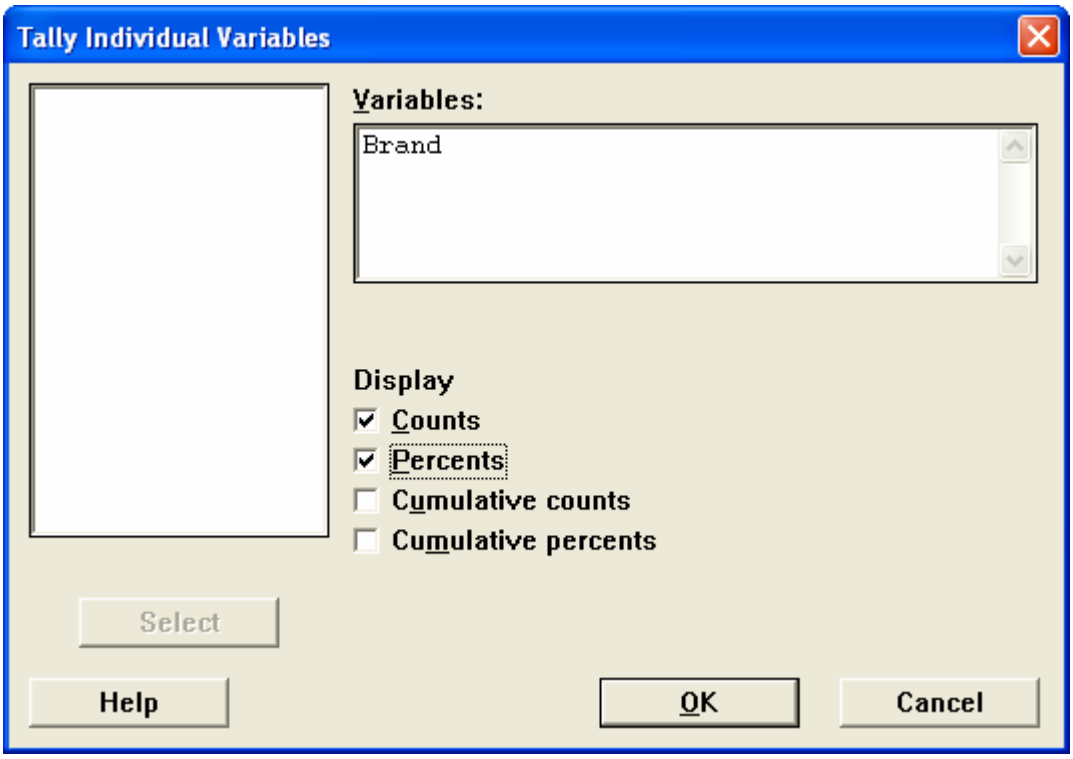
CD Appendix B3 Minitab Detailed Instructions for Version 14 (and Earlier)

Chapter 2

Example 2.1

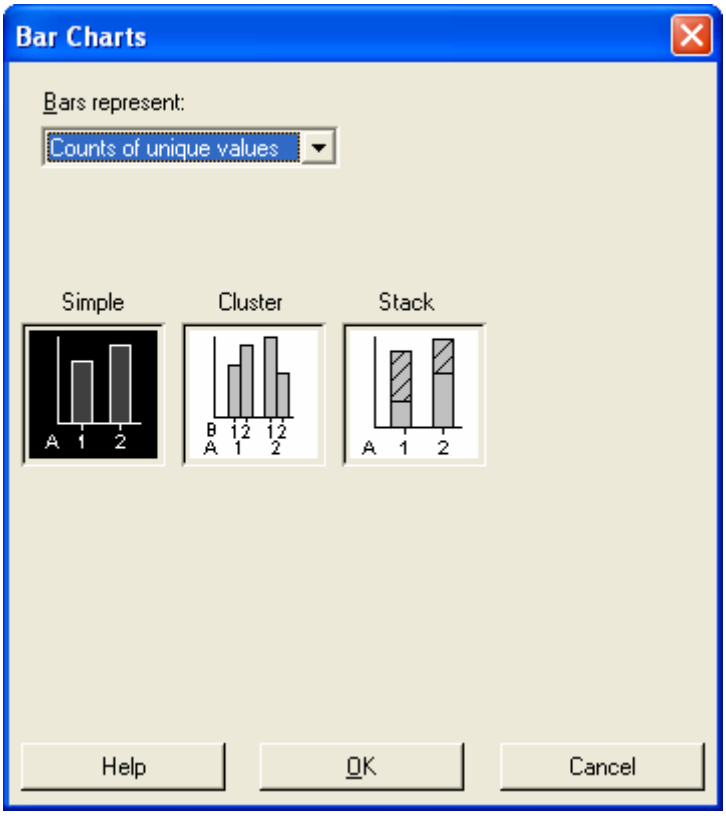
1. Open Xm02-01.

2. Click **Stat**, **Tables**, and **Tally Individual Variables**. Type or use the **Select** button to specify the name of the variable or the column where the data are stored in the **Variables** box (Area). Under **Display** click **Counts** and **Percents.**

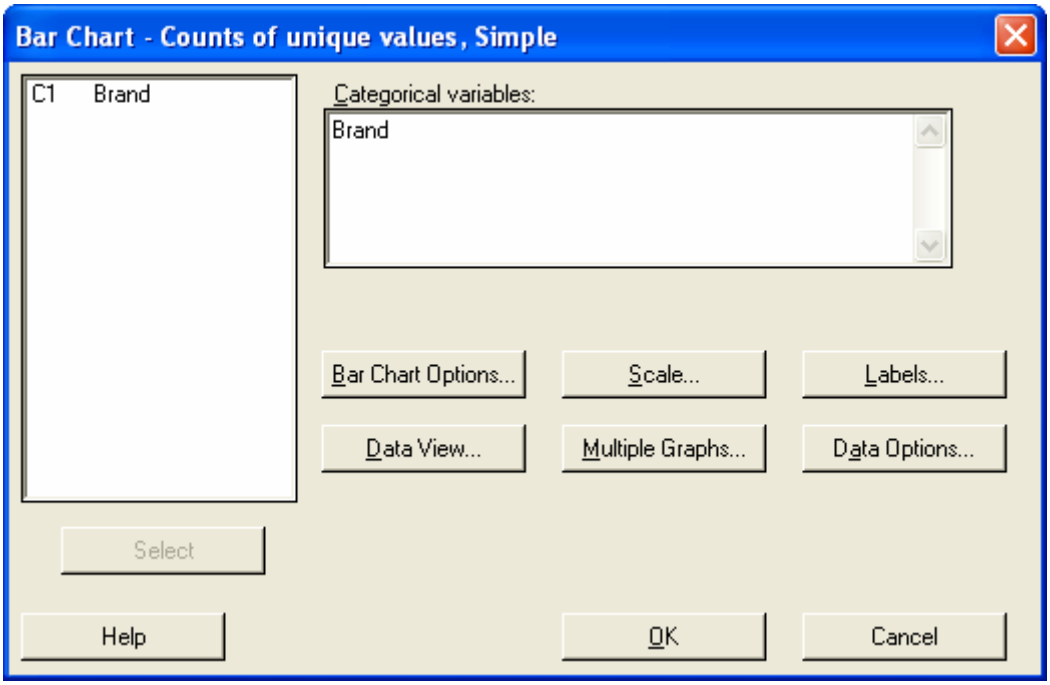


For a bar chart:

2. Click **Graph** and **Bar Chart**. Complete the dialog box below.



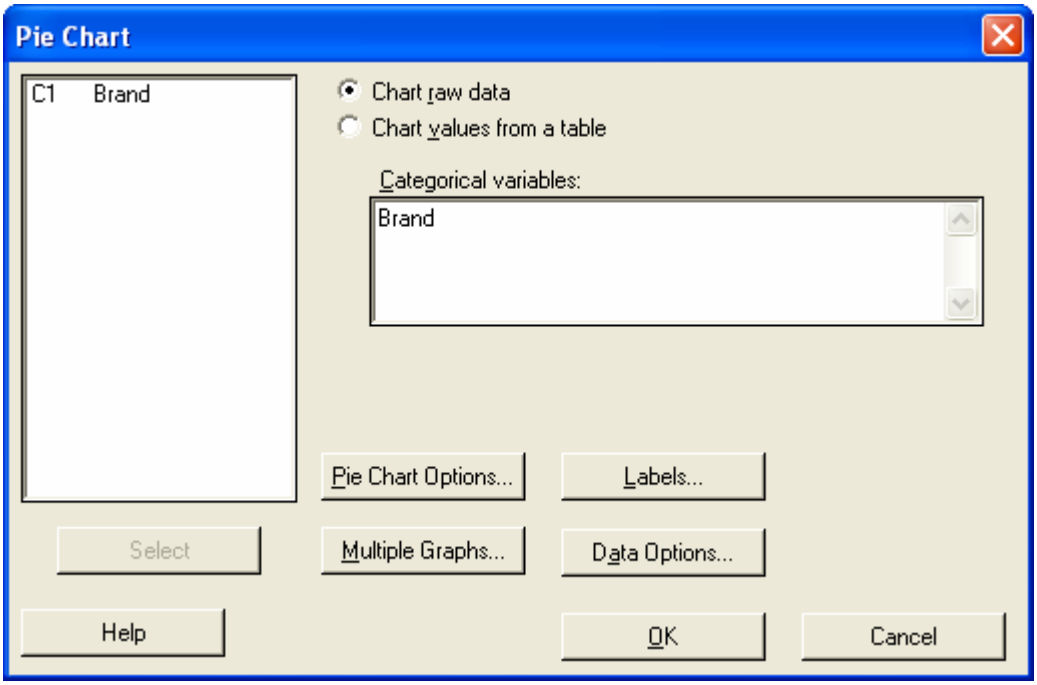
3. Click **OK** Fill in the next box.



We clicked **Labels** and added the title and clicked **Data Labels** and **use y-value labels** to display the frequencies at the top of the columns.

For a pie chart:

2. Click **Graph** and **Pie Chart**.

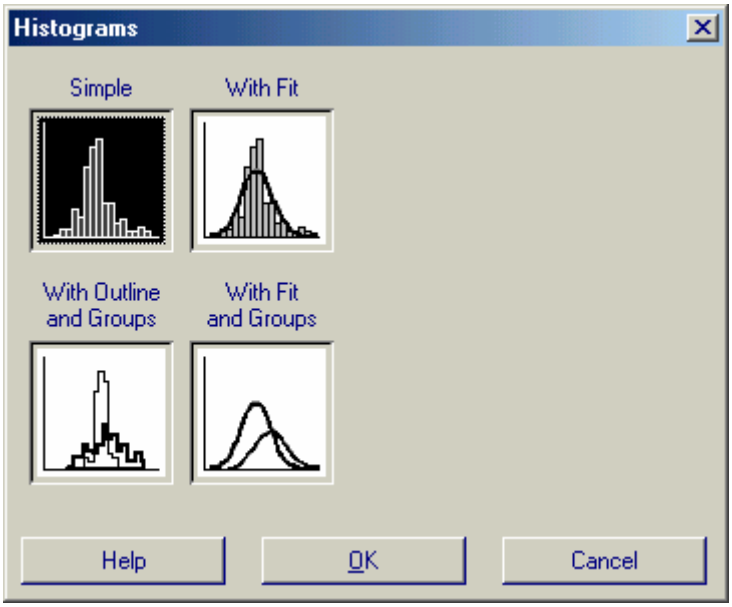


We clicked **Labels** and added the title. We clicked **Slice Labels** and clicked **Category name** and **Percent.**)

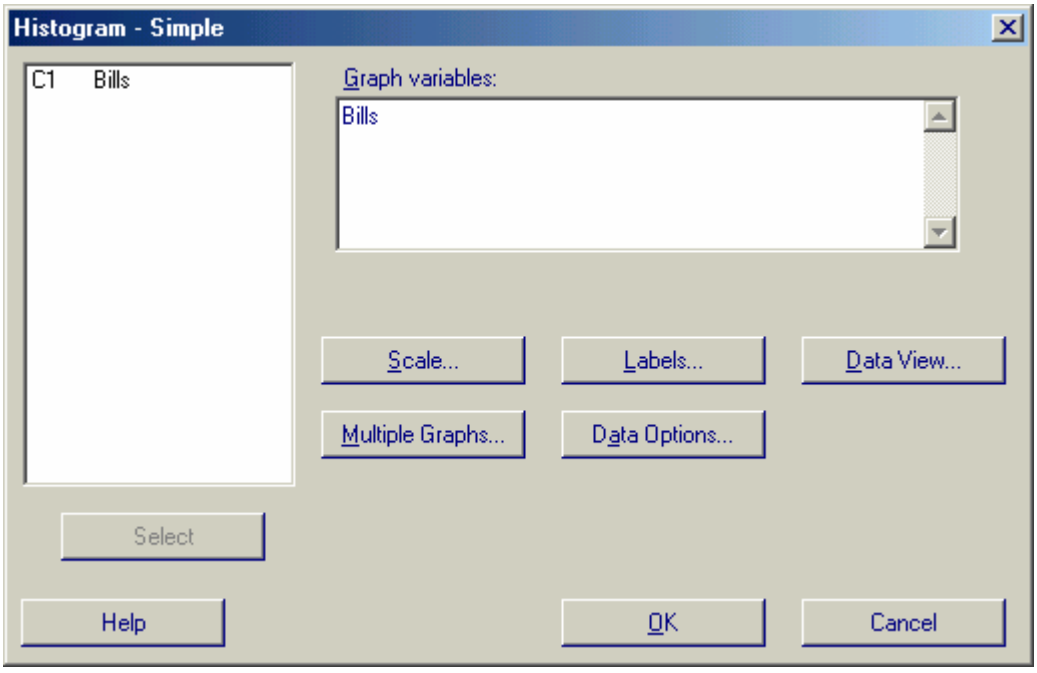
Example 2.4

1. Open Xm02-04.

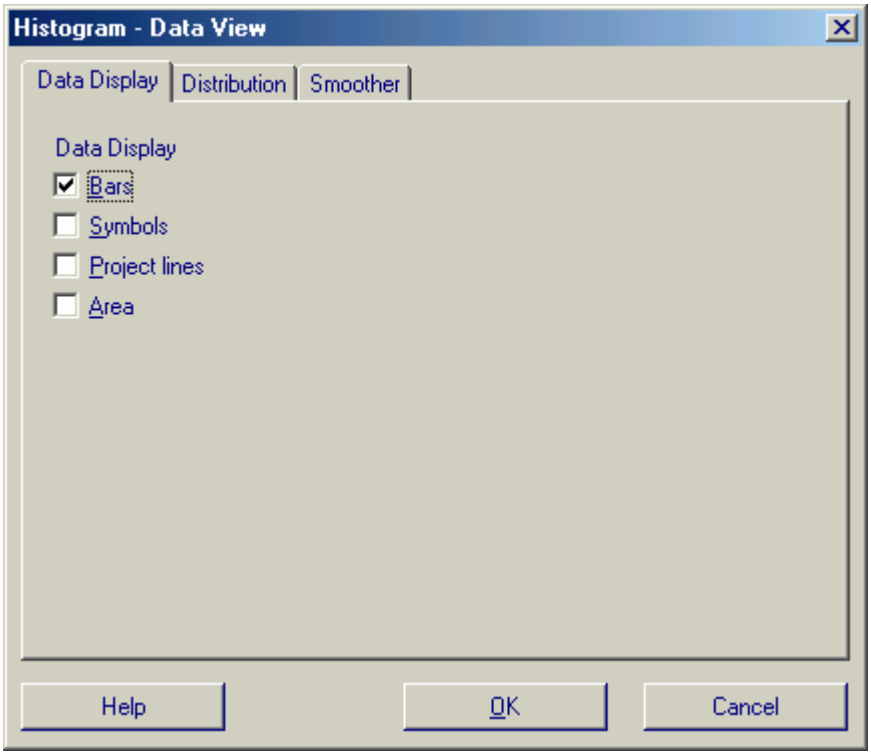
2. Click **Graph** and **Histogram…**. The following box will appear.



