151	111
125	111
275	251

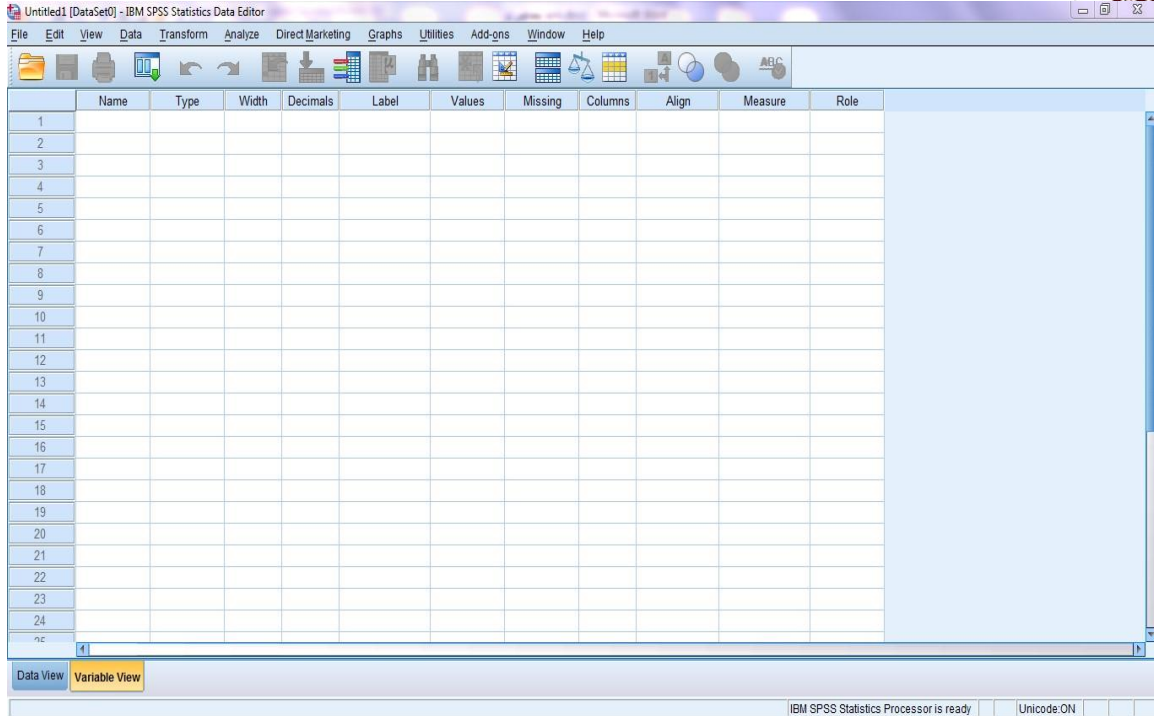


Steps:

- 1- In the main window of the program, click with the mouse once on Variable View as shown below**



- 2- The following window will appear**



3- In the window above, all specific settings and variables will be adjusted as follows:

❖ **For the first variable:**

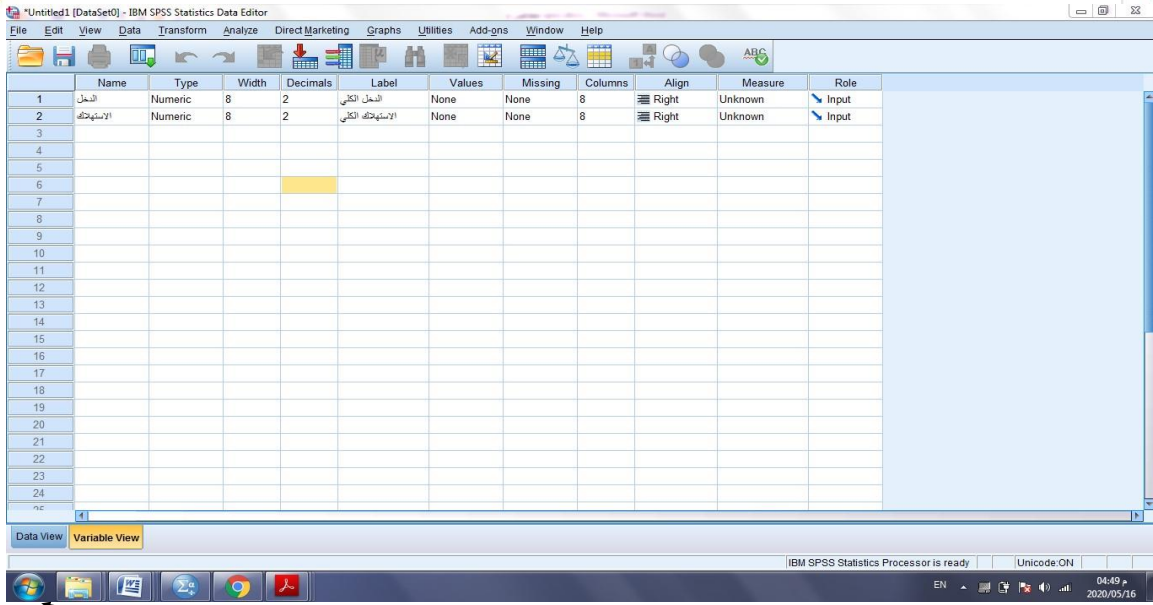
1. In the first cell of the Name column, i.e., in the first row, write the name of the first variable consisting of a single word, provided that the number of characters does not exceed eight characters and does not include spaces, commas, or symbols. Therefore, we will write the name of the first variable (الدخل).

2. In the first cell of the Label column, write the full name of the first variable with the possibility of including spaces and symbols. So, we will write the name of the first variable (الدخل الكلي).

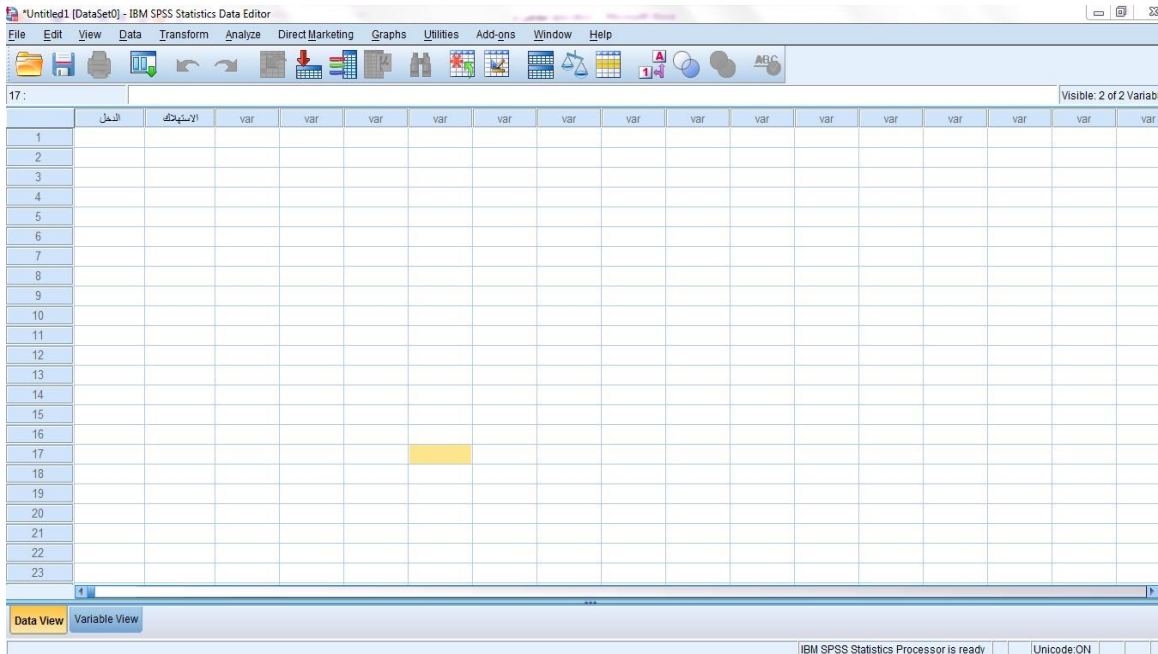
❖ **For the second variable, enter the information of this variable in the second row in the same open window in front of you:**

1. In the second cell of the Name column, i.e., in the second row, write the name of the second variable, also consisting of a single word, provided that the number of characters does not exceed eight characters and does not include spaces, commas, or symbols. Therefore, we will write the name of the second variable (الاستهلاك).

