

دورة
التحليل الإحصائي
باستخدام SPSS

Statistical Analysis by using SPSS



د. الفیصل حسن

عضو هيئة تدريس بجامعة ميدأوشن



الثلاثاء والأربعاء والخميس
من 5 إلى 7
ديسمبر



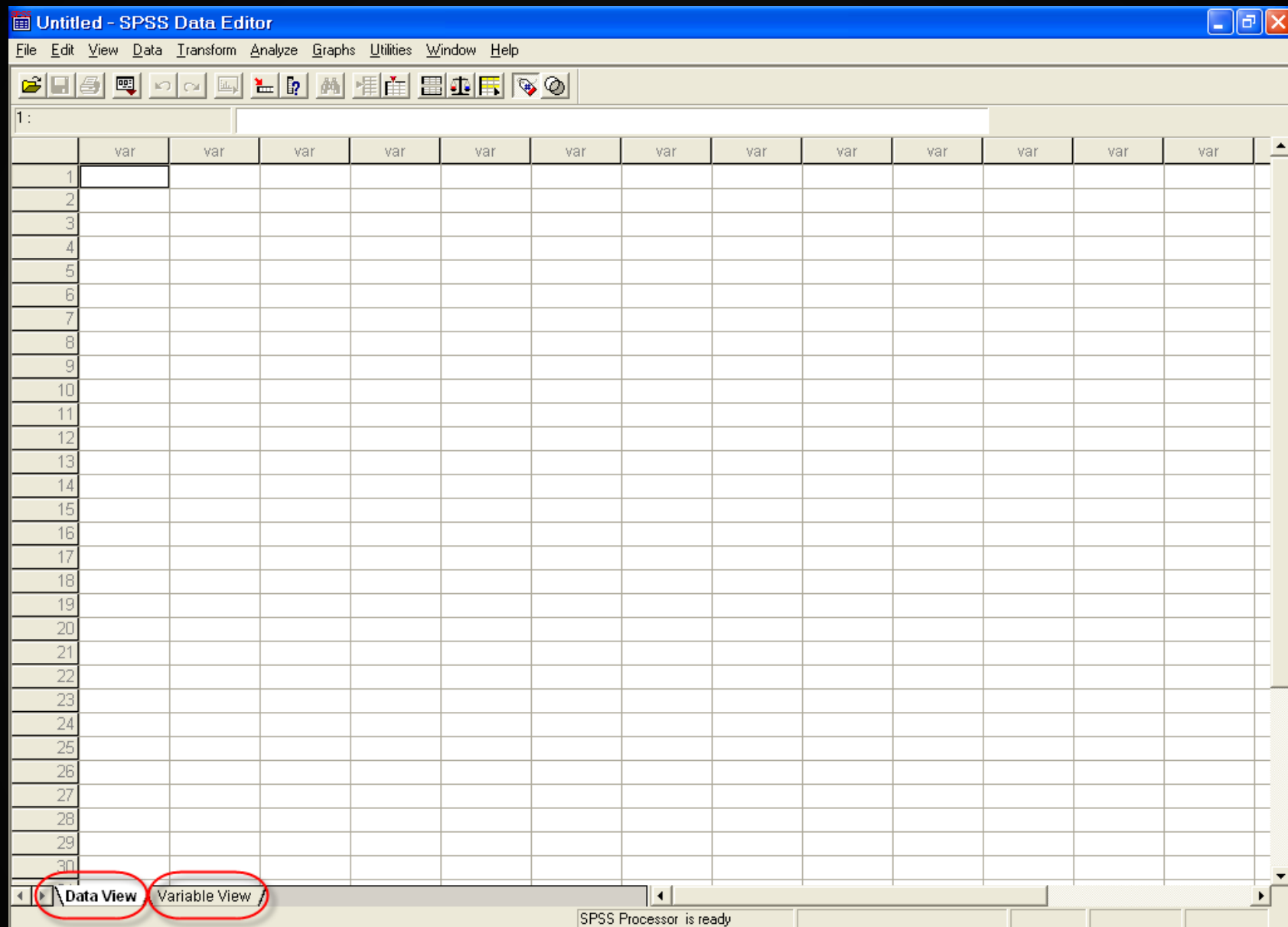
07:00
مساءً
بتوقيت مكة المكرمة

www.midocean.ae



للتسجيل

Introduction to the statistical analysis program
SPSS
Statistical Package for the Social Sciences



15			
16			
17			
18			
19			
20			
21			

عرض البيانات

لتعريف المتغيرات

◀ ▶ \ Data View / Variable View /

٩:٤٢ م ▶ EN ...Untitled - SPSS بدون عنوان -

Untitled - SPSS Data Editor

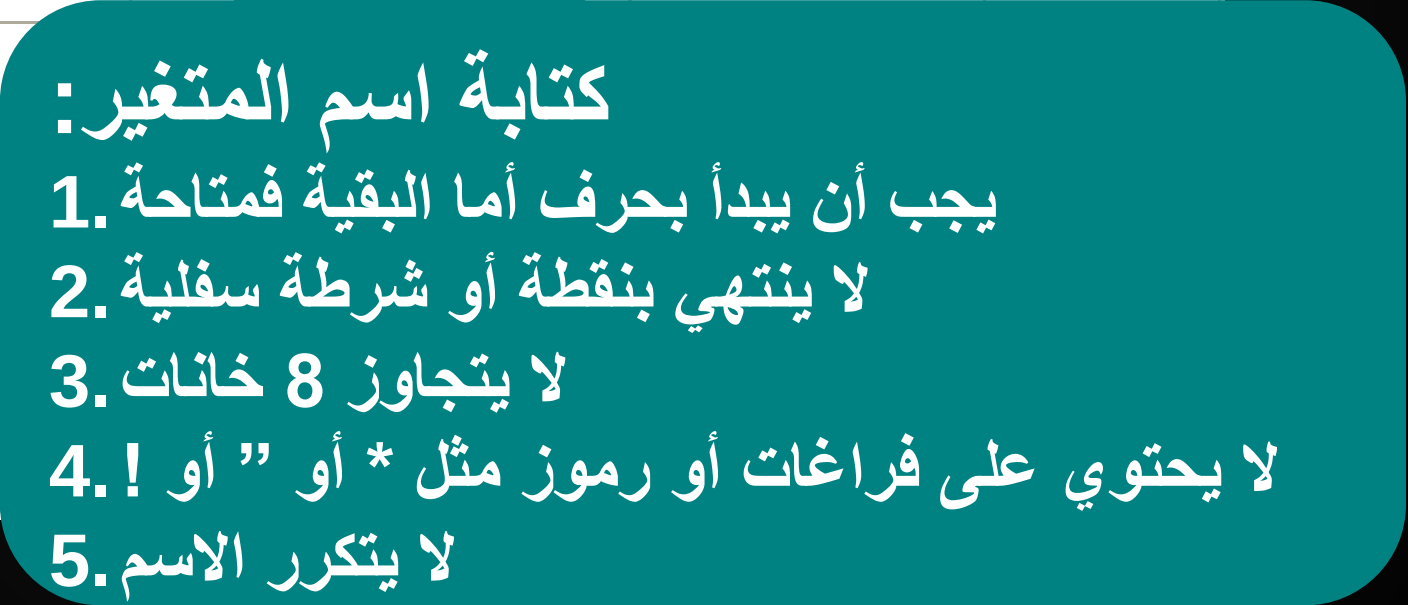
File Edit View Data Transform Analyze Graphs Utilities Window Help

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1										
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3										
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Data View Variable View

SPSS Processor is ready

Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
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SPSS

Untitled - SPSS Data Editor

FileEditViewDataTransformAnalyzeGraphsUtilitiesWindowHelp

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1										
2										
3										
4										
5										
6										
7										
8										

Variable Typeأنواع المتغيرات

☒ Numeric

☐ Comma

☐ Dot

☐ Scientific notation

☐ Date

☐ Dollar

☐ Custom currency

☐ String

Width:8

Decimal Places:2

OK

Cancel

Help

7



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
--	------	------	-------	----------	-------	--------	---------	---------	-------	---------

Value Labels

Value Labels

Value:

1

Value Label:

Add

Change

Remove

1.00 = "غير وافق بقوة"
 2.00 = "غير موافق"
 3.00 = "محايد"
 4.00 = "موافق"
 5.00 = "موافق بقوة"