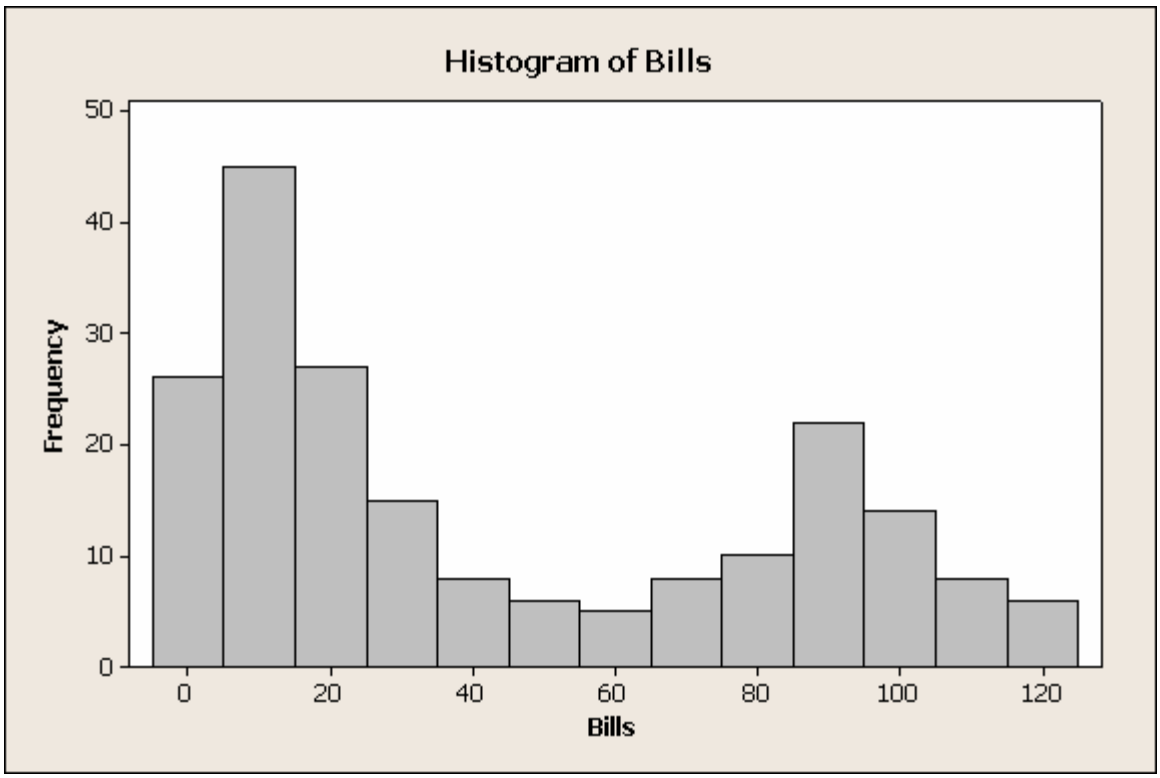
3. Click **Simple** and **OK**. The next dialog box will appear. Type or use the **Select** button to specify the name of the variable in the **Graph variables** box (Bills).



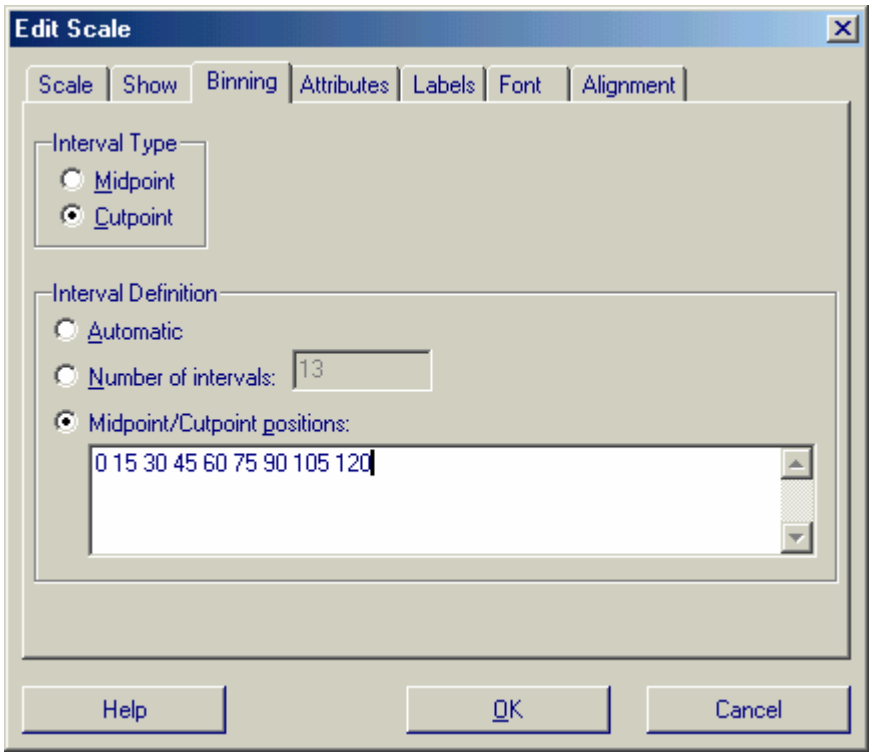
4. Click **Data View**.



Click **Data Display** and **Bar**. Minitab will create a histogram using its own choices of class intervals.



5. To choose your own classes double click the horizontal axis. Click **Binning**. Under **Interval Type** choose **Cutpoint**. **Under Interval Definition** choose **Midpoint/Cutpoint positions** and type in your choices. (0, 15, 30, 45, 60, 75, 90, 105, 120) as shown below.

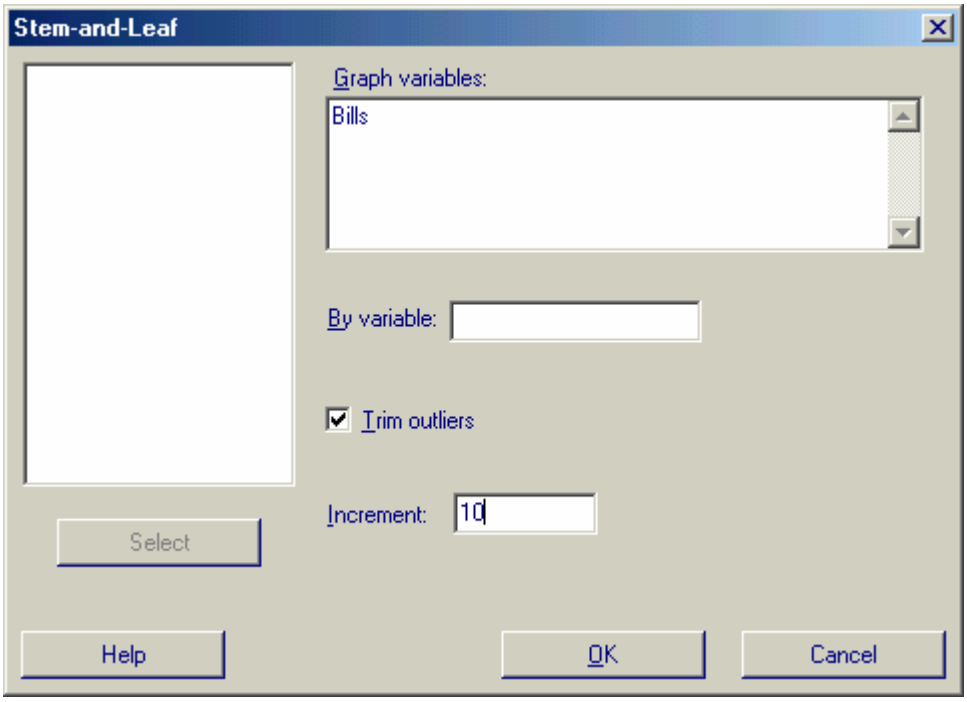


Stem-and Leaf Display for Example 2.4

1. Open Xm02-04.

2 Click **Graph** and **Stem-and-Leaf…. .**

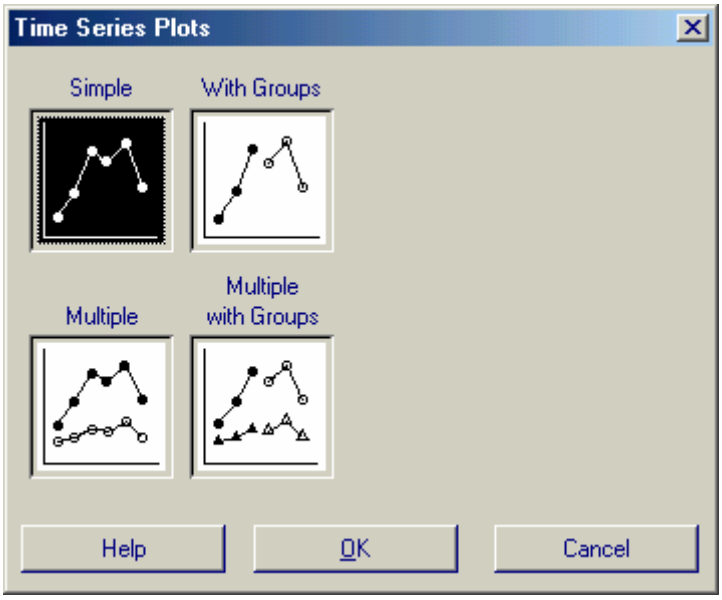
3. Type or use the **Select** button to specify the variable in the **Variables** box (Bills). Type the increment in the **Increment** box (10).



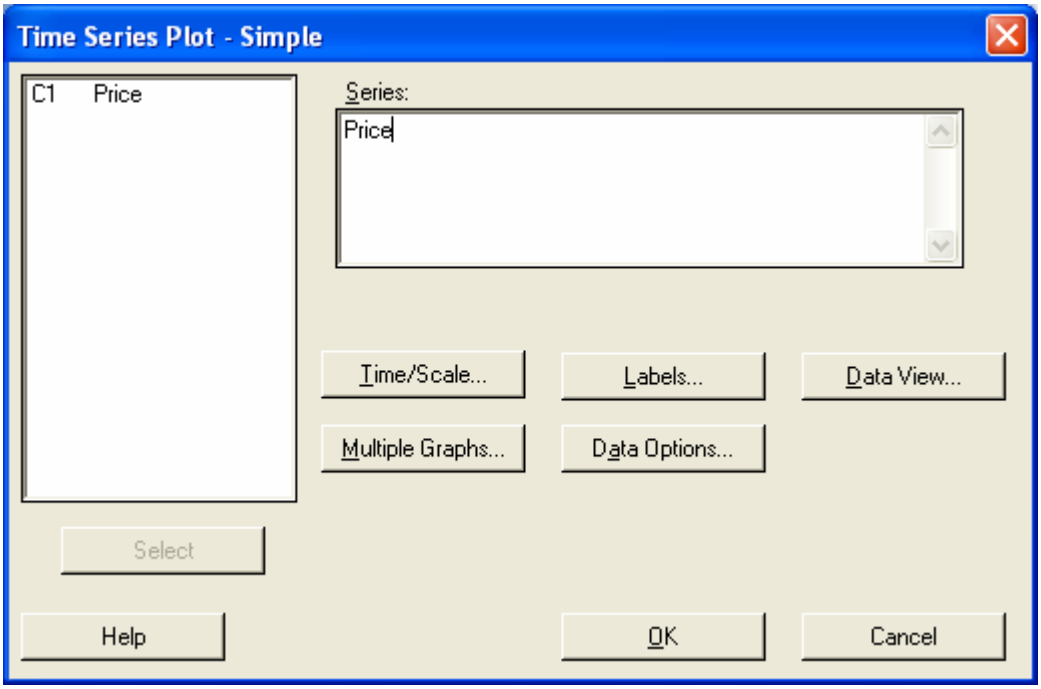
Example 2.8

1. Open Xm02-08.

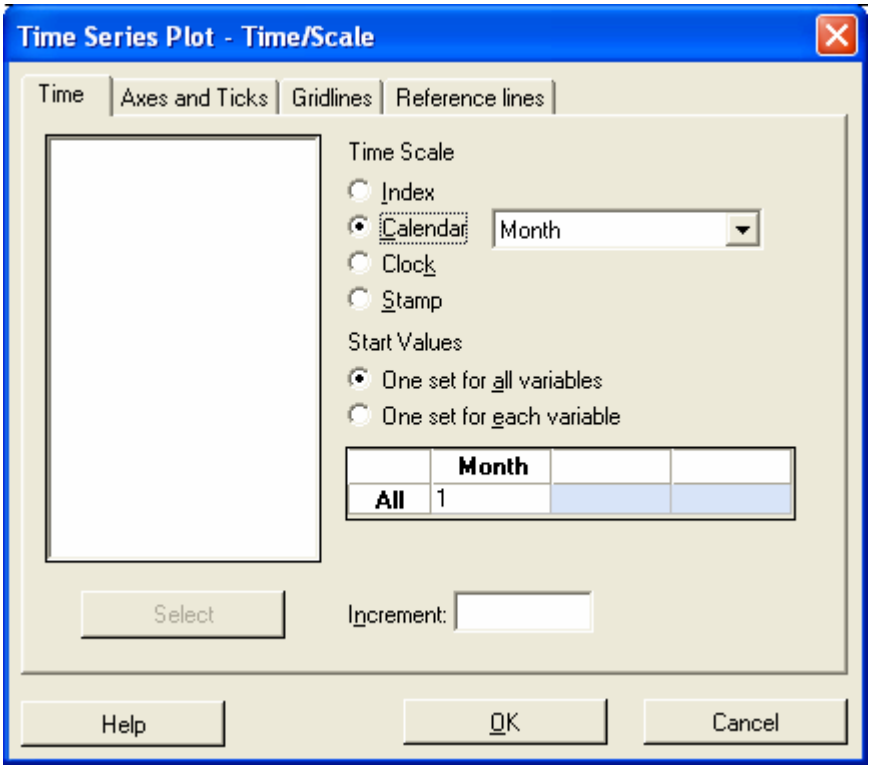
2. Click **Graph** and **Time Series Plot…**