2. In the second cell of the Label column, the name of the second variable is written in full, with the possibility of including spaces and symbols. So, we will write the name of the second variable (الاستهلاك الكلي). As for the other settings within the same window (Type, Width...), the SPSS program will suggest them automatically, as illustrated in the figure below.



4. Then, we click on 'Data View' to return to the data input window, as shown below.



We notice that the abbreviated name of the variable is the one that appears in front of you as the title for the column representing this variable. The full variable name appears when we place the mouse pointer over the abbreviated name without pressing.

5. We enter the data for each variable as shown below:

البيانات : 11	البيع	الاستهلاك	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	250.00	200.00														
2	300.00	275.00														
3	150.00	125.00														
4	100.00	50.00														
5	225.00	150.00														
6	175.00	100.00														
7	350.00	300.00														
8	150.00	100.00														
9	125.00	100.00														
10	275.00	250.00														
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																

Save File

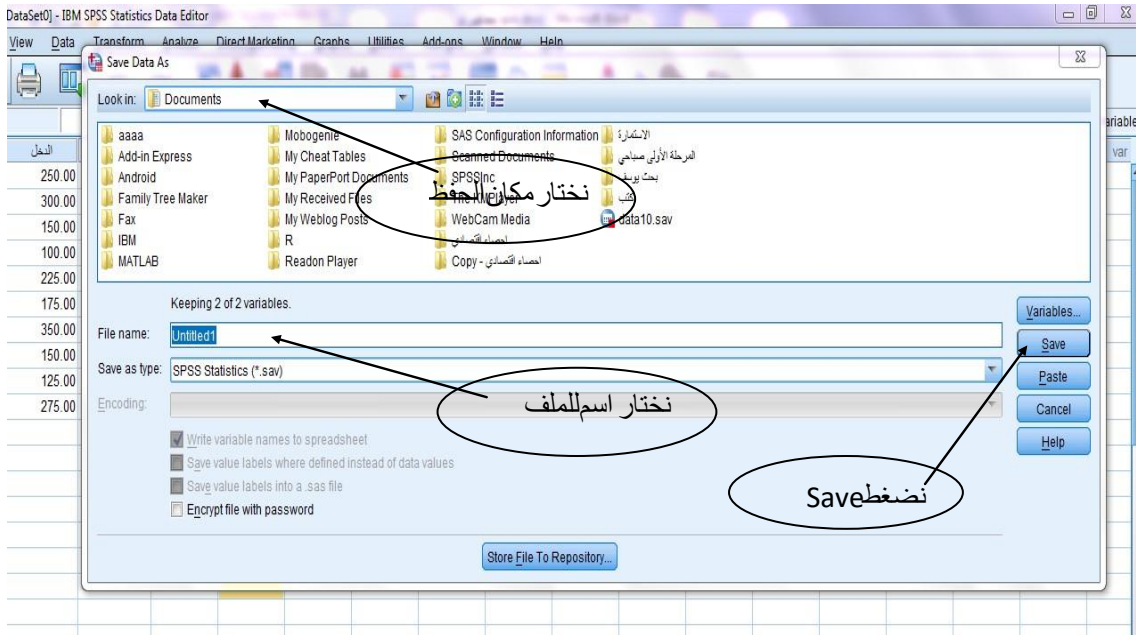
The file is saved in three ways:

- The save icon located in the standard toolbar:

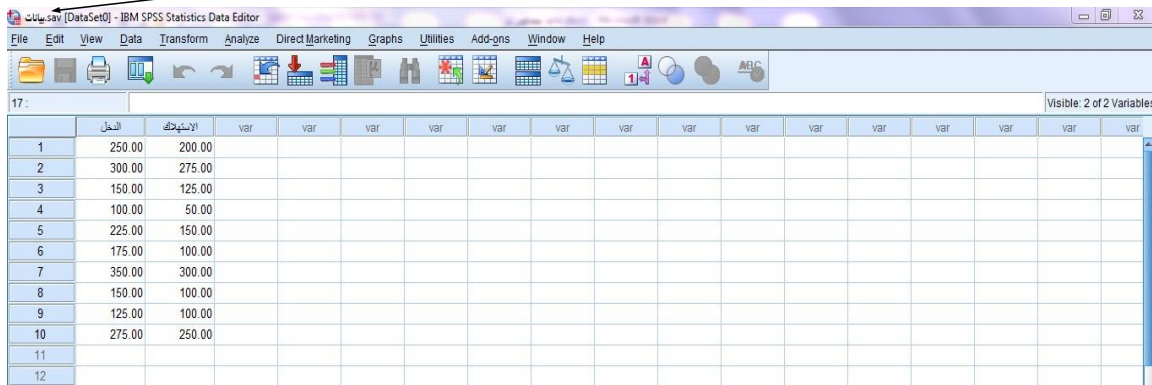


- From the File menu, we select the Save command.

• Using the keyboard shortcut (Ctrl + S), in any of the three methods, the window shown below appears:



We will find that the name of the file in which it was saved appears in the address bar as shown below



✚ Adding a New Column

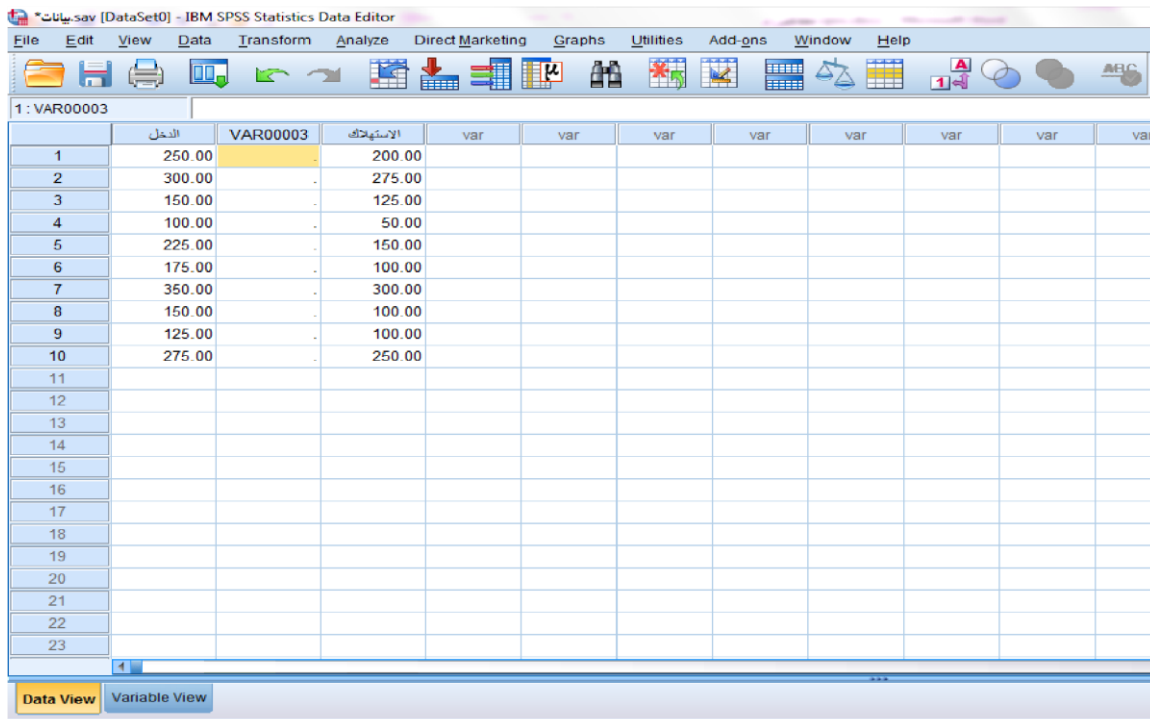
If we want to add a new column to the previous table, meaning adding a new variable, because as mentioned earlier, columns represent variables in an SPSS program table. For example, if we want to add a column titled "Savings" before the consumption column, we follow these steps:

1. Place the mouse cursor on the first cell of the consumption column.

2. Open the Edit menu and choose the Insert Variable command, or select the command from the standard toolbar by clicking it once.