OK

Cancel

Help

عدد خانات المتغير

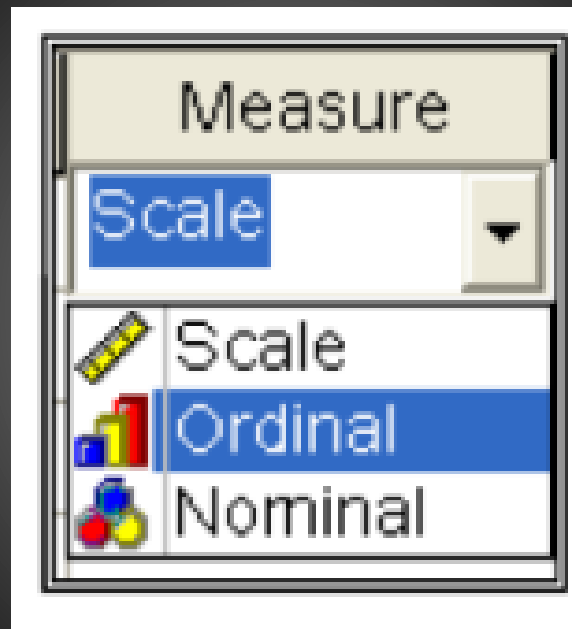
الوصف
والتمييز

القيم
فقودة
عرض العمود

المقياس:
متدرج
ترتيبي
اسمي

التنسيق

أنواع المتغيرات في القياس



Lekard scale

Strongly Disagree	1
Disagree	2
Not Sure	3
Agree	4
Strongly Agree	5

Classification of Mean in the analysis of the questionnaire

Strength	From	To less than
Very Weak	1.0	1.8
Weak	1.8	2.6
Intermediate	2.6	3.4
Strong	3.4	4.2
Very Strong	4.2	5.0

Notes that $4/5 = 0.8$

Steps for calculating measure of central Tendency and measures of dispersion using SPSS

Mode

Median

Mean

Standard Deviation

Range

**Ex: In the following three groups, it is required
to calculate the mean, median, and mode:**

Group 1: 2 – 4 – 4 – 6

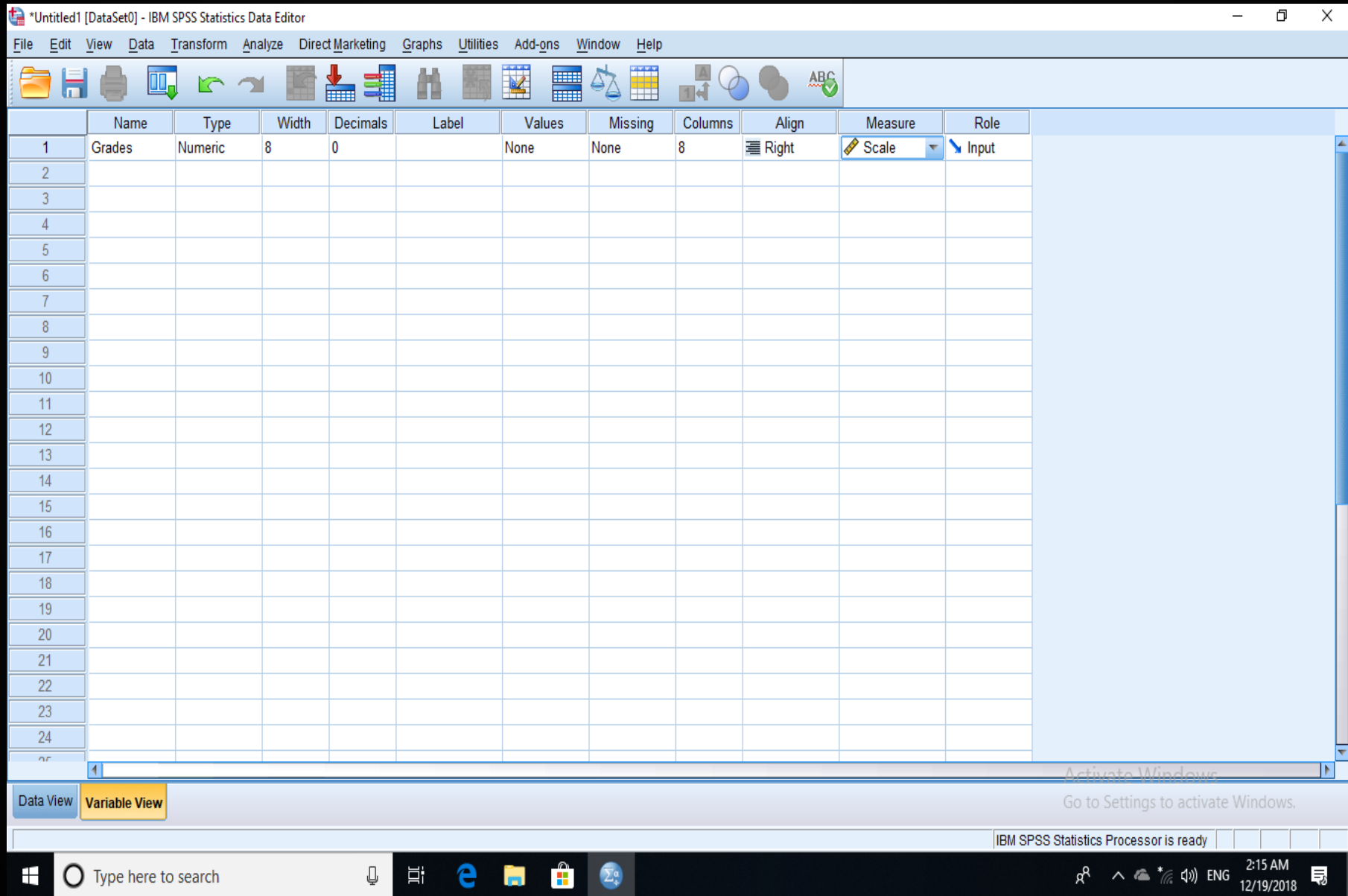
Group 2: -2 – 4 – 4 - 10

Group 3: -70 – 4 – 4 - 78

Group	Mean	Median	Mode
1	4	4	4
2	4	4	4
3	4	4	4

**Ex: In the following data, it is required to
calculate the mean, median, and mode:**

**30 – 25 – 42 – 34 – 36 – 22 – 33 – 52 – 41 – 23 – 54 –
44**



*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

8 : Grades Visible: 1 of 1 Variables

	Grades	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	30															
2	25															
3	42															
4	34															
5	36															
6	22															
7	33															
8																
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22																
23																

Data View Variable View

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze			
     			
8 : Grades			
	Grades	var	
1	30		
2	25		
3	42		
4	34		
5	36		
6	22		
7	33		
8			
9			
10			

SPSS Data Editor window showing a dataset with 12 rows and 17 columns. The first column is labeled 'Grades' and contains values ranging from 22 to 54. The second column is labeled 'var' and contains values ranging from 30 to 44. The interface includes a menu bar, toolbar, and a status bar at the bottom.

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

Toolbar: File operations, Data manipulation, Analysis, and Visualization icons.

Visible: 1 of 1 Variables

	Grades	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	30																
2	25																
3	42																
4	34																
5	36																
6	22																
7	33																
8	52																
9	41																
10	23																
11	54																
12	44																
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22																	
23																	

IBM SPSS Statistics Processor is ready

Go to Settings to activate Windows.

2:17 AM 12/19/2018

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze

12 : Grades 44

	Grades	var
1	30	
2	25	
3	42	
4	34	
5	36	
6	22	
7	33	
8	52	
9	41	
10	23	
11	54	
12	44	
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22		
23		

Data View Variable View

Type here to search

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

12 : Grades 44

	Grades	var
1	30	
2	25	
3	42	
4	34	
5	36	
6	22	
7	33	
8	52	
9	41	
10	23	
11	54	
12	44	
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19		
20		
21		
22		
23		

Reports
Descriptive Statistics
Tables
Compare Means
General Linear Model
Generalized Linear Models
Mixed Models
Correlate
Regression
Loglinear
Neural Networks
Classify
Dimension Reduction
Scale
Nonparametric Tests
Forecasting
Survival
Multiple Response
Missing Value Analysis...
Multiple Imputation
Complex Samples
Quality Control
ROC Curve...

Visible: 1 of 1 Variables

Data View Variable View

Analyze IBM SPSS Statistics Processor is ready

Type here to search

2:17 AM 12/19/2018

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Reports
Descriptive Statistics
Tables
Compare Means
General Linear Model
Generalized Linear Models
Mixed Models
Correlate
Regression
Loglinear
Neural Networks
Classify
Dimension Reduction
Scale
Nonparametric Tests
Forecasting
Survival
Multiple Response
Missing Value Analysis...
Multiple Imputation
Complex Samples
Quality Control
ROC Curve...

Frequencies...
Descriptives...
Explore...
Crosstabs...
Ratio...
P-P Plots...
Q-Q Plots...