3. Click **Simple** and specify variable (Income Tax).



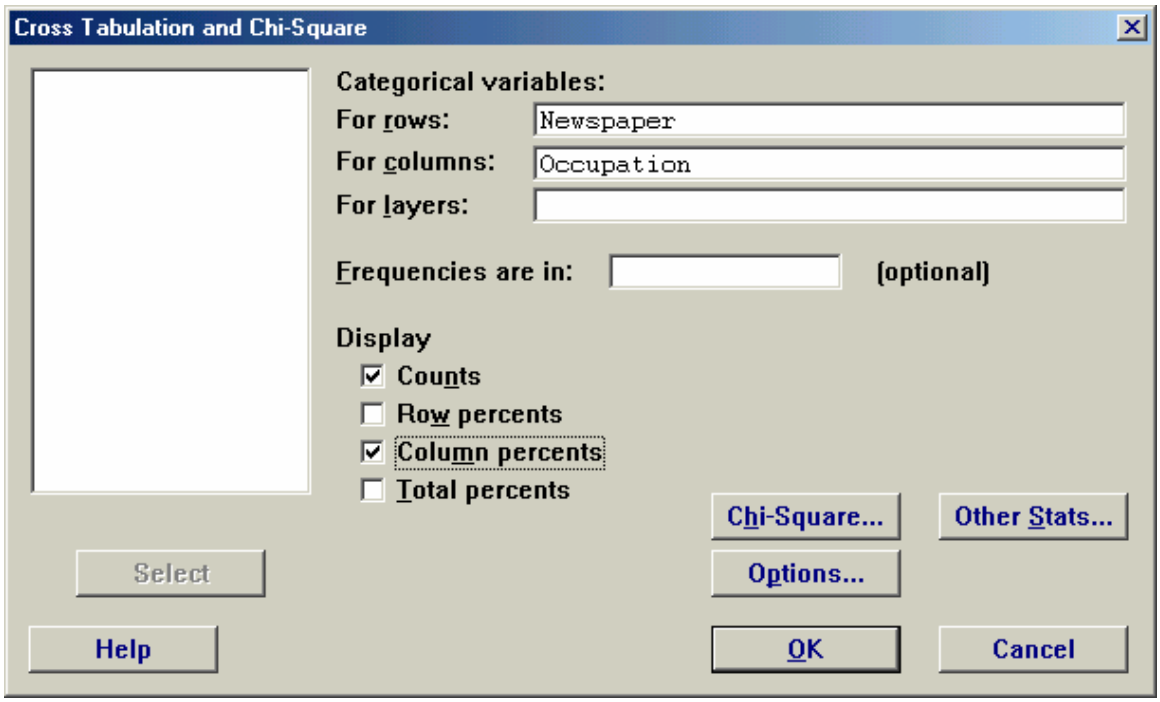
4. Click **Time/Scale**. Click the **Time** tab and under **Time Scale** click **Calendar** and **Month**. In the **Month** box specify the first month of the series (1). See below.



Example 2.10

1. Open Xm02-10.

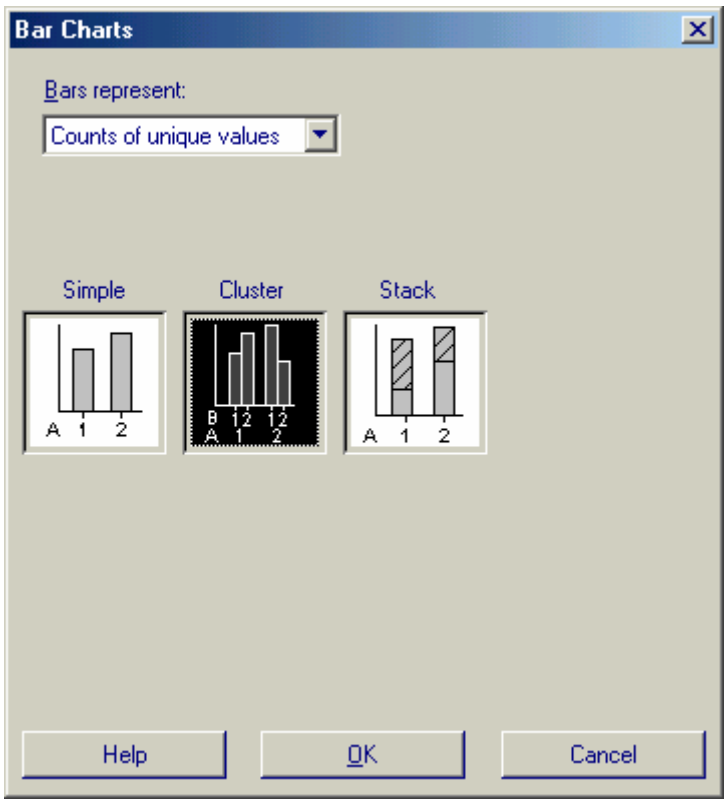
2. Click **Stat**, **Tables**, and **Cross Tabulation and Chi-square** and complete the dialog box as shown below.



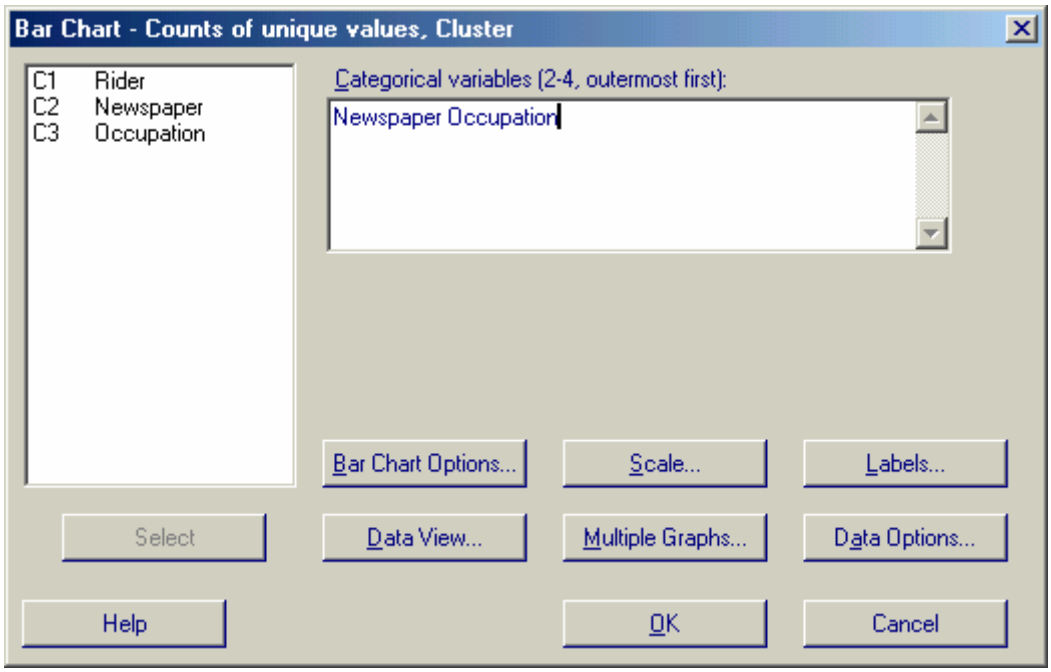
Graphing the Relationship between Two Nominal Variables

From raw data:

1. Click **Graph** and **Bar Chart**. Fill in the box.



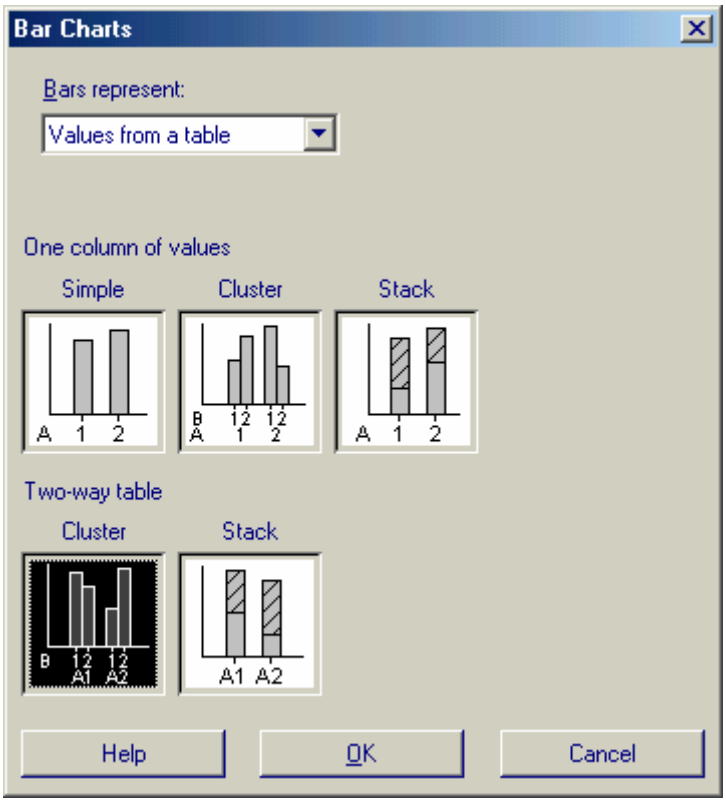
2. Click **OK** and complete the next box.



From a completed table:

1. Open Xm02-08A.

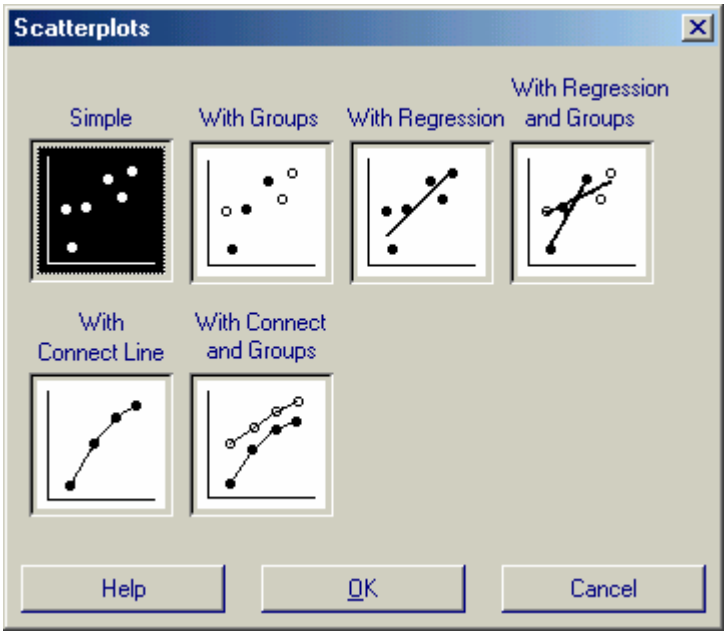
2. Click **Graph** and **Bar Chart** and complete the next dialog box.



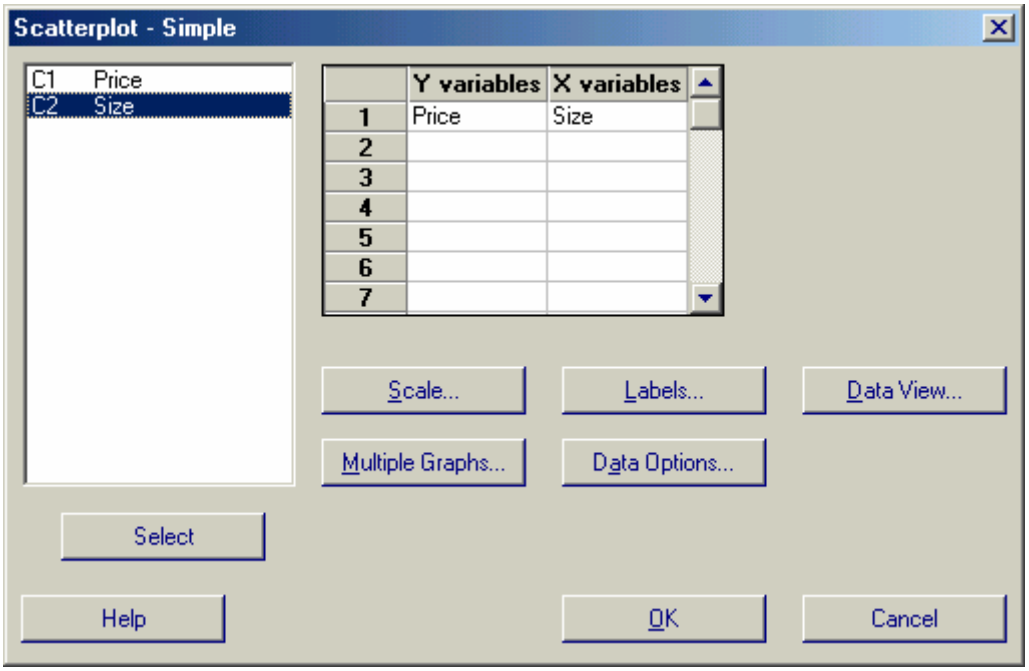
Example 2.12

1. Open Xm02-12.

2. Click **Graph** and **Scatterplot… .**



3. Click Simple and **OK**. Fill in the next box.

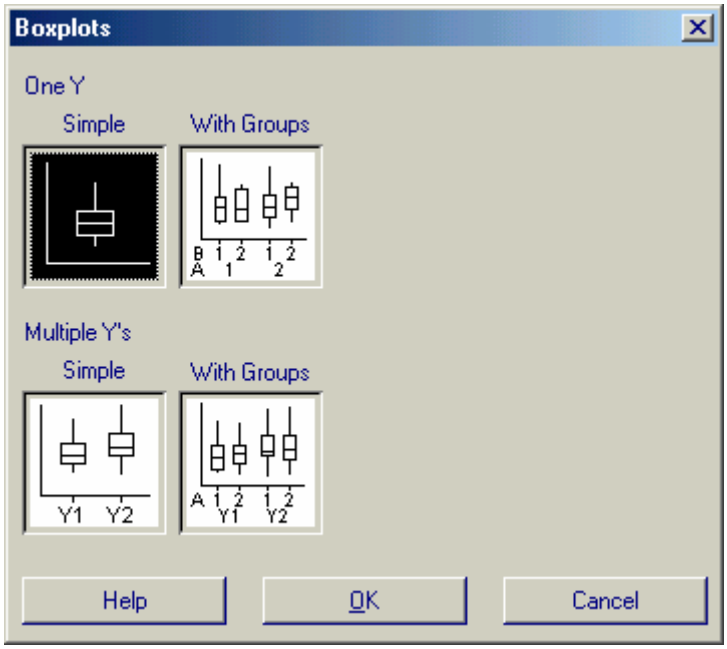


Chapter 4

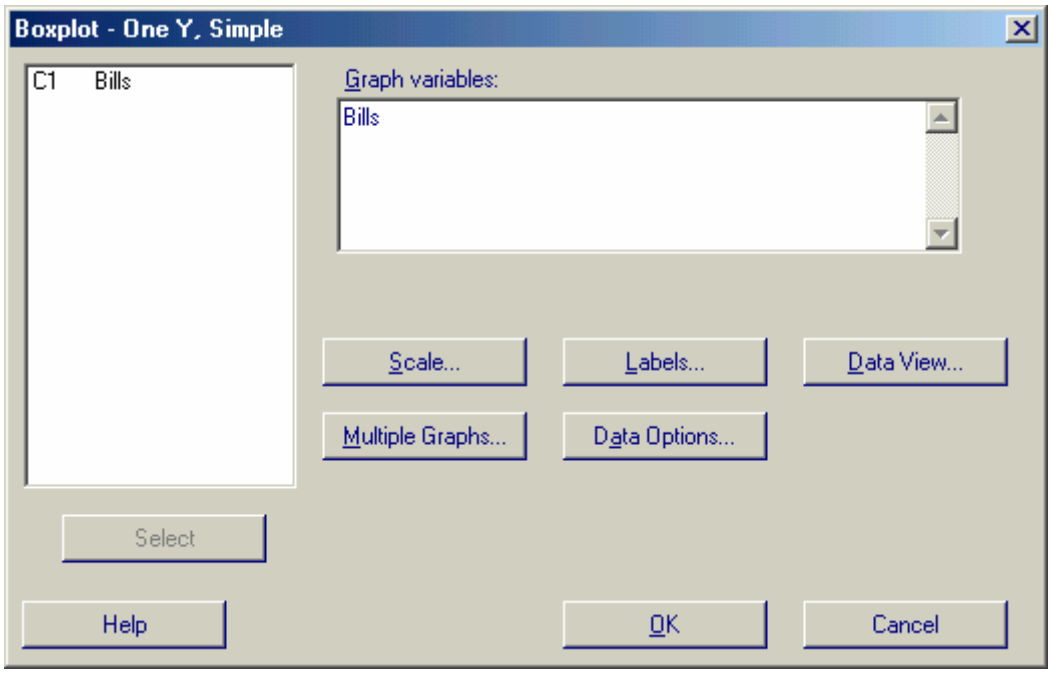
Example 4.14

1. Open Xm02-04.

2. Click **Graph** and **Box Plot**… Click **Simple** if there is only one column of data or **Multiple Y's** if there are two or more columns.