We notice the addition of a new variable (new column) in the specified location with a default name.



❖ (VAR00003) is automatically determined by the program as illustrated below.

4. We modify the default name from (VAR00003) to the nickname by going to the Variable View window and entering the new nickname in the Name field.

5. Finally, we click on the Data View window to return to the data page and observe the change in the column name as shown below.

IBM SPSS Statistics Data Editor

	الدخل	المصروفات	الاستهلاك	var	var	var	var	var	var	var	var
1	250.00	.	200.00								
2	300.00	.	275.00								
3	150.00	.	125.00								
4	100.00	.	50.00								
5	225.00	.	150.00								
6	175.00	.	100.00								
7	350.00	.	300.00								
8	150.00	.	100.00								
9	125.00	.	100.00								
10	275.00	.	250.00								
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											

✚ Delete Column


If we want to delete the column that was added to the previous table under the title 'Savings,' we follow the following steps:

Highlight the 'Savings' column by clicking on the column name (Savings) once. A single click will select the entire column, as shown below

IBM SPSS Statistics Data Editor

	الدخل	المصروفات	الاستهلاك	var	var	var	var	var	var	var	var
1	250.00	.	200.00								
2	300.00	.	275.00								
3	150.00	.	125.00								
4	100.00	.	50.00								
5	225.00	.	150.00								
6	175.00	.	100.00								
7	350.00	.	300.00								
8	150.00	.	100.00								
9	125.00	.	100.00								
10	275.00	.	250.00								
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											

We choose the "Delete" command from the keyboard or right-click twice on the selected column. A window appears, and we select the "Clear" command to delete the column.

 To add a new row:

If we want to add a new row to the previous table, adding a new case, as explained earlier, where the rows represent cases in an SPSS program table. For example, if we want to add a new row before the eighth row, we follow these steps:

1. Place the mouse pointer on the first cell of the eighth row.
2. Open the "Edit" menu and choose the "Insert Cases" command, or choose the command from the standard toolbar by clicking on it once.



3-We notice that a new row has been added in the required location, as shown below

IBM SPSS Statistics Data Editor

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

الدخل : 8

	الدخل	الاستهلاك	var	var	var	var	var	var	var	var	var
1	250.00	200.00									
2	300.00	275.00									
3	150.00	125.00									
4	100.00	50.00									
5	225.00	150.00									
6	175.00	100.00									
7	350.00	300.00									
8											
9	150.00	100.00									
10	125.00	100.00									
11	275.00	250.00									
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											

Data View Variable View

Delete Row

If we want to delete a row, for example, delete the new row that has been added to the previous table, we follow these steps:

1. Highlight the new row by clicking on the row number (8) once. The entire row will be selected as shown below

The screenshot shows the IBM SPSS Statistics Data Editor interface. The menu bar includes File, Edit, View, Data, Transform, Analyze, Direct Marketing, Graphs, Utilities, Add-ons, Window, and Help. The toolbar contains various icons for file operations and data manipulation. The main window displays a data table with the following data:

الرقم	المتن	الاسم	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	250.00	200.00														
2	300.00	275.00														
3	150.00	125.00														
4	100.00	50.00														
5	225.00	150.00														
6	175.00	100.00														
7	350.00	300.00														
8																
9	150.00	100.00														
10	125.00	100.00														
11	275.00	250.00														
12																
13																
14																
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16																
17																
18																
19																
20																
21																
22																
23																

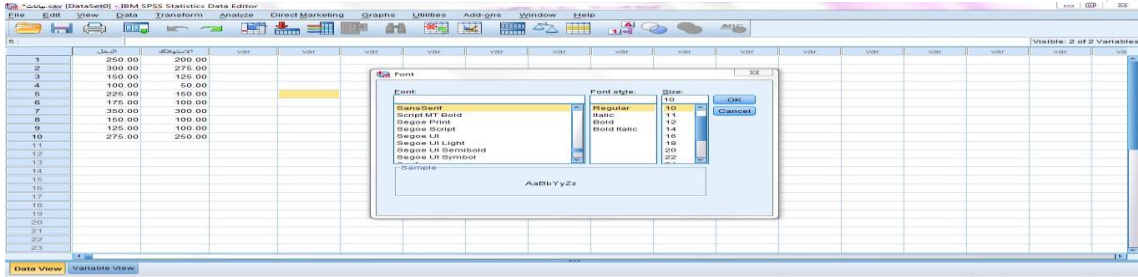
The status bar at the bottom indicates 'IBM SPSS Statistics Processor is ready' and 'Unicode: ON'. The system tray shows the time as 04:51 on 2020/05/21.