12: Grades 44

	Grades	var
1	30	
2	25	
3	42	
4	34	
5	36	
6	22	
7	33	
8	52	
9	41	
10	23	
11	54	
12	44	
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22		
23		

Visible: 1 of 1 Variables

Data View Variable View

Descriptive Statistics

IBM SPSS Statistics Processor is ready

Type here to search

2:18 AM 12/19/2018

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

12 : Grades 44

	Grades	var
1	30	
2	25	
3	42	
4	34	
5	36	
6	22	
7	33	
8	52	
9	41	
10	23	
11	54	
12	44	
13		
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16		
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18		
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20		
21		
22		
23		

Visible: 1 of 1 Variables

Reports
Descriptive Statistics
 Tables
 Compare Means
 General Linear Model
 Generalized Linear Models
 Mixed Models
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 Regression
 Loglinear
 Neural Networks
 Classify
 Dimension Reduction
 Scale
 Nonparametric Tests
 Forecasting
 Survival
 Multiple Response
 Missing Value Analysis...
 Multiple Imputation
 Complex Samples
 Quality Control
 ROC Curve...

Frequencies...
 Descriptives...
 Explore...
 Crosstabs...
 Ratio...
 P-P Plots...
 Q-Q Plots...

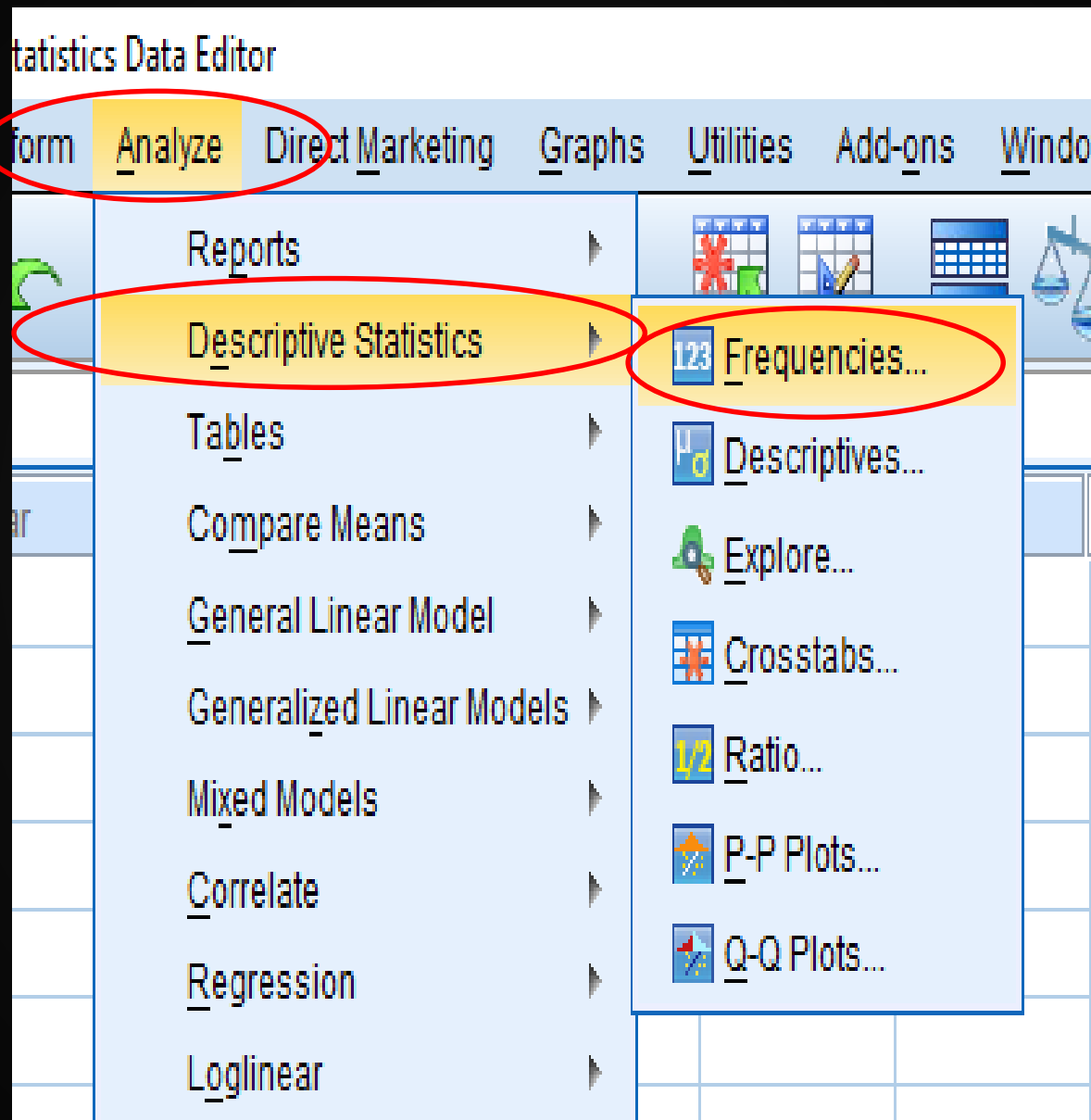
Data View Variable View

Frequencies...

IBM SPSS Statistics Processor is ready

Type here to search

2:18 AM
12/19/2018



IBM SPSS Statistics Data Editor window showing a dataset named "Untitled1 [DataSet0]". The dataset has 23 rows and 17 columns. The first column is labeled "Grades" and contains values ranging from 22 to 54. The second column is labeled "var" and contains values ranging from 30 to 44. The third column is labeled "var" and contains values ranging from 30 to 44. The fourth column is labeled "var" and contains values ranging from 30 to 44. The fifth column is labeled "var" and contains values ranging from 30 to 44. The sixth column is labeled "var" and contains values ranging from 30 to 44. The seventh column is labeled "var" and contains values ranging from 30 to 44. The eighth column is labeled "var" and contains values ranging from 30 to 44. The ninth column is labeled "var" and contains values ranging from 30 to 44. The tenth column is labeled "var" and contains values ranging from 30 to 44. The eleventh column is labeled "var" and contains values ranging from 30 to 44. The twelfth column is labeled "var" and contains values ranging from 30 to 44. The thirteenth column is labeled "var" and contains values ranging from 30 to 44. The fourteenth column is labeled "var" and contains values ranging from 30 to 44. The fifteenth column is labeled "var" and contains values ranging from 30 to 44. The sixteenth column is labeled "var" and contains values ranging from 30 to 44. The seventeenth column is labeled "var" and contains values ranging from 30 to 44.

The "Frequencies" dialog box is open, showing the variable "Grades" selected in the "Variable(s)" list. The "Display frequency tables" checkbox is checked. The "OK" button is highlighted.

Windows taskbar shows the time as 2:18 AM on 12/19/2018. The system tray includes icons for network, volume, and power.

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

12: Grades 44 Visible: 1 of 1 Variables

	Grades	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	30															
2	25															
3	42															
4	34															
5	36															
6	22															
7	33															
8	52															
9	41															
10	23															
11	54															
12	44															
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																

Grades

Variable(s):

Grades

Statistics...
Charts...
Format...
Bootstrap...

☒ Display frequency tables

OK Paste Reset Cancel Help

IBM SPSS Statistics Processor is ready

Type here to search

2:18 AM
12/19/2018

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

12 : Grades 44 Visible: 1 of 1 Variables

	Grades	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	30															
2	25															
3	42															
4	34															
5	36															
6	22															
7	33															
8	52															
9	41															
10	23															
11	54															
12	44															
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																

12 : Grades 44

Statistics... Charts... Format... Bootstrap...

Variable(s): Grades

Display frequency tables

OK Paste Reset Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

SPSS Statistics Data Editor window showing a dataset named "Untitled1 [DataSet0]". The dataset contains one variable, "Grades", with 23 rows of data. The data is as follows:

Row	Grades
1	30
2	25
3	42
4	34
5	36
6	22
7	33
8	52
9	41
10	23
11	54
12	44
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	

The "Frequencies: Statistics" dialog box is open, showing the following options:

- Percentile Values:**
 - ☐ **Quartiles**
 - ☐ **Cut points for:** 10 equal groups
 - ☐ **Percentile(s):** [Empty list]
 - Add**, **Change**, **Remove** buttons
- Central Tendency:**
 - ☐ **Mean**
 - ☐ **Median**
 - ☐ **Mode**
 - ☐ **Sum**
 - ☐ **Values are group midpoints**
- Dispersion:**
 - ☐ **Std. deviation**
 - ☐ **Minimum**
 - ☐ **Variance**
 - ☐ **Maximum**
 - ☐ **Range**
 - ☐ **S.E. mean**
- Distribution:**
 - ☐ **Skewness**
 - ☐ **Kurtosis**

Buttons at the bottom: **Continue**, **Cancel**, **Help**.