3. Click **OK**. Type or **Select** the variable or variables in the **Graph variables** box.

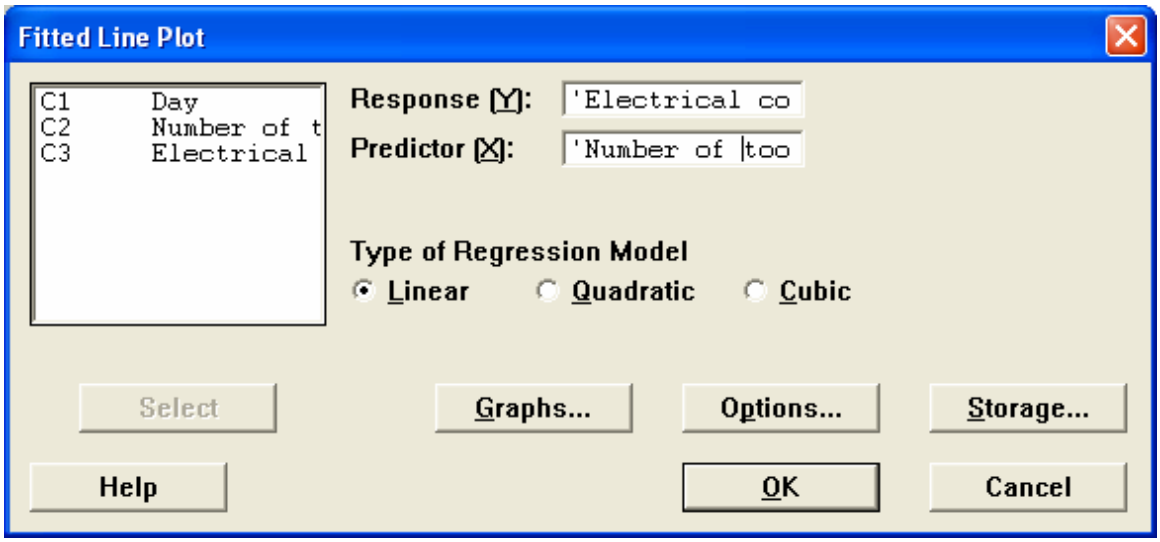


4. The box plot will drawn so that the values (Bills) will appear on the vertical axis. To turn the box plot on its side click **Scale**, **Axes and Ticks**, and **Transpose value and category scales**.

Example 4.17

1. Open Xm04-16.

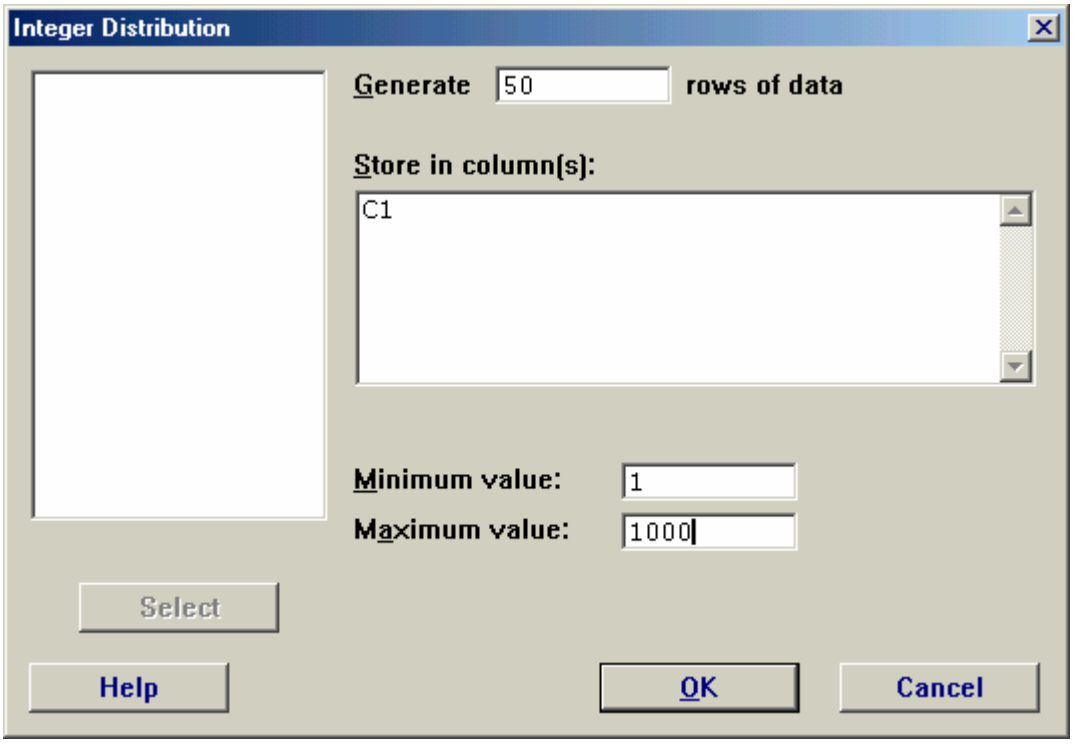
2. Click **Stat, Regression**, and **Fitted Line Plot**. Specify the **Response [Y]** (Electrical costs) and the **Predictor [X]** (Number of Tools) variables. Specify **Linear.**



Chapter 5

Example 5.1

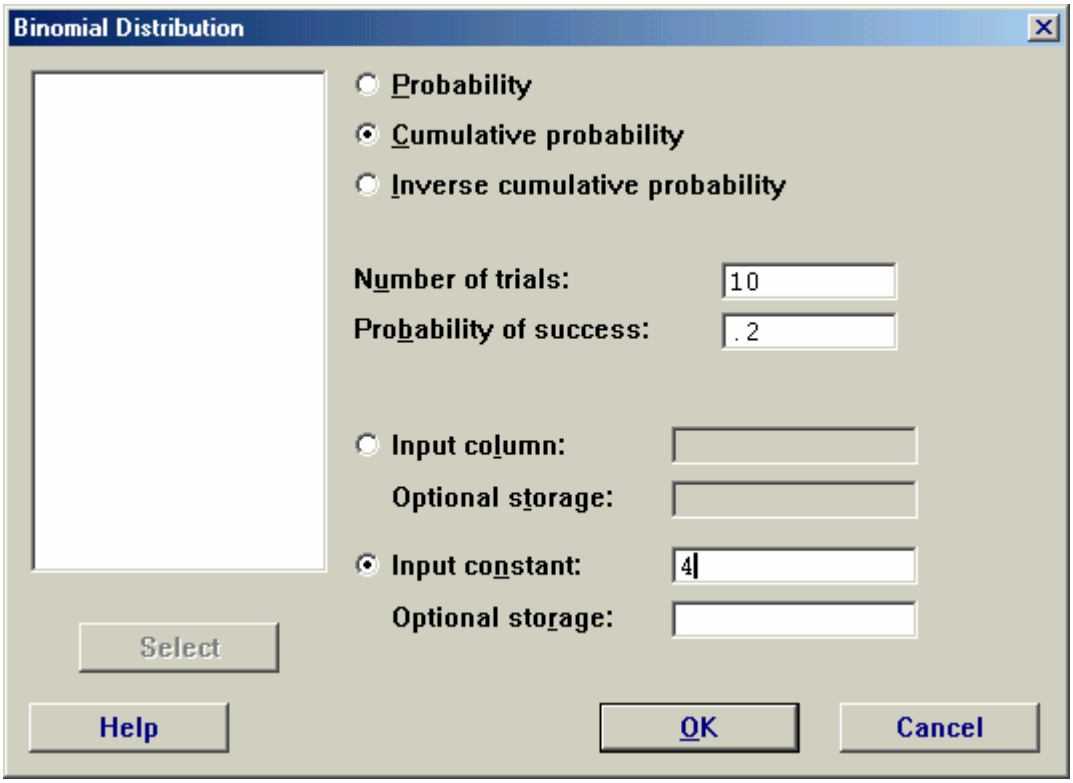
1.Click **Calc**, **Random Data**, and **Integer…** .Type the number of random numbers you wish, specify where the numbers are to be stored, the **Minimum value**, and the **Maximum value**.



Chapter 7

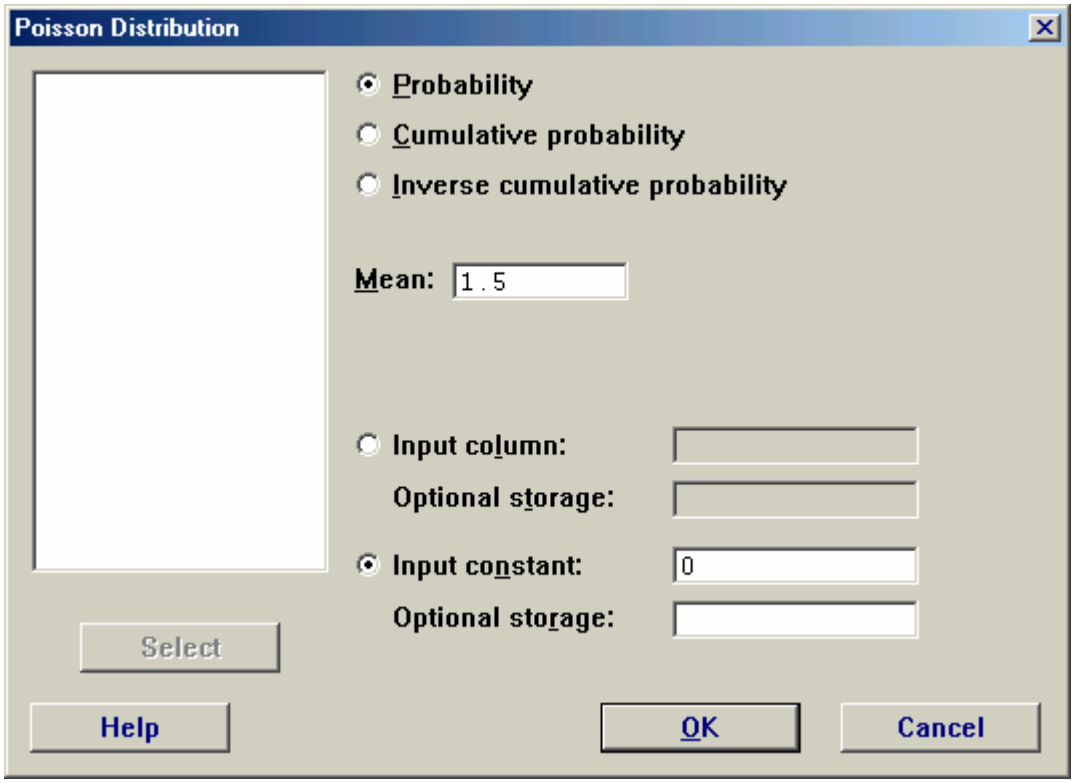
Example 7.10

Click **Calc**, **Probability Distributions**, and **Binomial…..**


Binomial Distribution
Probability
Cumulative probability
Inverse cumulative probability
Number of trials:
10
Probability of success:
.2
Input column:
Optional storage:
Input constant:
4
Optional storage:
Select
Help
OK
Cancel

Example 7.13

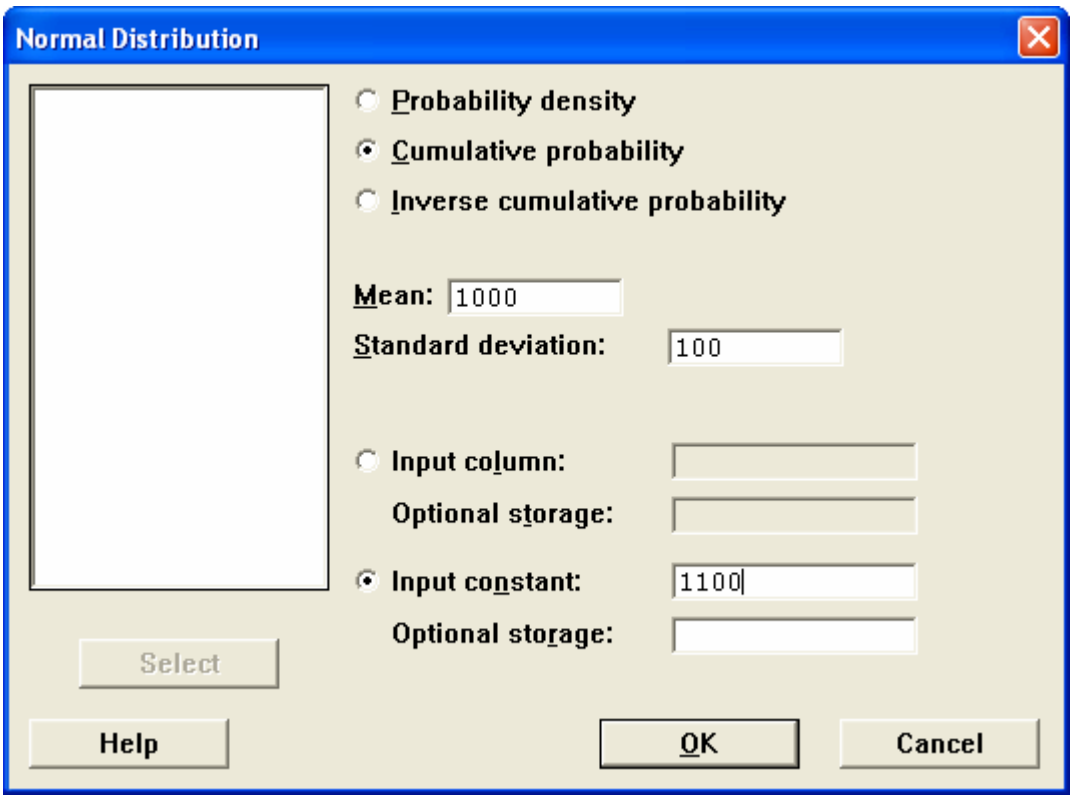
Click **Calc**, **Probability Distributions**, and **Poisson…..**.