2. Choose the Delete command from the keyboard or right-click twice on the selected row. A window will appear, and you select the Clear command to delete the row.

○ Controlling the Size and Style of Writing in the Data Page

To change the size and style of the font on the data page, follow these steps:

1. Open the View menu and choose the Fonts command. A window will appear as illustrated below:



We change the font type from the (FONT) box, the font style from the (Font Style) box, and the font size from the (SIZE) box, and then click OK

	الخط	الامتلاك	var	var
1	250.00	200.00		
2	300.00	275.00		
3	150.00	125.00		
4	100.00	50.00		
5	225.00	150.00		
6	175.00	100.00		
7	350.00	300.00		
8	150.00	100.00		
9	125.00	100.00		
10	275.00	250.00		
11				
12				
13				
14				

✚ Form of the Questionnaire

The questionnaire consists of a set of diverse questions that are interconnected in a way that achieves the researcher's goal through the problem posed in their research. The researcher sends the questionnaire by mail or by any other means to a group of individuals or institutions selected for the study, so that they can fill it out and then return it to the researcher. The number of questions included in the questionnaire should be sufficient and satisfactory to achieve the research goal, regardless of their quantity. Below is a model for a questionnaire form.

استبيان حول مرض سكري الدم



تم إعداد هذا الاستبيان لقياس مدى معرفة الناس بالمرض وكيفية الإصابة منه والوقاية منه و سيكون هذا الاستبيان على قدر من الخصوصية .

ماهو مرض سكري الدم ??

.....
.....

هل يمكن لأسباب وراثية أن تسبب مرض السكري :

نعم لا لا أعلم

ما هي الفئة العمرية المعرضة للإصابة بهذا المرض ؟

الأطفال الشباب كبار السن
 لا يقتصر على فئة عمرية معينة لا أعلم

ما هي العوامل التي تؤدي إلى ارتفاع سكري الدم ?? (يمكن اختيار أكثر من إجابة)

تناول السكريات و المشروبات التدخين
 لا أعلم الحالة النفسية

يمكن إضافة أشياء أخرى :

ما هي أنواع مرض السكري ??

.....
.....

هل يمكن الشفاء من سكري الدم ؟

نعم لا لا أعلم
 حسب النوع المصاب به

ما رأيك بالدور التوعوي الذي تقوم به هيئة الصحة في الدولة بالنسبة لهذا المرض ؟

ممتاز جيد جدا ليس بالمستوى المطلوب متكني

تعليقات إضافية :

.....

Data encoding is the process of converting the responses to each question in the questionnaire into numbers to facilitate input into the SPSS program. Consequently, statistical analysis can be performed on this data to obtain results. According to the SPSS program, each question in the questionnaire will be treated as a variable, representing the columns. The individuals answering the questionnaire questions will be considered cases, representing the rows (each questionnaire form specific to a particular individual will constitute one row, and so on).

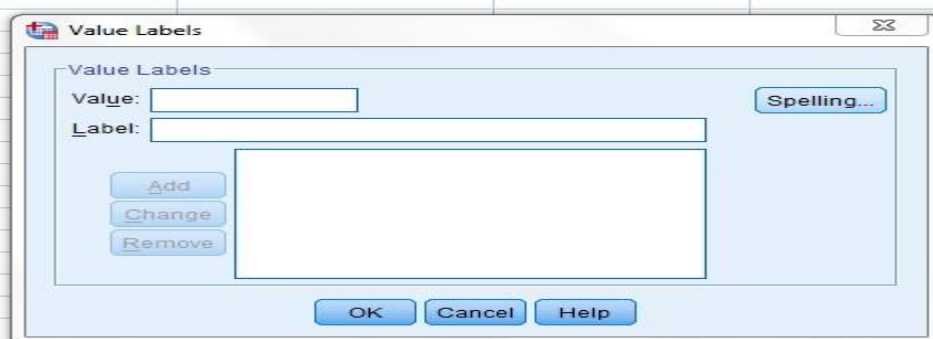
✚ Data encoding in the questionnaire is done according to the following steps:

1. The questionnaire forms are numbered after being answered by the relevant individuals. For example, if there are ten questionnaire forms, the first form is given the number (1), the second form is given the number (2), and so on, up to the tenth form, which is given the number (10). Thus, there will be ten rows (ten observations under each variable).
2. Questions with binary responses (questions with only two possible answers, such as yes or no) are encoded by assigning an integer. For example, (1) can represent "yes," and (2) can represent "no" or indicate the gender of the person as male or female.
3. Questions related to individuals' opinions on a specific topic are assigned a number for each case, as illustrated in the table:

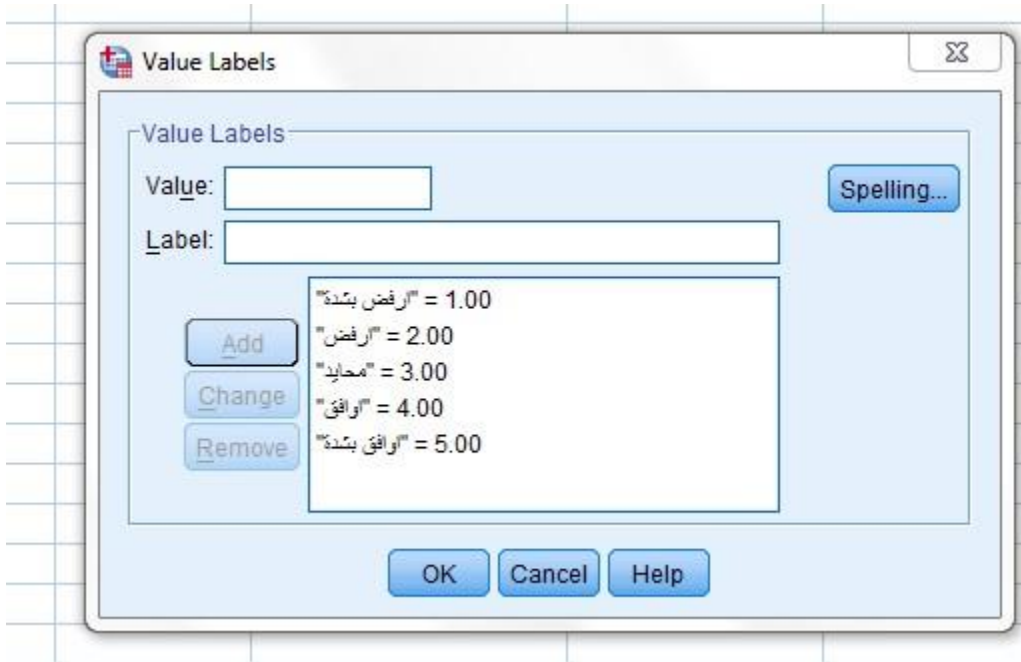
حالات المتغير	اوافق بشدة	اوافق	محايد	ارفض	ارفض بشدة
الرقم	5	4	3	2	1

✚ The steps to enter data are as follows:

1. Open a new file in the SPSS program.
2. In the data page, click on "Variable View." A window with variable properties will appear. In the "Name" field, enter the variable name. Then, open the "Values" field, and a window will appear as shown below.



We write in the 'Value' field the first number, for example, (5). Then, in the 'Label' field, we write the corresponding status for this number, which is (strongly agree). After that, we press 'Add,' and we repeat the process for the remaining numbers as illustrated below.



3. Press OK to return to the Variable Properties window.
4. Move to the Decimals box and set the number of decimal places to zero.
5. Move to the Width box and set the number of integer digits to only one.
6. Return to the Data window by clicking on Data View and enter the data for each form.