Type here to search

2:19 AM
12/19/2018

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

12 : Grades 44 Visible: 1 of 1 Variables

	Grades	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	30															
2	25															
3	42															
4	34															
5	36															
6	22															
7	33															
8	52															
9	41															
10	23															
11	54															
12	44															
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23																

1

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

2:19 AM 12/19/2018

29

Frequencies: Statistics

Percentile Values

☐ Quartiles

☐ Cut points for: 10 equal groups

☐ Percentile(s):

Add

Change

Remove

Central Tendency

☒ Mean

☒ Median

☒ Mode

☐ Sum

☐ Values are group midpoints

Dispersion

☐ Std. deviation

☐ Minimum

☐ Variance

☐ Maximum

☐ Range

☐ S.E. mean

Distribution

☐ Skewness

☐ Kurtosis

Continue Cancel Help

IBM SPSS Statistics Data Editor window showing a dataset named "Untitled1 [DataSet0]". The dataset has 12 rows and 17 columns. The first column is labeled "Grades" and contains values ranging from 22 to 54. The second column is labeled "var" and contains values ranging from 30 to 44. The "Grades" column is highlighted in yellow.

The "Frequencies" dialog box is open, showing the variable "Grades" selected in the "Variable(s):" list. The "Display frequency tables" checkbox is checked. The "OK" button is circled in red.

IBM SPSS Statistics Processor is ready

Go to Settings to activate Windows.

Windows taskbar shows the search bar and various application icons. The system clock indicates 2:19 AM on 12/19/2018.

SPSS Statistics Viewer

nsform Insert Format Analyze Direc

→ **Frequencies**

[DataSet0]

Statistics

Grades

N	Valid	12
	Missing	0
Mean		36.33
Median		35.00
Mode		22 ^a

a. Multiple modes exist. The smallest value is shown

Correlation

Person correlation coefficients
Spearman correlation coefficients

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

6: Y 22.00

	X	Y
1	1.00	12.0
2	2.00	16.0
3	3.00	18.0
4	4.00	20.0
5	5.00	18.0
6	6.00	22.0
7		
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20		
21		
22		
23		

Visible: 2 of 2 Variables

var var var var var var var var var var var var

Correlate

- Bivariate...
- Partial...
- Distances...

Regression

Loglinear

Neural Networks

Classify

Dimension Reduction

Scale

Nonparametric Tests

Forecasting

Survival

Multiple Response

Missing Value Analysis...

Multiple Imputation

Complex Samples

Quality Control

ROC Curve...

Data View Variable View

Bivariate...

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

IBM SPSS Statistics Data Editor window showing a dataset with 23 rows and 18 columns. The first two columns are labeled 'X' and 'Y'. The data values for 'X' range from 1.00 to 6.00, and for 'Y' from 12.00 to 22.00. A 'Bivariate Correlations' dialog box is open, showing 'X' and 'Y' selected as variables. The dialog includes options for correlation coefficients (Pearson, Kendall's tau-b, Spearman), test of significance (Two-tailed, One-tailed), and a checkbox for 'Flag significant correlations'. The 'Data View' tab is active at the bottom.

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

6: Y 22.00 Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	12.00															
2	2.00	16.00															
3	3.00	18.00															
4	4.00	20.00															
5	5.00	18.00															
6	6.00	22.00															
7																	
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19																	
20																	
21																	
22																	
23																	

Bivariate Correlations

Variables:

X
Y

Options...
Bootstrap...

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations

OK Paste Reset Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	12.00														
2	2.00	16.00														
3	3.00	18.00														
4	4.00	20.00														
5	5.00	18.00														
6	6.00	22.00														
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23																

Bivariate Correlations

Variables:

- X
- Y

Options... Bootstrap...

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations

OK Paste Reset Cancel Help

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	12.00															
2	2.00	16.00															
3	3.00	18.00															
4	4.00	20.00															
5	5.00	18.00															
6	6.00	22.00															
7																	
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21																	
22																	
23																	

Bivariate Correlations

Variables:

X
Y

Options...
Bootstrap...

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☒ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations

OK Paste Reset Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

IBM SPSS Statistics Viewer

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

Output

Log

Correlations

Title

Notes

Active Dataset

Correlations

CORRELATIONS

/VARIABLES=X Y

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE.

Correlations

[DataSet0]

Correlations		X	Y
X	Pearson Correlation	1	.900*
	Sig. (2-tailed)		.015
	N	6	6
Y	Pearson Correlation	.900*	1
	Sig. (2-tailed)	.015	
	N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

Correlations

		X	Y
X	Pearson Correlation	1	.900 [*]
	Sig. (2-tailed)		.015
	N	6	6
Y	Pearson Correlation	.900 [*]	1
	Sig. (2-tailed)	.015	
	N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

**Person correlation
coefficient =0.9**

Direct Strong Correlation

	Sig. (2-tailed)		.015
	N	6	6
Y	Pearson Correlation	.900 ^a	1
	Sig. (2-tailed)	.015	
	N	6	6

```
/MISSING=PAIRWISE.
```

[DataSet0]

Correlations			X	Y
Spearman's rho	X	Correlation Coefficient	1.000	.899
		Sig. (2-tailed)	.	.015
		N	6	6
	Y	Correlation Coefficient	.899	1.000
		Sig. (2-tailed)	.015	.
		N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

Activate Windows
Go to Settings to activate Windows.

Correlations

			X	Y
Spearman's rho	X	Correlation Coefficient	1.000	.899*
		Sig. (2-tailed)	.	.015
		N	6	6
	Y	Correlation Coefficient	.899*	1.000
		Sig. (2-tailed)	.015	.
		N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

**Spearman correlation
coefficient =0.899**

Direct Strong Correlation

Simple Linear Regression

Consider the following sample data for the variables x and y :



x	1	3	4	6	7	9
y	6	4	4	3	2	1

- Calculate the linear regression equation.
- Find the value of y and $x = 10$.



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	X	Numeric	8	2		None	None	8	Right	Scale	Input
2	Y	Numeric	8	2		None	None	8	Right	Scale	Input
3											
4											
5											
6											
7											
8											
9											
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25											

Data View Variable View

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Data Editor

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

6 : Y1.00Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00															
2	3.00	4.00															
3	4.00	4.00															
4	6.00	3.00															
5	7.00	2.00															
6	9.00	1.00															
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Data ViewVariable View

Activate WindowsGo to Settings to activate Windows.

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

6: Y 1.00

	X	Y
1	1.00	6.00
2	3.00	4.00
3	4.00	4.00
4	6.00	3.00
5	7.00	2.00
6	9.00	1.00
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Visible: 2 of 2 Variables

var var var var var var var var var var var var

Reports
Descriptive Statistics
Tables
Compare Means
General Linear Model
Generalized Linear Models
Mixed Models
Correlate
Regression
Loglinear
Neural Networks
Classify
Dimension Reduction
Scale
Nonparametric Tests
Forecasting
Survival
Multiple Response
Missing Value Analysis...
Multiple Imputation
Complex Samples
Quality Control
ROC Curve...

Automatic Linear Modeling...
Linear...
Curve Estimation...
Partial Least Squares...
Binary Logistic...
Multinomial Logistic...
Ordinal...
Probit...
Nonlinear...
Weight Estimation...
2-Stage Least Squares...
Optimal Scaling (CATREG)...

Data View Variable View

Linear...

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00														
2	3.00	4.00														
3	4.00	4.00														
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Linear Regression

Dependent:

Block 1 of 1

Independent(s):

Method: Enter

Selection Variable:

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Statistics... Plots... Save... Options... Bootstrap...

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00														
2	3.00	4.00														
3	4.00	4.00														
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Linear Regression

Dependent: Y

Block 1 of 1

Previous Next

Independent(s):

Method: Enter

Selection Variable:

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Statistics... Plots... Save... Options... Bootstrap...

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

IBM SPSS Statistics Data Editor window showing a dataset with 23 rows and 17 columns. The first two columns are labeled X and Y. The data is as follows:

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00															
2	3.00	4.00															
3	4.00	4.00															
4	6.00	3.00															
5	7.00	2.00															
6	9.00	1.00															
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The Linear Regression dialog box is open, showing the following settings:

- Dependent: Y
- Independent(s): X
- Method: Enter
- Selection Variable: (empty)
- Case Labels: (empty)
- WLS Weight: (empty)

Buttons: OK, Paste, Reset, Cancel, Help, Statistics..., Plots..., Save..., Options..., Bootstrap...