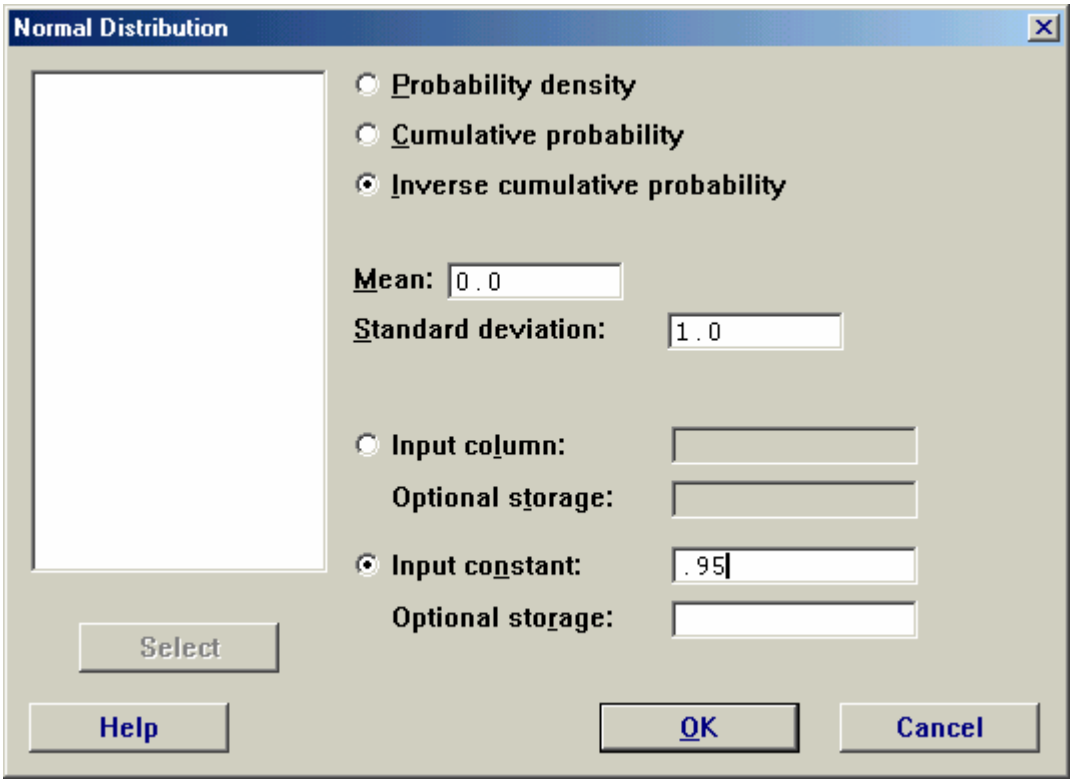
Chapter 8

Example 8.2

Click **Calc**, **Probability Distributions**, and **Normal….**

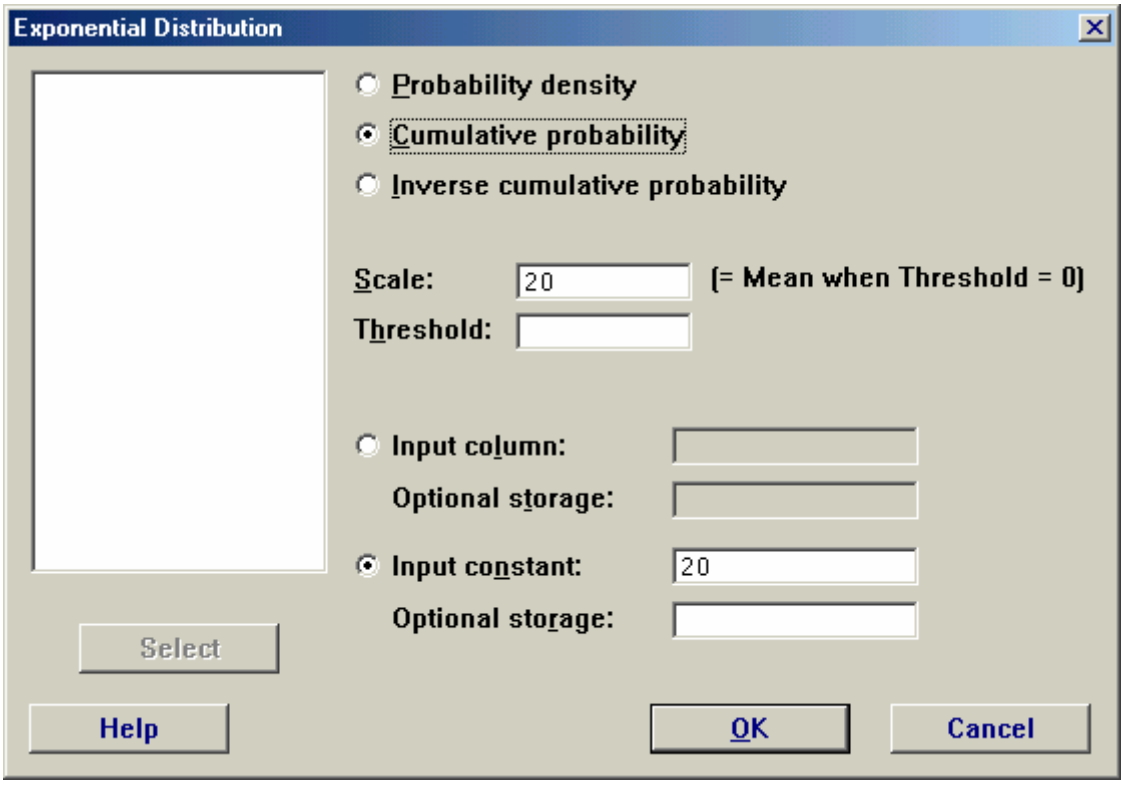


Example 8.3


Normal Distribution
Probability density
Cumulative probability
Inverse cumulative probability
Mean: 0.0
Standard deviation: 1.0
Input column:
Optional storage:
Input constant: .95
Optional storage:
Select
Help
OK
Cancel

Example 8.5c

Click **Calc**, **Probability Distributions**, and **Exponential….**

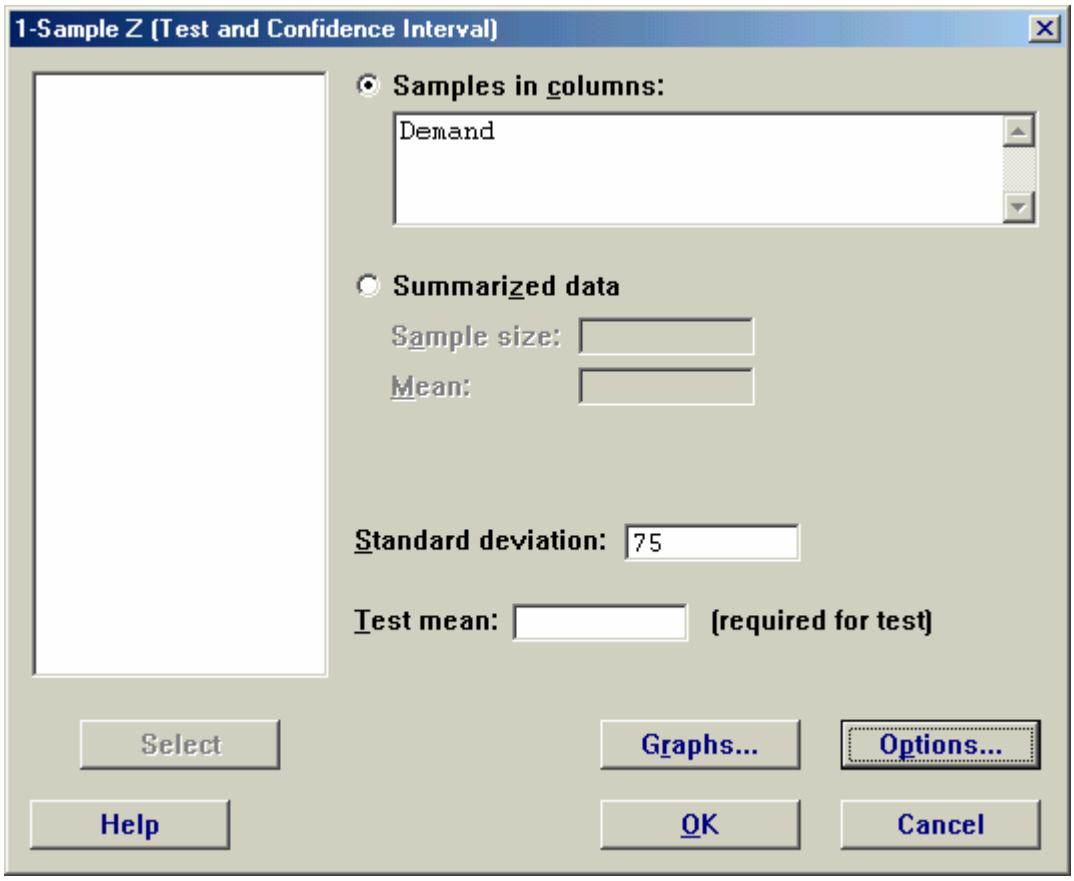


Chapter 10

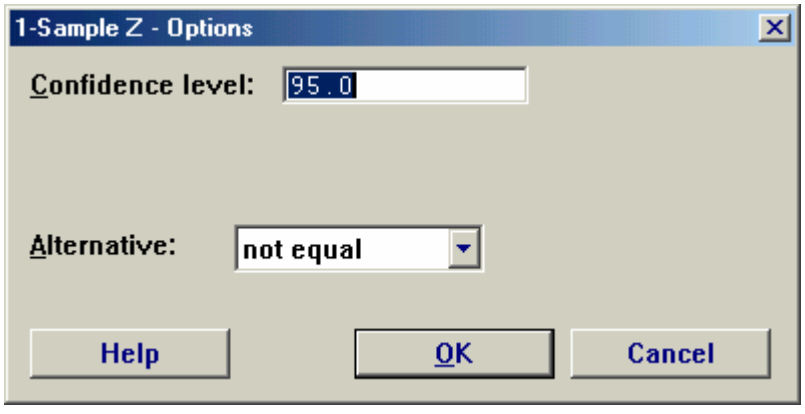
Example 10.1

1. Open Xm10-01.

2. Click **Stat**, **Basic Statistics**, and **1-Sample Z…**. Fill in the dialog box as shown below.



3. Click **Options…** and fill in the dialog box below.

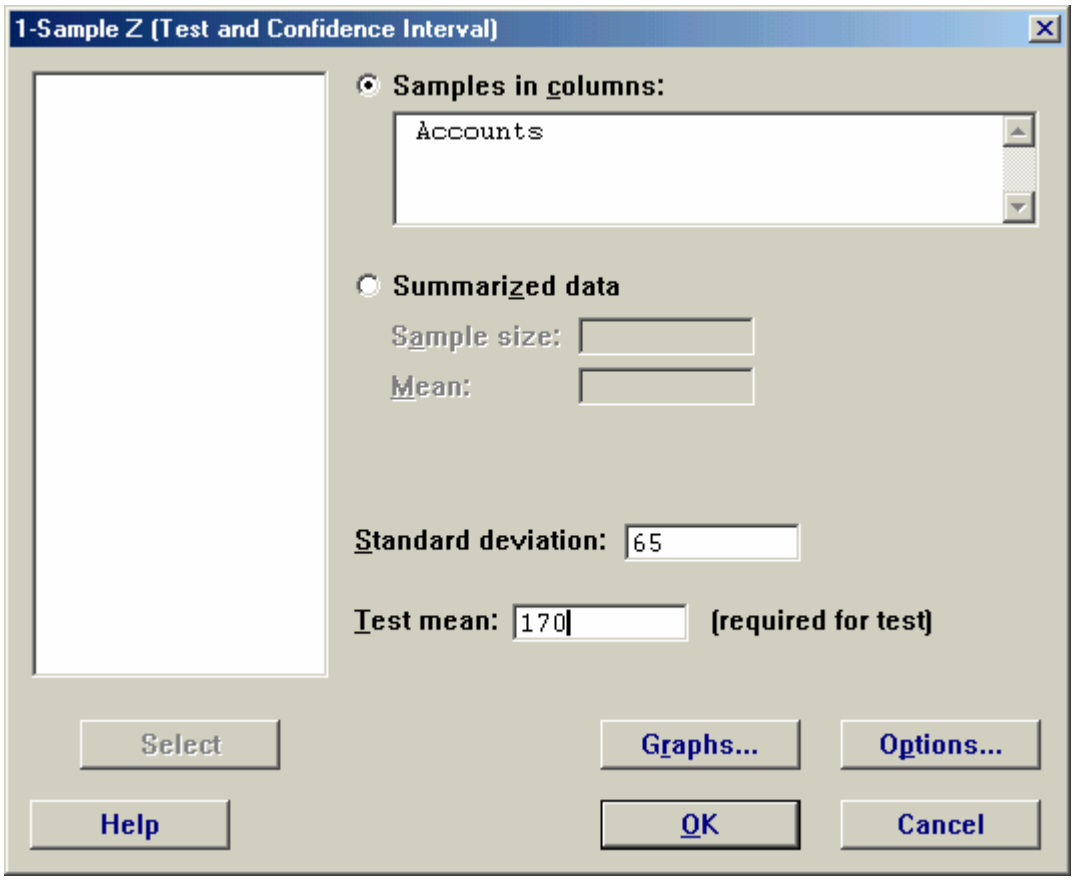


Chapter 11

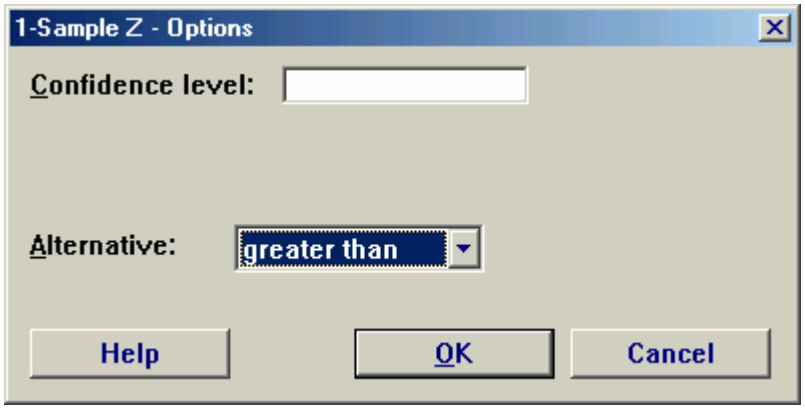
Example 11.1

1. Open Xm11-01.

2. Click **Stat, Basic Statistics,** and **1-Sample Z…**. Complete the dialog box below.



3. Click **Options…** and complete the next dialog box.

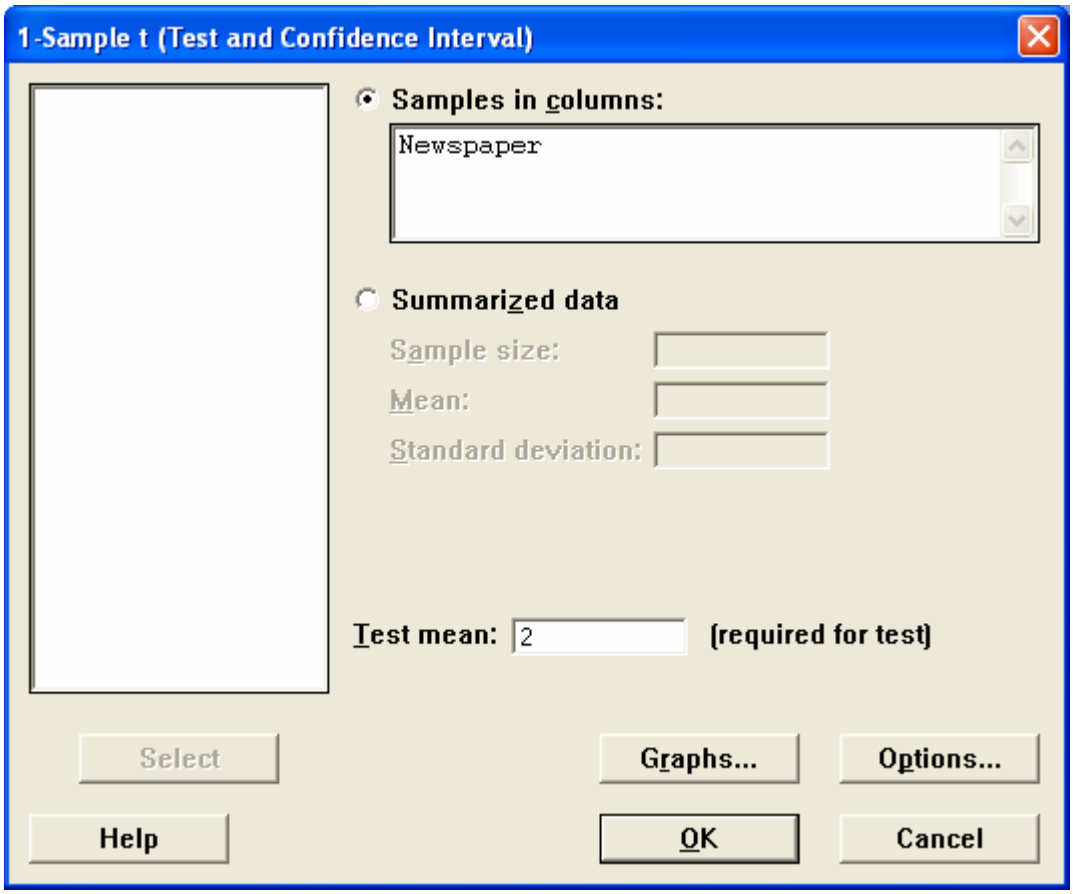


Chapter 12

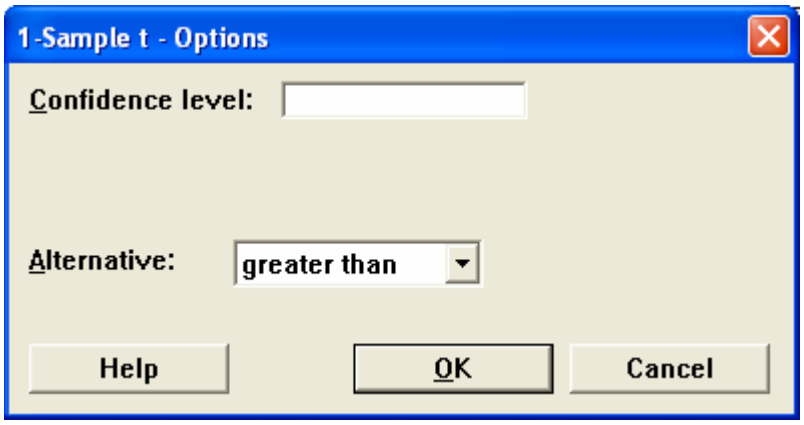
Example 12.1

1. Open Xm12-01.

2. Click **Stat**, **Basic Statistics**, and **1-Sample t…**. Fill in the dialog box as shown below.



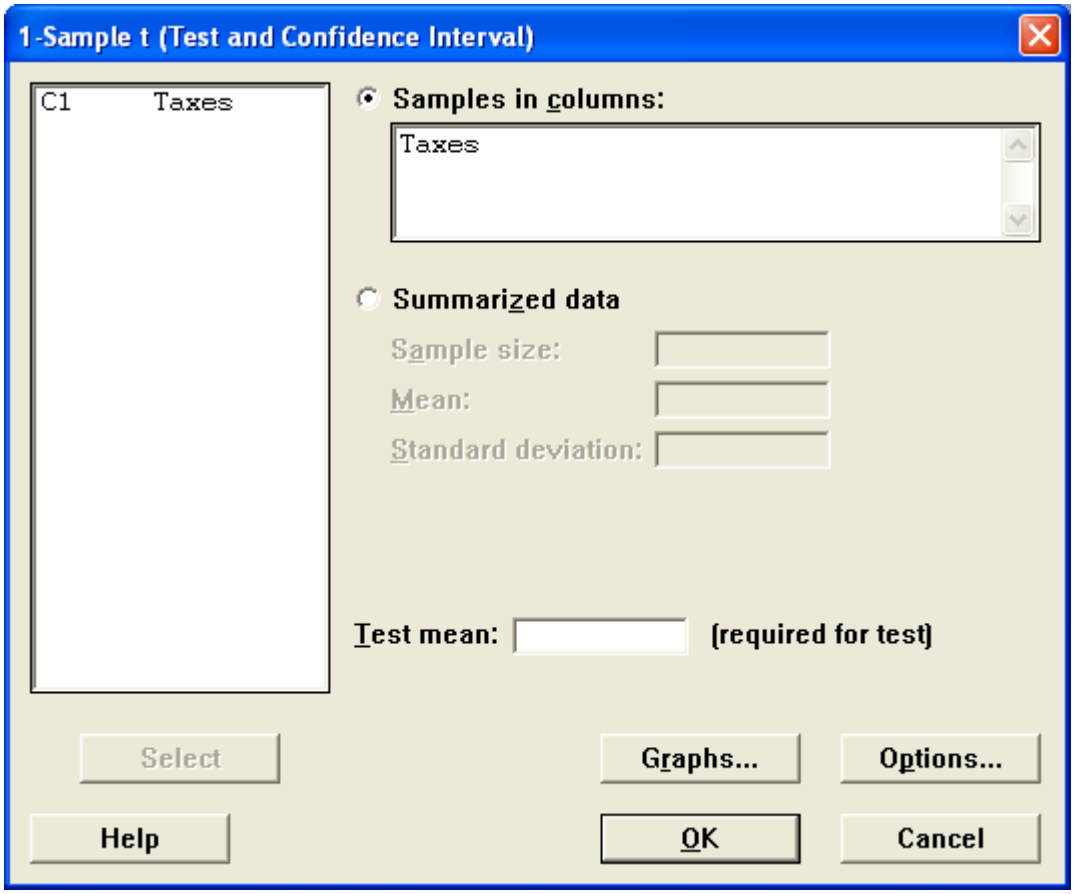
3. Click **Options…**



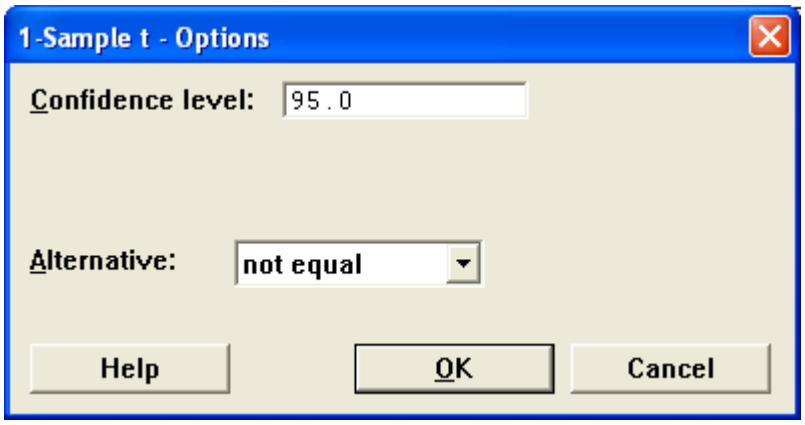
Example 12.2

1. Open Xm12-02.

2. Click **Stat**, **Basic Statistics**, and **1-Sample t…**. Fill in the dialog box as shown below.



3. Click **Options…**

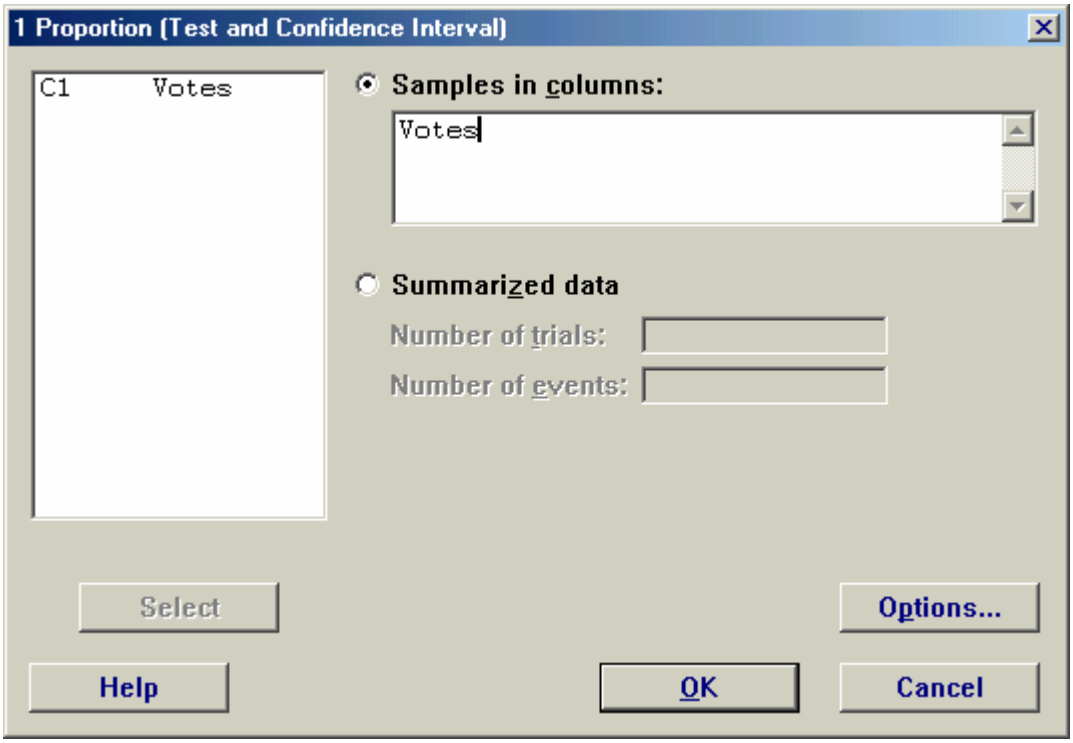


Minitab 14 does not conduct the chi-squared test and estimator of a variance .