IBM SPSS Statistics Processor is ready

*Output2 [Document2] - IBM SPSS Statistics Viewer

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

Output

Log

Regression

Title

Notes

Active Dataset

Variables Entered

Model Summary

ANOVA

Coefficients

1 X Enter

a. Dependent Variable: Y

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.985 ^a	.970	.963	.33630

a. Predictors: (Constant), X

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.881	1	14.881	131.579	.000 ^b
	Residual	.452	4	.113		
	Total	15.333	5			

a. Dependent Variable: Y

b. Predictors: (Constant), X

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.310	.294		21.494	.000
	X	-.595	.052	-.985	-11.471	.000

a. Dependent Variable: Y

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.310	.294		21.494	.000
	X	-.595	.052	-.985	-11.471	.000

a. Dependent Variable: Y

$$Y = a_0 + a_1x$$

$$Y = 6.31 - 0.595x$$

At $x=10$

$$Y=6.31-0.595(10)$$

$$Y=-0.36$$

The following table shows number of crimes in police station in 2021, approximate your calculation for 2 decimal places.

Month	January	February	March	April	May	June
Number of crimes	8	12	20	14	12	9

- i) Find the **linear regression equation** for this data.
- ii) **Predict** or (**Estimate**) number of crimes in September 2021?

IBM SPSS Statistics Data Editor

FileEditViewDataTransformAnalyzeDirect MarketingGraphsUtilitiesAdd-onsWindowHelp

6: Y9.00Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	8.00															
2	2.00	12.00															
3	3.00	20.00															
4	4.00	14.00															
5	5.00	12.00															
6	6.00	9.00															
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Data ViewVariable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

6: Y 1.00

	X	Y
1	1.00	6.00
2	3.00	4.00
3	4.00	4.00
4	6.00	3.00
5	7.00	2.00
6	9.00	1.00
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Visible: 2 of 2 Variables

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Ordinal...
Probit...
Nonlinear...
Weight Estimation...
2-Stage Least Squares...
Optimal Scaling (CATREG)...

Data View Variable View

Linear...

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00														
2	3.00	4.00														
3	4.00	4.00														
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Linear Regression

Dependent:

Block 1 of 1

Independent(s):

Method: Enter

Selection Variable:

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Statistics... Plots... Save... Options... Bootstrap...

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

6:Y 1.00 Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00														
2	3.00	4.00														
3	4.00	4.00														
4	6.00	3.00														
5	7.00	2.00														
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Linear Regression

Dependent: Y

Block 1 of 1

Previous Next

Independent(s):

Method: Enter

Selection Variable:

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Statistics... Plots... Save... Options... Bootstrap...

Data View Variable View

IBM SPSS Statistics Processor is ready

IBM SPSS Statistics Data Editor window showing a dataset with 23 rows and 17 columns. The first two columns are labeled X and Y. The data is as follows:

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00															
2	3.00	4.00															
3	4.00	4.00															
4	6.00	3.00															
5	7.00	2.00															
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The Linear Regression dialog box is open, showing the following settings:

- Dependent: Y
- Independent(s): X
- Method: Enter
- Selection Variable: (empty)
- Case Labels: (empty)
- WLS Weight: (empty)

Buttons: OK, Paste, Reset, Cancel, Help, Statistics..., Plots..., Save..., Options..., Bootstrap...

IBM SPSS Statistics Processor is ready

*Output2 [Document2] - IBM SPSS Statistics Viewer

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

Output

- Log
- Regression
 - Title
 - Notes
 - Active Dataset
 - Variables Entered
 - Model Summary
 - ANOVA
 - Coefficients
- Log
- Regression
 - Title
 - Notes
 - Active Dataset
 - Variables Entered
 - Model Summary
 - ANOVA
 - Coefficients

1 X^a . Enter

a. Dependent Variable: Y
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.012 ^a	.000	-.250	4.78241

a. Predictors: (Constant), X

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.014	1	.014	.001	.981 ^b
	Residual	91.486	4	22.871		
	Total	91.500	5			

a. Dependent Variable: Y
b. Predictors: (Constant), X

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.600	4.452		2.830	.047
	X	-.029	1.143	-.012	-.025	.981

a. Dependent Variable: Y

Activate Windows
Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Model						
1	(Constant)	12.600	4.452		2.830	.047
	X	-.029	1.143	-.012	-.025	.981

a. Dependent Variable: Y

$$Y = a_0 + a_1x$$

$$Y = 12.6 - 0.029x$$

ولإيجاد قيمة Y عندما تكون قيمة X=9 ، نعوض عن قيمة X في معادلة الانحدار المحسوبة ب 9 وهو الرقم الذي

يعبر عن قيمة تسلسل شهر سبتمبر 2021 نسبة إلى بداية التسلسل وهو يناير 2021

$$Y = -0.029 (9) + 12.6$$

$$Y = 12.33$$

عدد الجرائم المتوقعة لشهر سبتمبر 2021 هو 12 جريمة

The following table shows number of product in a commercial center during the first half of **2023**, approximate your calculation for 2 decimal places.

Month	January	February	March	April	May	June
Number of sales	12	16	18	20	18	22

- i) Find person and spearman correlation coefficient.
- ii) Find the **linear regression equation** for this data.
- iii) **Predict** or (**Estimate**) number of crimes in February **2024**

IBM SPSS Statistics Data Editor

FileEditViewDataTransformAnalyzeDirect MarketingGraphsUtilitiesAdd-onsWindowHelp

6: Y22.00

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	12.00															
2	2.00	16.00															
3	3.00	18.00															
4	4.00	20.00															
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6	6.00	22.00															
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Data ViewVariable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

Person correlation coefficients
Spearman correlation coefficients

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

6: Y 22.00

	X	Y
1	1.00	12.0
2	2.00	16.0
3	3.00	18.0
4	4.00	20.0
5	5.00	18.0
6	6.00	22.0
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Visible: 2 of 2 Variables

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Reports
Descriptive Statistics
Tables
Compare Means
General Linear Model
Generalized Linear Models
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Correlate
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Neural Networks
Classify
Dimension Reduction
Scale
Nonparametric Tests
Forecasting
Survival
Multiple Response
Missing Value Analysis...
Multiple Imputation
Complex Samples
Quality Control
ROC Curve...

Bivariate...
Partial...
Distances...

Data View Variable View

Bivariate...

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

IBM SPSS Statistics Data Editor window showing a dataset with 23 rows and 18 columns. The first two columns are labeled 'X' and 'Y'. The data values for 'X' range from 1.00 to 6.00, and for 'Y' from 12.00 to 22.00. A 'Bivariate Correlations' dialog box is open, showing 'X' and 'Y' selected as variables. The dialog includes options for correlation coefficients (Pearson, Kendall's tau-b, Spearman), test of significance (Two-tailed, One-tailed), and a checkbox for 'Flag significant correlations'. The 'Data View' tab is active at the bottom.

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

6: Y 22.00 Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	12.00															
2	2.00	16.00															
3	3.00	18.00															
4	4.00	20.00															
5	5.00	18.00															
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Bivariate Correlations

Variables:

X
Y

Options...
Bootstrap...

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations

OK Paste Reset Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

6: Y 22.00 Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	12.00														
2	2.00	16.00														
3	3.00	18.00														
4	4.00	20.00														
5	5.00	18.00														
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Bivariate Correlations

Variables:

- X
- Y

Options... Bootstrap...

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations

OK Paste Reset Cancel Help

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	12.00															
2	2.00	16.00															
3	3.00	18.00															
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Bivariate Correlations

Variables: X Y

Options... Bootstrap...

Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☒ Spearman

Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations

OK Paste Reset Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

IBM SPSS Statistics Viewer

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

Output

Log

Correlations

Title

Notes

Active Dataset

Correlations

CORRELATIONS

/VARIABLES=X Y

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE.

Correlations

[DataSet0]

Correlations		X	Y
X	Pearson Correlation	1	.900*
	Sig. (2-tailed)		.015
	N	6	6
Y	Pearson Correlation	.900*	1
	Sig. (2-tailed)	.015	
	N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

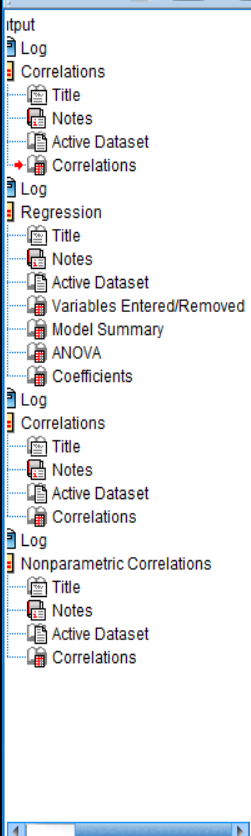
Correlations

		X	Y
X	Pearson Correlation	1	.900 [*]
	Sig. (2-tailed)		.015
	N	6	6
Y	Pearson Correlation	.900 [*]	1
	Sig. (2-tailed)	.015	
	N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

**Person correlation
coefficient =0.9**

Direct Strong Correlation



*. Correlation is significant at the 0.05 level (2-tailed).

```
/VARIABLES=X Y
```

```
/PRINT=SPEARMAN TWOTAIL NOSIG
```

```
/MISSING=PAIRWISE.
```

[DataSet0]

*. Correlation is significant at the 0.05 level (2-tailed).