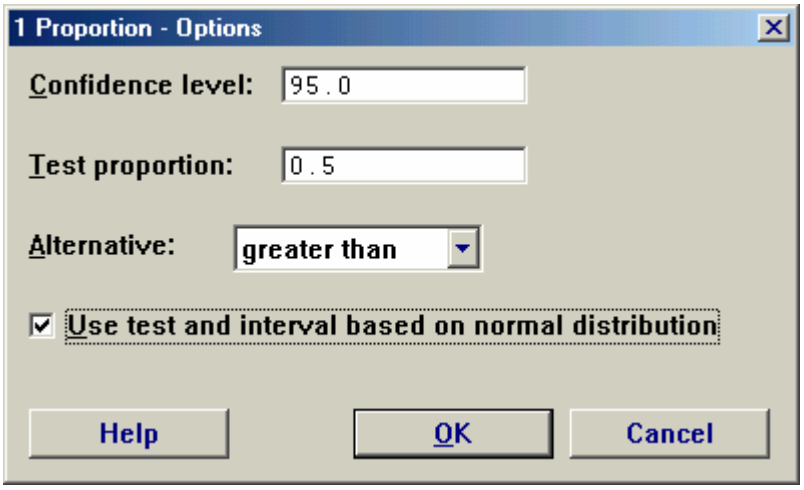
Example 12.5

1. Open Xm12-05.

2 Click **Stat, Basic Statistics**, and **1 Proportion…**.Fill the next box.



3. Click **Options…**

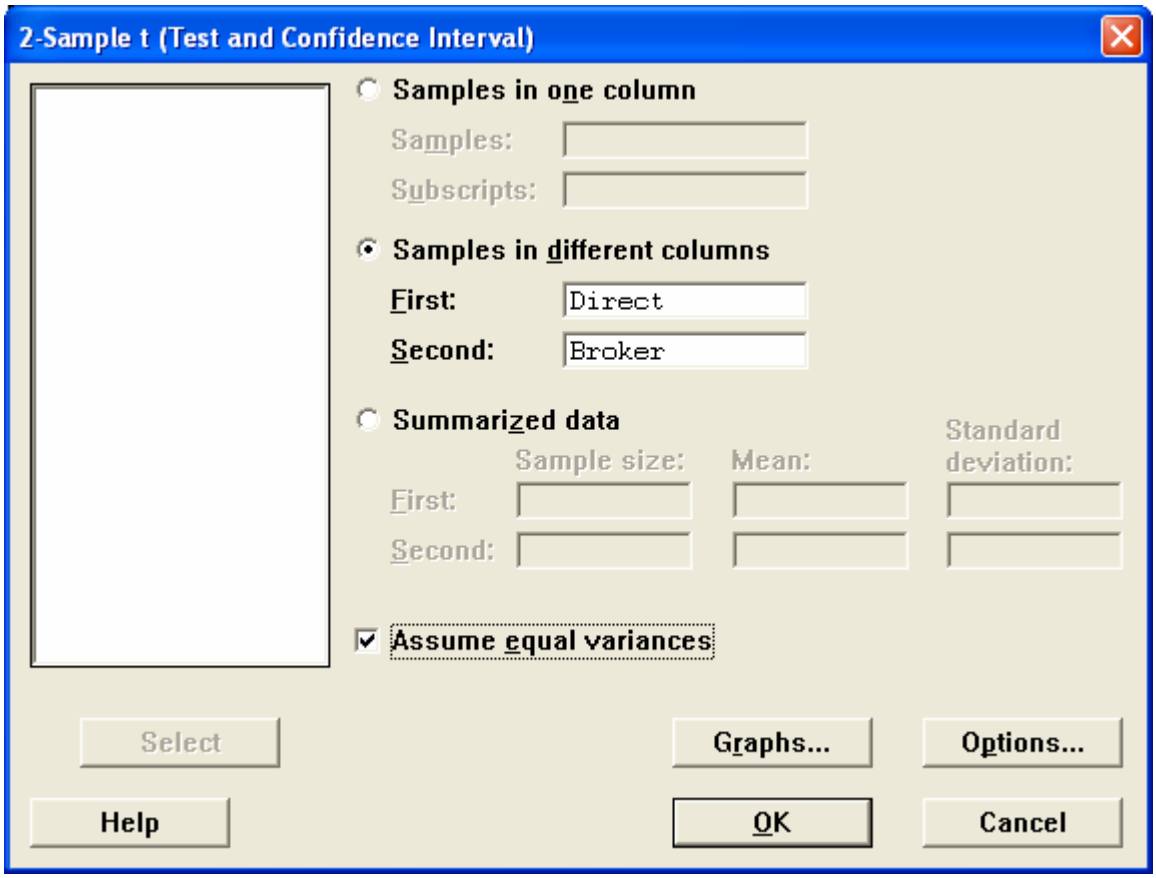


Chapter 13

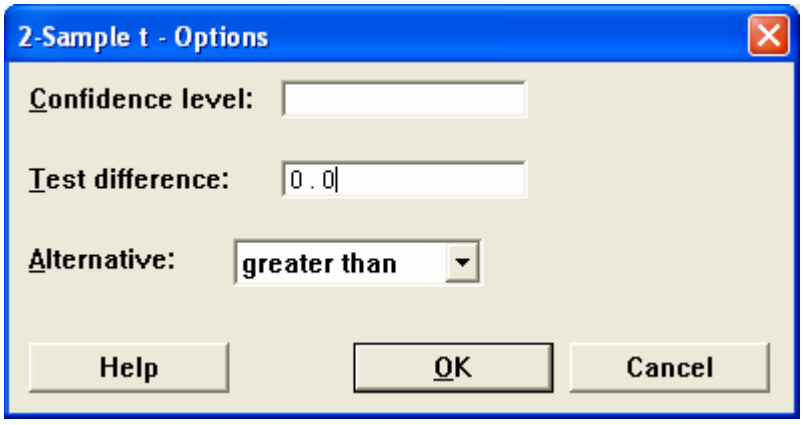
Example 13.1

1. Open Xm13-01.

2. Click **Stat**, **Basic Statistics**, and **2-Sample t…**. Fill in the dialog box as shown below.



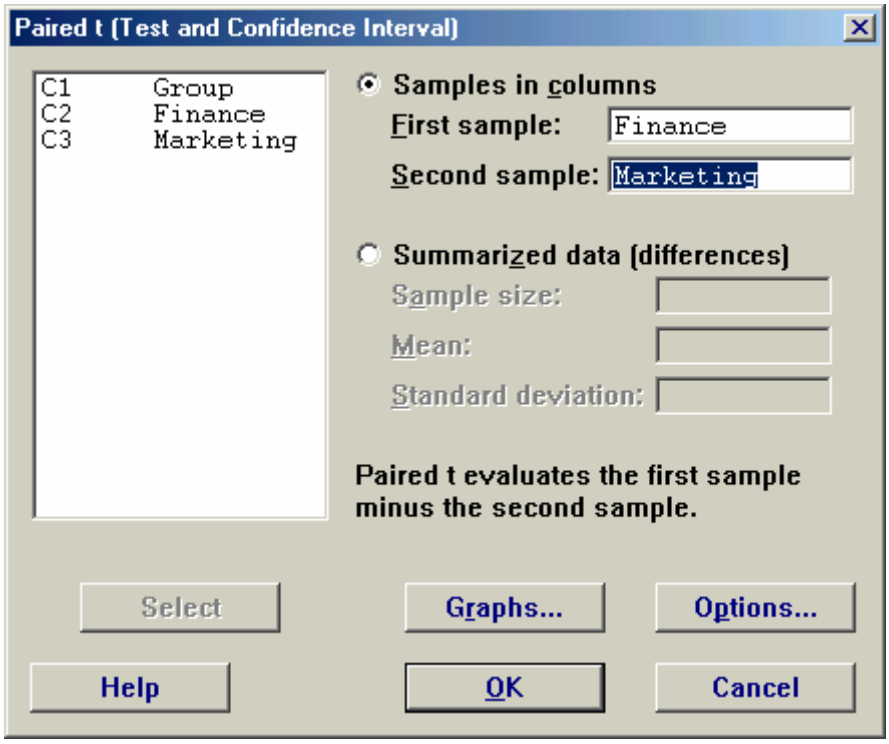
3. Click **Options…**



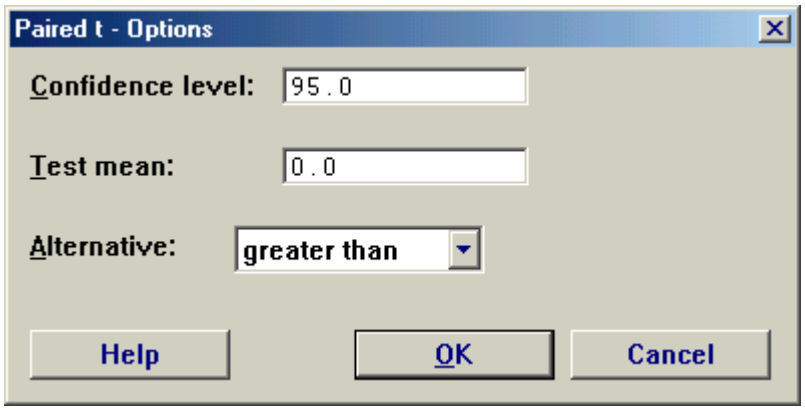
Example 13.5

1. Open Xm13-05.

2. Click **Stat, Basic Statistics,** and **Paired t…** . Click **Options…**



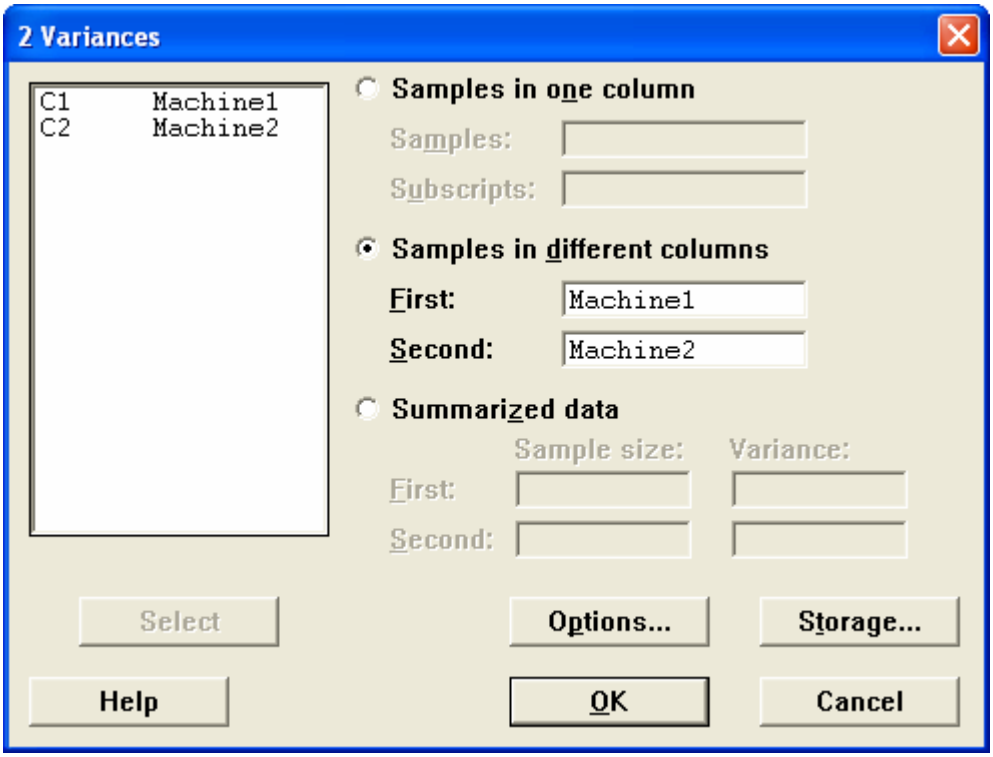
3. Click **Options…**



Example 13.7

1. Open Xm13-07.

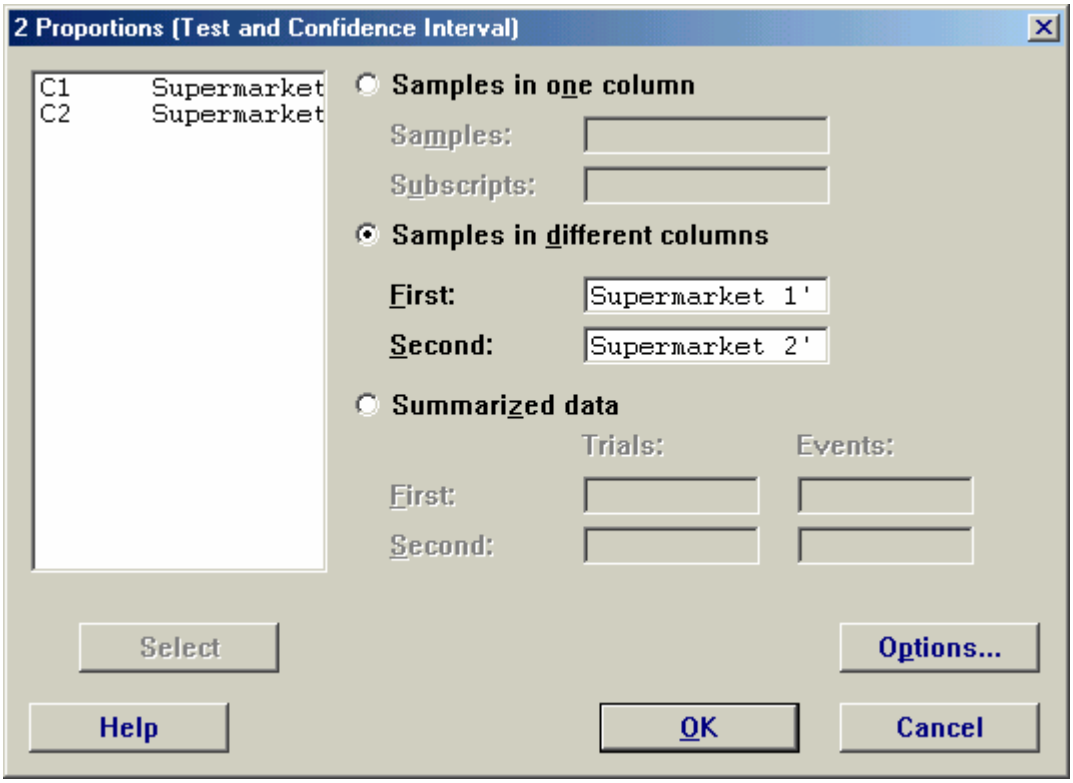
2. Click **Stat, Basic Statistics,** and **2 Variances…**