Activate Windows
Go to Settings to activate Windows.

Correlations

			X	Y
Spearman's rho	X	Correlation Coefficient	1.000	.899*
		Sig. (2-tailed)	.	.015
		N	6	6
	Y	Correlation Coefficient	.899*	1.000
		Sig. (2-tailed)	.015	.
		N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

**Spearman correlation
coefficient =0.899**

Direct Strong Correlation

Simple Linear Regression

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

6: Y 1.00

	X	Y
1	1.00	6.00
2	3.00	4.00
3	4.00	4.00
4	6.00	3.00
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Visible: 2 of 2 Variables

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Reports
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Multinomial Logistic...
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Probit...
Nonlinear...
Weight Estimation...
2-Stage Least Squares...
Optimal Scaling (CATREG)...

Data View Variable View

Linear...

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00														
2	3.00	4.00														
3	4.00	4.00														
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Linear Regression

Dependent:

Block 1 of 1

Independent(s):

Method: Enter

Selection Variable:

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Statistics... Plots... Save... Options... Bootstrap...

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

*Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor

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

Visible: 2 of 2 Variables

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00														
2	3.00	4.00														
3	4.00	4.00														
4	6.00	3.00														
5	7.00	2.00														
6	9.00	1.00														
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20																
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22																
23																

Linear Regression

Dependent: Y

Block 1 of 1

Previous Next

Independent(s):

Method: Enter

Selection Variable:

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Statistics... Plots... Save... Options... Bootstrap...

Activate Windows

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

IBM SPSS Statistics Data Editor window showing a dataset with 23 rows and 17 columns. The first two columns are labeled X and Y. The data is as follows:

	X	Y	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1.00	6.00															
2	3.00	4.00															
3	4.00	4.00															
4	6.00	3.00															
5	7.00	2.00															
6	9.00	1.00															
7																	
8																	
9																	
10																	
11																	
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15																	
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21																	
22																	
23																	

The Linear Regression dialog box is open, showing the following settings:

- Dependent: Y
- Independent(s): X
- Method: Enter
- Selection Variable: (empty)
- Case Labels: (empty)
- WLS Weight: (empty)

Buttons: OK, Paste, Reset, Cancel, Help, Statistics..., Plots..., Save..., Options..., Bootstrap...

IBM SPSS Statistics Processor is ready

*Output3 [Document3] - IBM SPSS Statistics Viewer

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

Correlations
 Title
 Notes
 Active Dataset
 Correlations
 Log
 Regression
 Title
 Notes
 Active Dataset
 Variables Entered
 Model Summary
 ANOVA
 Coefficients
 Log
 Correlations
 Title
 Notes
 Active Dataset
 Correlations
 Log
 Nonparametric Correlations
 Title
 Notes
 Active Dataset
 Correlations
 Log
 Regression
 Title
 Notes
 Active Dataset
 Variables Entered
 Model Summary
 ANOVA
 Coefficients

1 X* . Enter

a. Dependent Variable: Y
 b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.900 ^a	.810	.762	1.67900

a. Predictors: (Constant), X

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.057	1	48.057	17.047	.015 ^b
	Residual	11.276	4	2.819		
	Total	59.333	5			

a. Dependent Variable: Y
 b. Predictors: (Constant), X

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.867	1.563		7.592	.002
	X	1.657	.401	.900	4.129	.015

a. Dependent Variable: Y

Activate Windows
 Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	11.867	1.563		7.592	.002
X	1.657	.401	.900	4.129	.015

a. Dependent Variable: Y

$$y = 11.867 + 1.657 x$$

- تنبأ (قدر) عدد المبيعات لشهر فبراير 2024 م .

يتم التعويض في المعادلة

$$X=14$$

ترتيب شهر فبراير 2024 بالنسبة لترتيب الشهور

ويكون عدد المبيعات لشهر فبراير 2024 = 35

Graphs

SPSS Statistics Data Editor [DataSet1] - IBM SPSS Statistics Data Editor

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

Visible: 8 of 8 Variables

	q1	q2	q3	q4	x1	x2	x3	x4	var	var	var	var	var	var	var	var
1	1.00	1.00	3.00	1.00	5.00	4.00	2.00	2.00								
2	3.00	2.00	2.00	1.00	3.00	3.00	3.00	3.00								
3	2.00	2.00	1.00	1.00	5.00	4.00	4.00	4.00								
4	1.00	2.00	1.00	2.00	4.00	5.00	5.00	1.00								
5	2.00	1.00	2.00	1.00	5.00	5.00	5.00	2.00								
6	1.00	1.00	2.00	3.00	4.00	4.00	2.00	1.00								
7	1.00	2.00	3.00	1.00	5.00	5.00	4.00	2.00								
8	4.00	1.00	2.00	2.00	4.00	2.00	2.00	5.00								
9	1.00	2.00	4.00	1.00	3.00	5.00	3.00	5.00								
10	2.00	1.00	3.00	1.00	5.00	4.00	5.00	2.00								
11	1.00	1.00	2.00	1.00	1.00	5.00	2.00	2.00								
12	2.00	2.00	1.00	2.00	2.00	2.00	2.00	2.00								
13	1.00	2.00	2.00	1.00	4.00	2.00	2.00	2.00								
14	2.00	2.00	2.00	3.00	5.00	3.00	3.00	3.00								
15	1.00	1.00	2.00	2.00	3.00	2.00	2.00	2.00								
16	3.00	1.00	1.00	1.00	4.00	1.00	1.00	1.00								
17	3.00	2.00	4.00	3.00	5.00	1.00	5.00	5.00								
18	1.00	2.00	1.00	2.00	5.00	5.00	4.00	4.00								
19	2.00	1.00	1.00	3.00	3.00	3.00	5.00	5.00								
20	1.00	2.00	1.00	2.00	3.00	3.00	5.00	4.00								
21																
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Data View Variable View

Go to Settings to activate Windows.

final2017.sav [DataSet3] - IBM SPSS Statistics Data Editor

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

Chart Builder...
Graphboard Template Chooser...

Legacy Dialogs

- Bar...
- 3-D Bar...
- Line...
- Area...
- Pie...
- High-Low...
- Boxplot...
- Error Bar...
- Population Pyramid...
- Scatter/Dot...
- Histogram...

Visible: 7 of 7 Variables

	q1	q2	q3	q4	X1	X2	X3		var	var	var	var	var	var	var	
1	1.00	1.00	3.00	1.00	5.00	5.00	5.00									
2	1.00	2.00	1.00	1.00	2.00	2.00	1.00									
3	2.00	1.00	1.00	2.00	3.00	1.00	4.00									
4	1.00	1.00	4.00	3.00	4.00	5.00	4.00									
5	3.00	1.00	2.00	2.00	4.00	5.00	4.00									
6	2.00	2.00	1.00	1.00	2.00	1.00	2.00									
7	4.00	1.00	1.00	2.00	4.00	5.00	4.00									
8	2.00	2.00	2.00	1.00	1.00	2.00	2.00									
9	3.00	1.00	1.00	3.00	4.00	5.00	4.00									
10	2.00	2.00	1.00	1.00	1.00	1.00	1.00									
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Data View Variable View

Bar...

IBM SPSS Statistics Processor is ready

Go to Settings to activate Windows.

final2017.sav [DataSet3] - IBM SPSS Statistics Data Editor

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

Visible: 7 of 7 Variables

	q1	q2	q3	q4	x1	x2	x3	var	var	var	var	var	var	var	var	var
1	1.00	1.00	3.00	1.00	5.00	5.00	5.00									
2	1.00	2.00	1.00	1.00	2.00	2.00	1.00									
3	2.00	1.00	1.00	2.00	3.00	1.00										
4	1.00	1.00	4.00	3.00	4.00	5.00										
5	3.00	1.00	2.00	2.00	4.00	5.00										
6	2.00	2.00	1.00	1.00	2.00	1.00										
7	4.00	1.00	1.00	2.00	4.00	5.00										
8	2.00	2.00	2.00	1.00	1.00	2.00										
9	3.00	1.00	1.00	3.00	4.00	5.00										
10	2.00	2.00	1.00	1.00	1.00	1.00										
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Bar Charts

Simple
Clustered
Stacked

Data in Chart Are

☒ Summaries for groups of cases
☐ Summaries of separate variables
☐ Values of individual cases

Define Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

final2017.sav [DataSet3] - IBM SPSS Statistics Data Editor

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

Visible: 7 of 7 Variables

	q1	q2	q3	q4	x1	x2	x3	var	var	var	var	var	var	var	var	var
1	1.00	1.00	3.00	1.00	5.00	5.00	5.00									
2	1.00	2.00	1.00	1.00	2.00	2.00	1.00									
3	2.00	1.00	1.00	2.00	3.00	1.00										
4	1.00	1.00	4.00	3.00	4.00	5.00										
5	3.00	1.00	2.00	2.00	4.00	5.00										
6	2.00	2.00	1.00	1.00	2.00	1.00										
7	4.00	1.00	1.00	2.00	4.00	5.00										
8	2.00	2.00	2.00	1.00	1.00	2.00										
9	3.00	1.00	1.00	3.00	4.00	5.00										
10	2.00	2.00	1.00	1.00	1.00	1.00										
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Bar Charts

Simple
Clustered
Stacked

Data in Chart Are

☒ Summaries for groups of cases
☐ Summaries of separate variables
☐ Values of individual cases

Define Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

final2017.sav [DataSet3] - IBM SPSS Statistics Data Editor

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

Define Simple Bar: Summaries for Groups of Cases

Bars Represent

- ☒ N of cases
- ☐ % of cases
- ☐ Cum. N
- ☐ Cum. %
- ☐ Other statistic (e.g., mean)

Variable:

Change Statistic...

Category Axis:

q1

Panel by

Rows:

Columns:

Nest variables (no empty rows)

Nest variables (no empty columns)

Template

☐ Use chart specifications from:

File...

OK Paste Reset Cancel Help

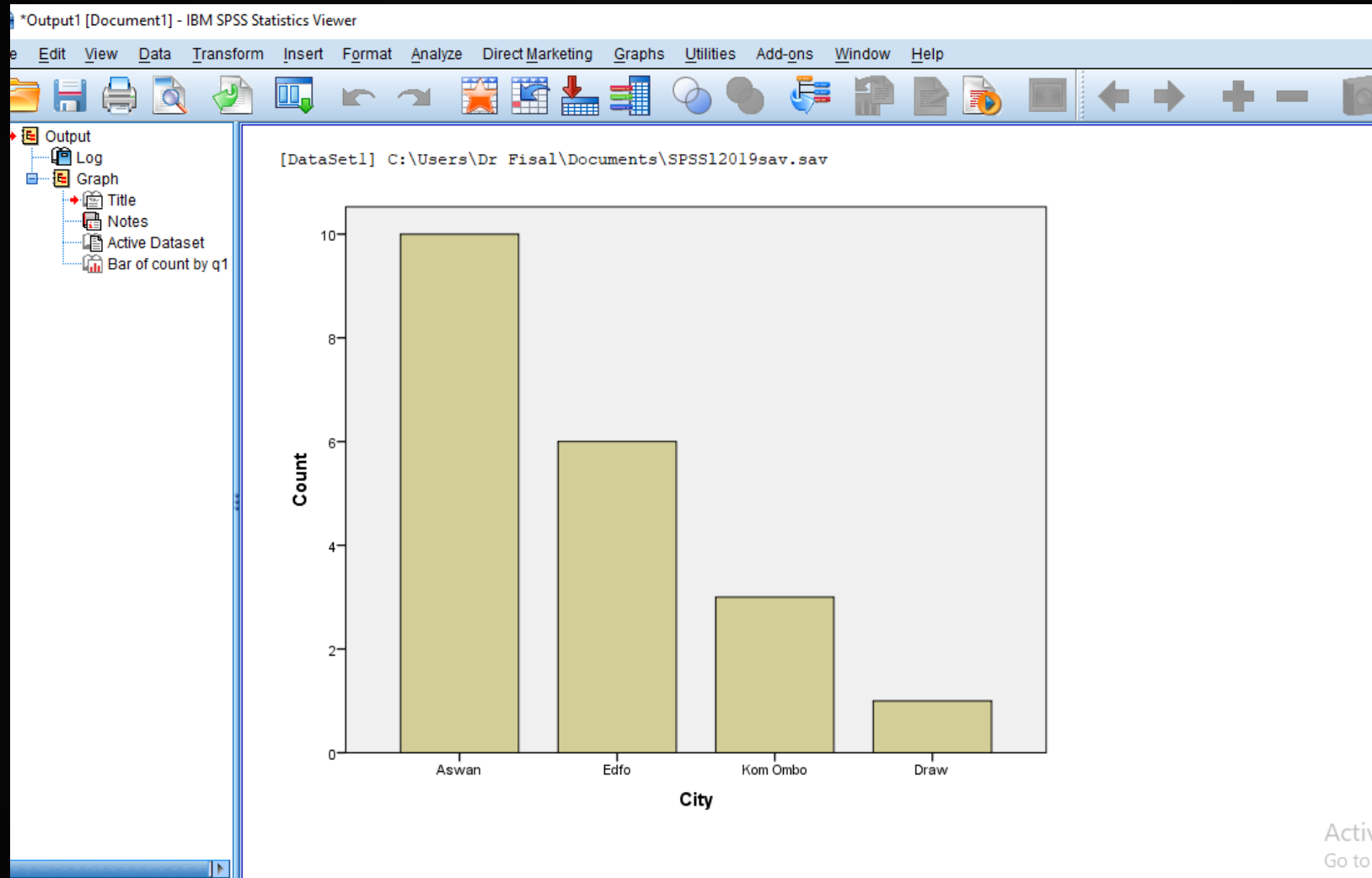
Visible: 7 of 7 Variables

	q1	q2	q3	q4
1	1.00	1.00	3.00	1.00
2	1.00	2.00	1.00	1.00
3	2.00	1.00	1.00	2.00
4	1.00	1.00	4.00	3.00
5	3.00	1.00	2.00	2.00
6	2.00	2.00	1.00	1.00
7	4.00	1.00	1.00	2.00
8	2.00	2.00	2.00	1.00
9	3.00	1.00	1.00	3.00
10	2.00	2.00	1.00	1.00
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Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready



final2017.sav [DataSet3] - IBM SPSS Statistics Data Editor

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

Chart Builder...
Graphboard Template Chooser...

Legacy Dialogs

- Bar...
- 3-D Bar...
- Line...
- Area...
- Pie...**
- High-Low...
- Boxplot...
- Error Bar...
- Population Pyramid...
- Scatter/Dot...
- Histogram...

Visible: 7 of 7 Variables

	q1	q2	q3	q4	X1	X2	X3	var	var	var	var	var	var	var
1	1.00	1.00	3.00	1.00	5.00	5.00	5.00							
2	1.00	2.00	1.00	1.00	2.00	2.00	1.00							
3	2.00	1.00	1.00	2.00	3.00	1.00	4.00							
4	1.00	1.00	4.00	3.00	4.00	5.00	4.00							
5	3.00	1.00	2.00	2.00	4.00	5.00	4.00							
6	2.00	2.00	1.00	1.00	2.00	1.00	2.00							
7	4.00	1.00	1.00	2.00	4.00	5.00	4.00							
8	2.00	2.00	2.00	1.00	1.00	2.00	2.00							
9	3.00	1.00	1.00	3.00	4.00	5.00	4.00							
10	2.00	2.00	1.00	1.00	1.00	1.00	1.00							
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1

Activate Windows
Go to Settings to activate Windows.

Data View Variable View

Pie... IBM SPSS Statistics Processor is ready

final2017.sav [DataSet3] - IBM SPSS Statistics Data Editor

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

Visible: 7 of 7 Variables

	q1	q2	q3	q4	x1	x2	x3	var	var	var	var	var	var	var	var	var
1	1.00	1.00	3.00	1.00	5.00	5.00	5.00									
2	1.00	2.00	1.00	1.00	2.00	2.00	1.00									
3	2.00	1.00	1.00	2.00	3.00	1.00	4.00									
4	1.00	1.00	4.00	3.00	4.00	5.00	4.00									
5	3.00	1.00	2.00	2.00	4.00	5.00	4.00									
6	2.00	2.00	1.00	1.00	2.00	1.00	2.00									
7	4.00	1.00	1.00	2.00	4.00	5.00	5.00									
8	2.00	2.00	2.00	1.00	1.00	2.00	2.00									
9	3.00	1.00	1.00	3.00	4.00	5.00	5.00									
10	2.00	2.00	1.00	1.00	1.00	1.00	1.00									
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Pie Charts

Data in Chart Are

- ☒ Summaries for groups of cases
- ☐ Summaries of separate variables
- ☐ Values of individual cases

Define Cancel Help

Data View Variable View

Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

final2017.sav [DataSet3] - IBM SPSS Statistics Data Editor

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

Visible: 7 of 7 Variables

	q1	q2	q3	q4
1	1.00	1.00	3.00	1.00
2	1.00	2.00	1.00	1.00
3	2.00	1.00	1.00	2.00
4	1.00	1.00	4.00	3.00
5	3.00	1.00	2.00	2.00
6	2.00	2.00	1.00	1.00
7	4.00	1.00	1.00	2.00
8	2.00	2.00	2.00	1.00
9	3.00	1.00	1.00	3.00
10	2.00	2.00	1.00	1.00
11				
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18				
19				
20				
21				
22				
23				

Define Pie: Summaries for Groups of Cases

Slices Represent

☒ N of cases ☐ % of cases

☐ Sum of variable

Variable:

Define Slices by:

Panel by

Rows:

☐ Nest variables (no empty rows)

Columns:

☐ Nest variables (no empty columns)

Template

☐ Use chart specifications from:

File...

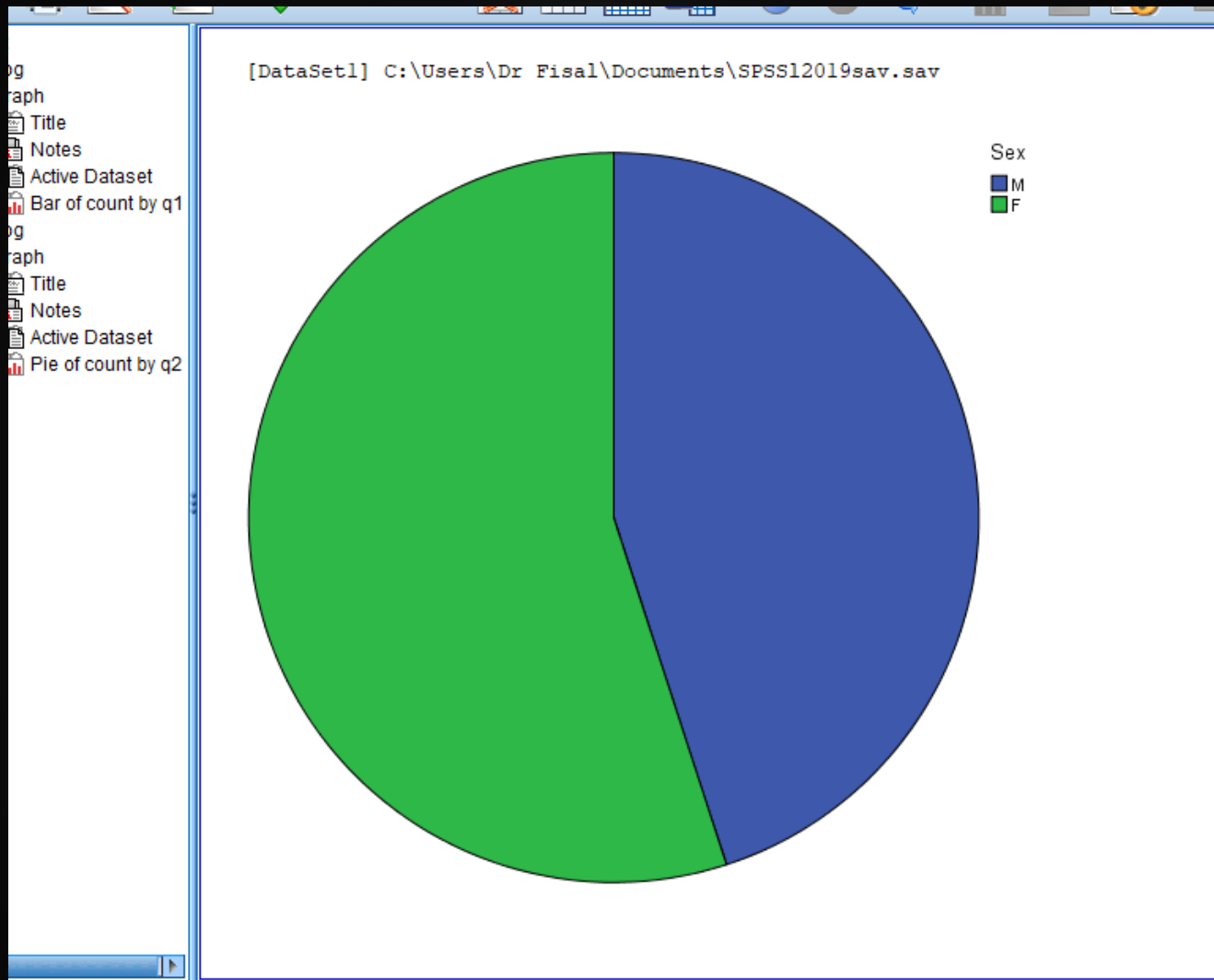
OK Paste Reset Cancel Help

Activate Windows

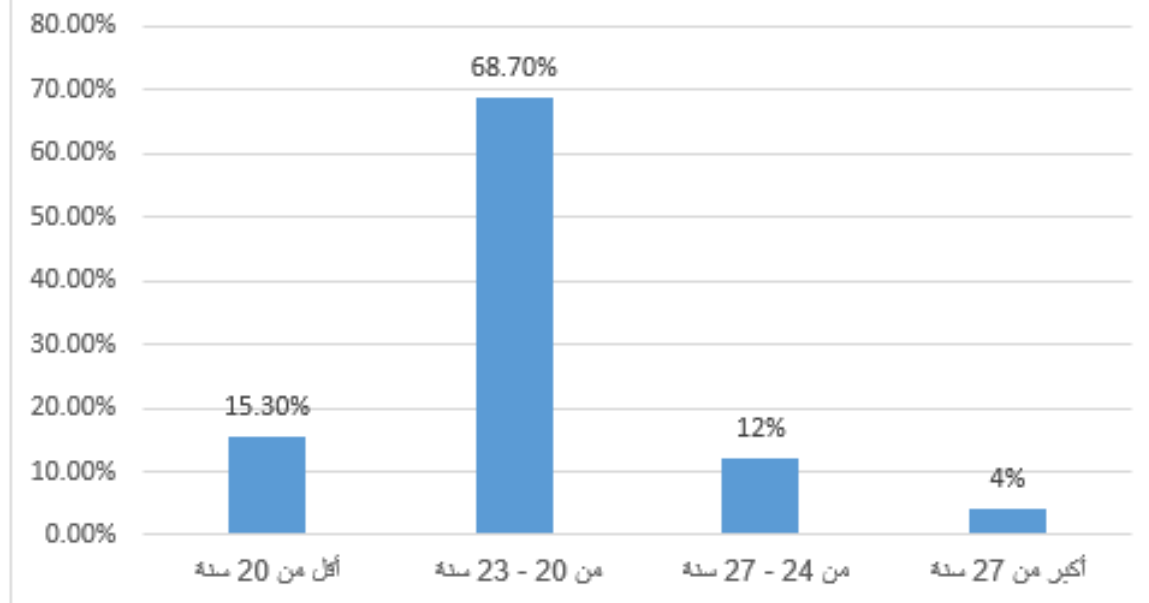
Go to Settings to activate Windows.

IBM SPSS Statistics Processor is ready

The screenshot shows the IBM SPSS Statistics Processor interface. In the background, a data editor window is open with a dataset named 'final2017.sav'. The data editor has columns labeled 'q1', 'q2', 'q3', and 'q4'. The first 10 rows of data are visible, showing values for these variables. Overlaid on the data editor is the 'Define Pie: Summaries for Groups of Cases' dialog box. This dialog box has several sections: 'Slices Represent' with radio buttons for 'N of cases' (selected) and '% of cases', and a 'Sum of variable' option; 'Define Slices by' with a list box containing 'q2' (selected); 'Panel by' with 'Rows' and 'Columns' list boxes; and 'Template' with a checkbox for 'Use chart specifications from:' (checked) and a 'File...' button. At the bottom of the dialog box are buttons for 'OK', 'Paste', 'Reset', 'Cancel', and 'Help'. The bottom status bar of the application indicates 'IBM SPSS Statistics Processor is ready'.



توزيع أفراد العينة حسب الفئة العمرية





Thank you...