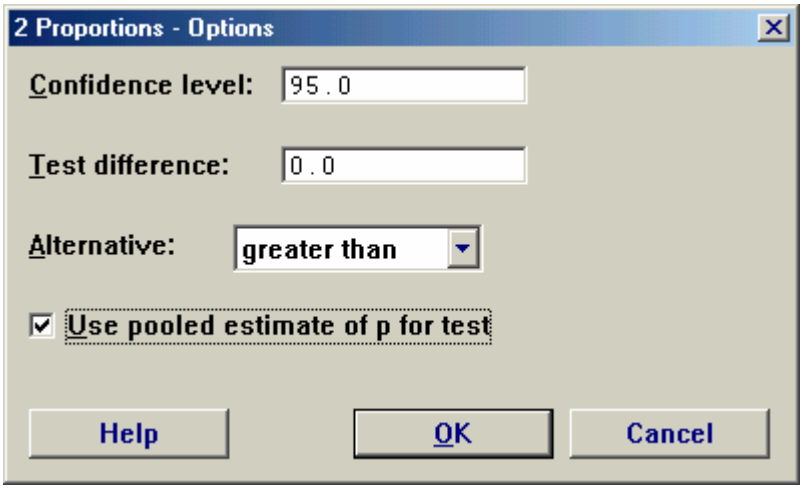
Example 13.9

1. Open Xm13-09.

2. Click **Stat, Basic Statistics,** and **2 Proportions**…Fill in the box.



3. Click **Options…**

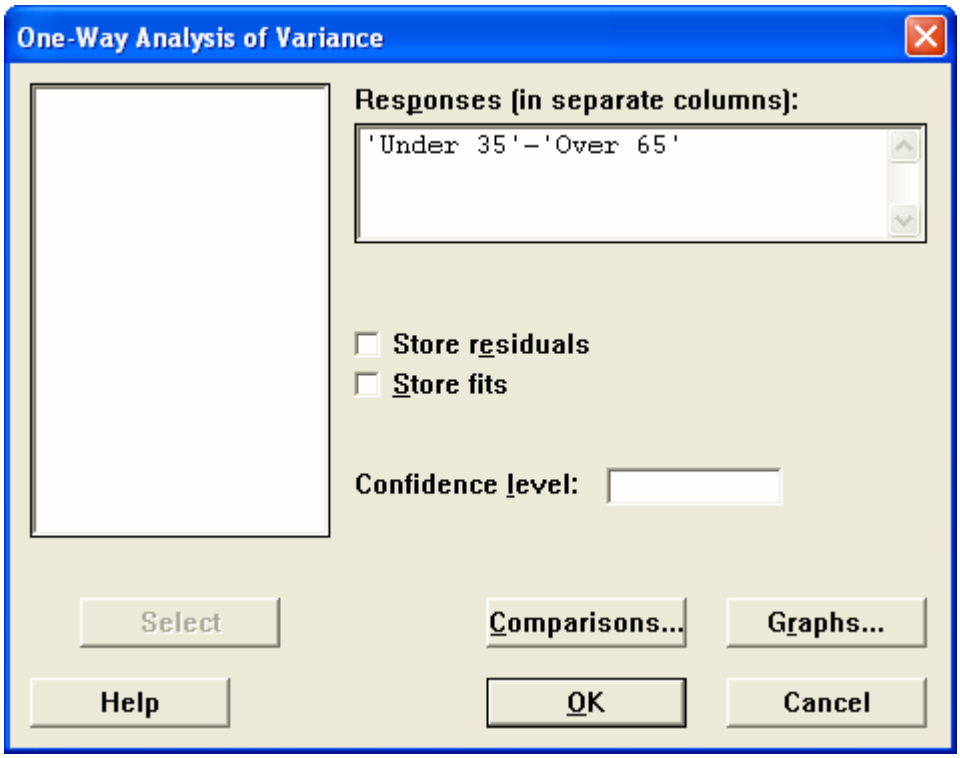


Chapter 14

Example 14.1

1. Open Xm14-01.

2. Click **Stat**, **ANOVA**, and **Oneway (Unstacked)** and complete the next dialog box.

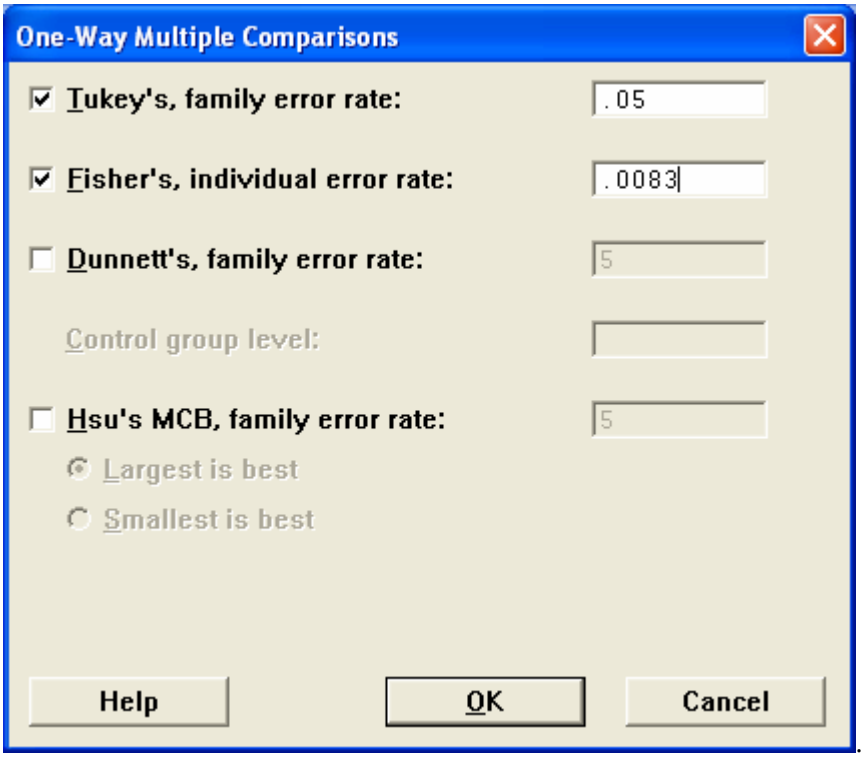


Example 14.2

1. Open Xm14-02.

2. Click **Stat**, **ANOVA**, and **Oneway (Unstacked)** and complete the dialog box.

3. Click Comparisons



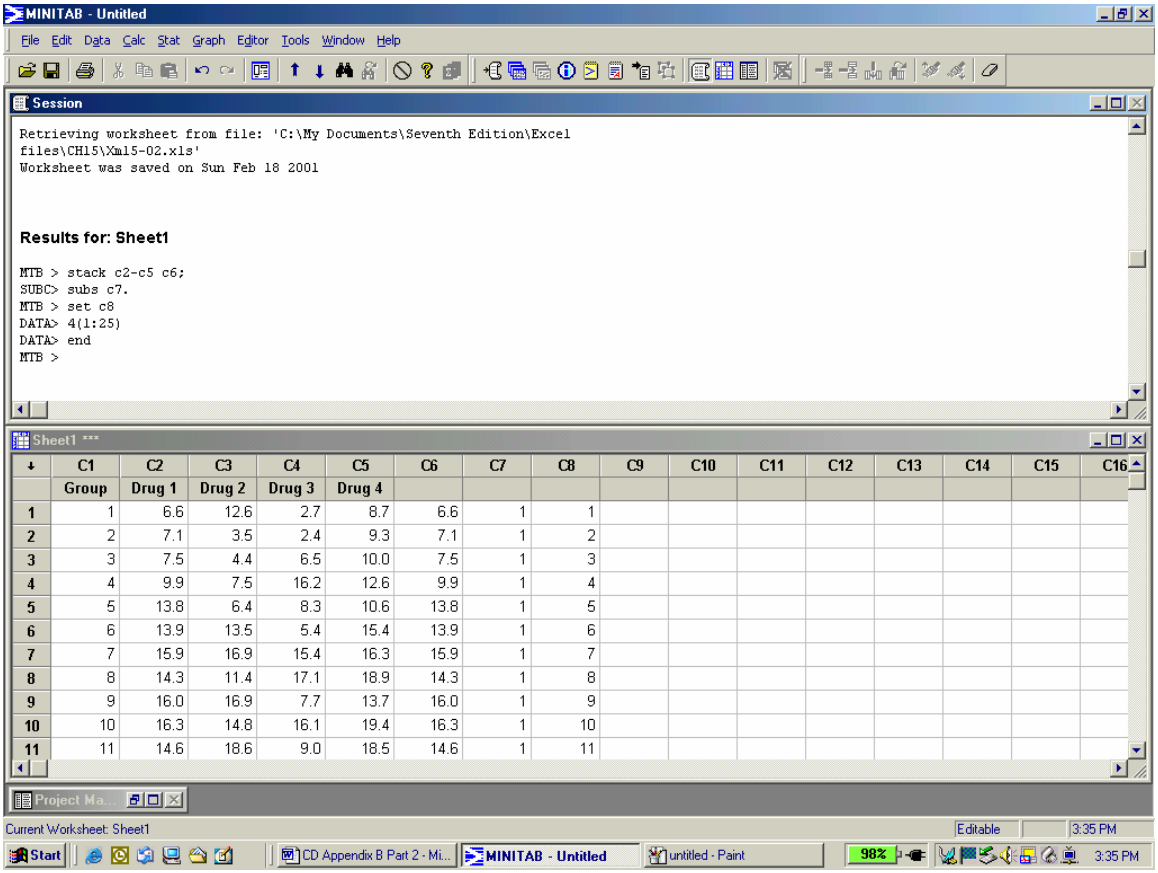
Example 14.3

The data must be in stacked format in three columns. One column contains the responses, another contains codes for the levels of the blocks, and a third column contains codes for the levels of the treatments. To convert Xm14-03 to this format proceed as follows.

1. Open Xm14-03.

2. Activate the Session Window (Click anywhere.)

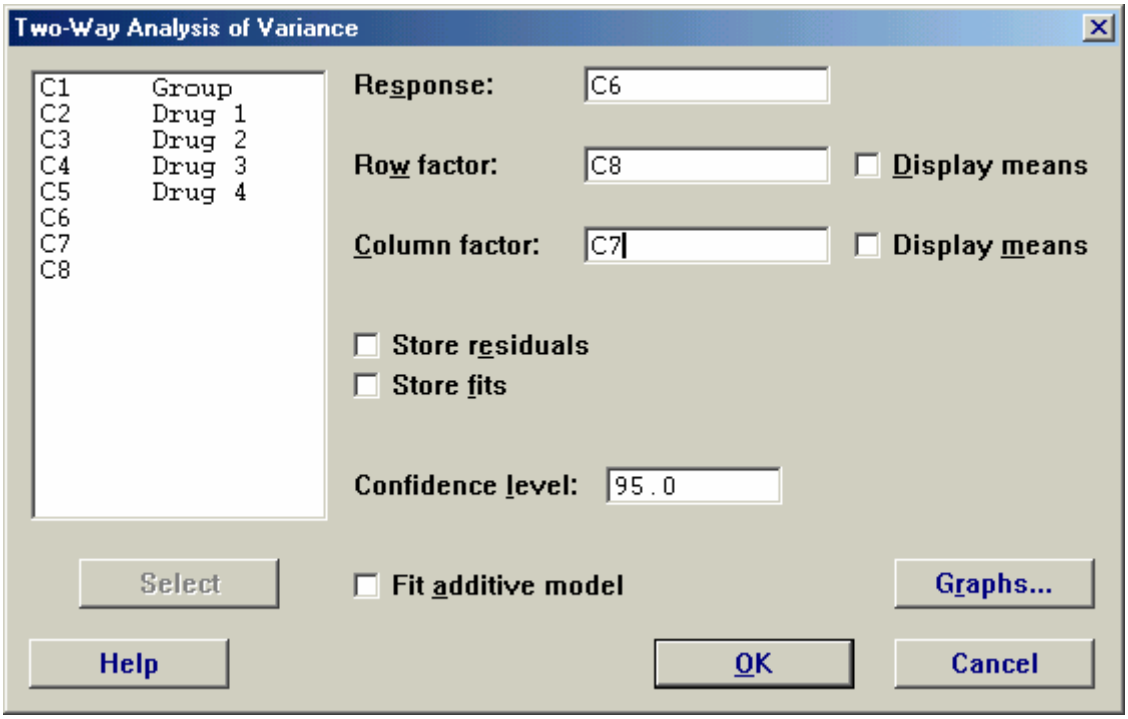
3. Click **Editor** and **Enable Commands** and type what you see in the session window below**.**



	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
	Group	Drug 1	Drug 2	Drug 3	Drug 4											
1	1	6.6	12.6	2.7	8.7	6.6	1	1								
2	2	7.1	3.5	2.4	9.3	7.1	1	2								
3	3	7.5	4.4	6.5	10.0	7.5	1	3								
4	4	9.9	7.5	16.2	12.6	9.9	1	4								
5	5	13.8	6.4	8.3	10.6	13.8	1	5								
6	6	13.9	13.5	5.4	15.4	13.9	1	6								
7	7	15.9	16.9	15.4	16.3	15.9	1	7								
8	8	14.3	11.4	17.1	18.9	14.3	1	8								
9	9	16.0	16.9	7.7	13.7	16.0	1	9								
10	10	16.3	14.8	16.1	19.4	16.3	1	10								
11	11	14.6	18.6	9.0	18.5	14.6	1	11								

4 Click **Stat, ANOVA,** and **Twoway…**

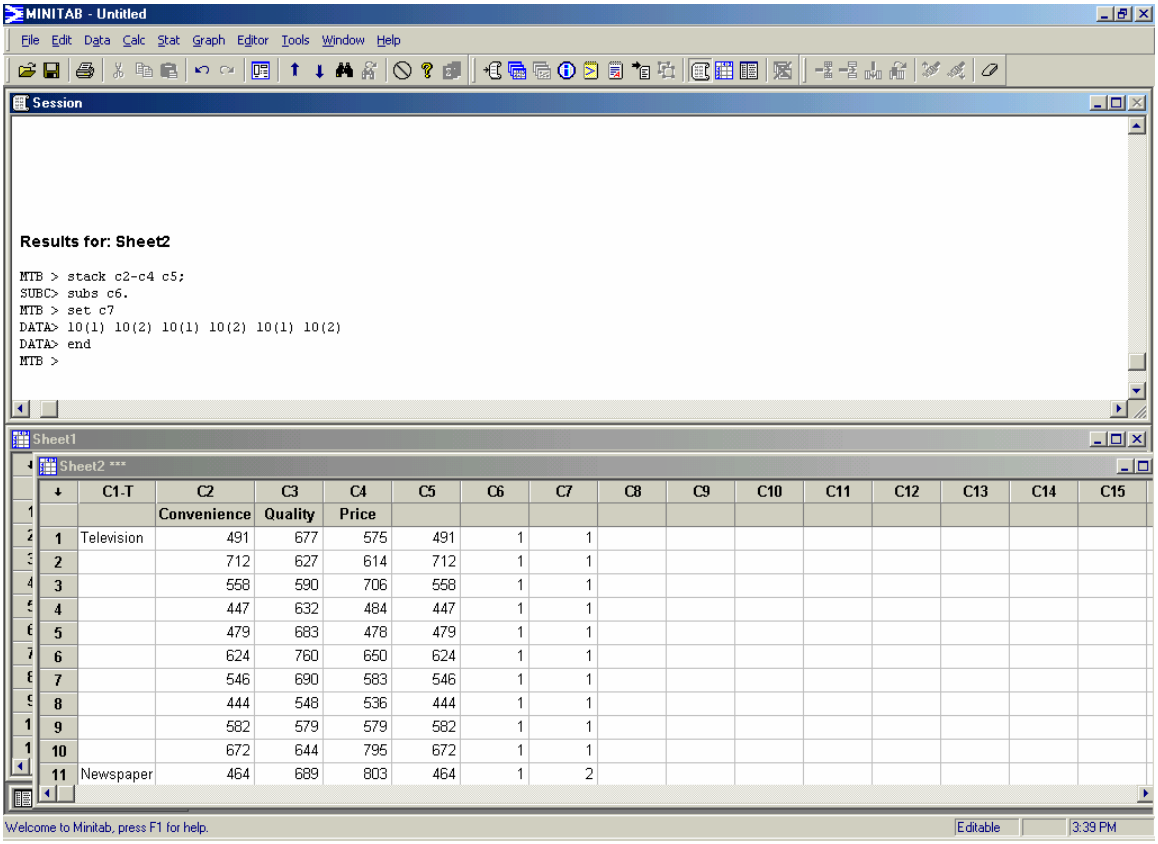
5. Specify the **Responses, Row factor,** and **Column factor**. Fill in the box.



Example 14.4

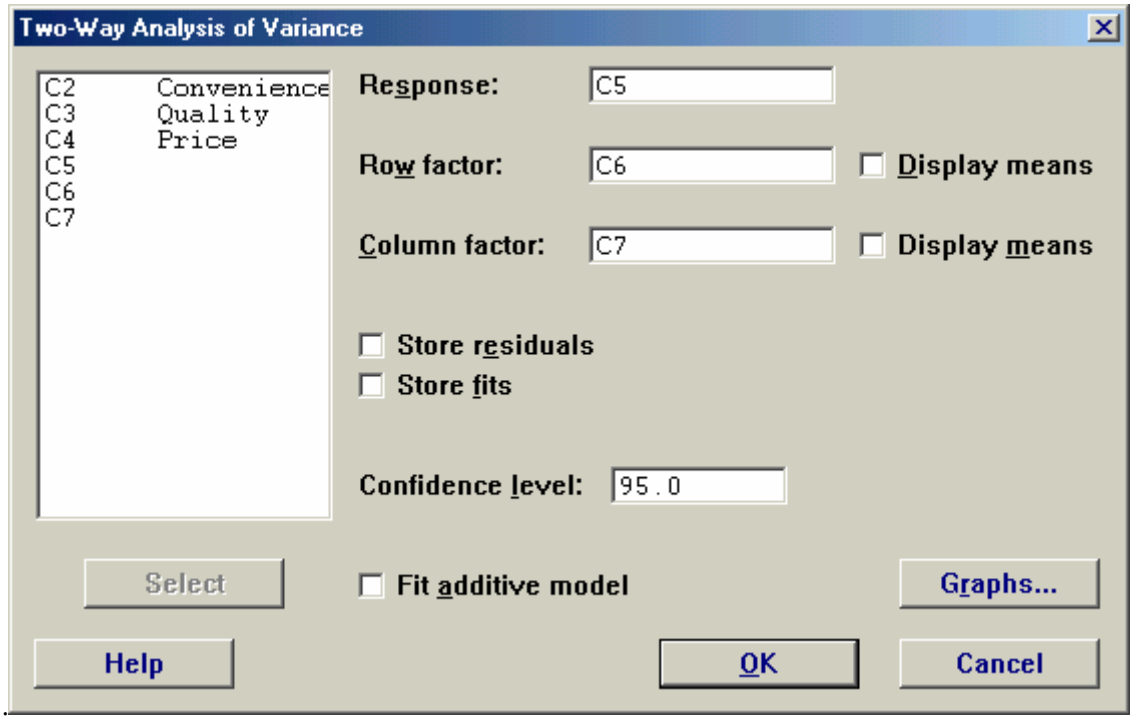
1 The data must be in stacked format where one column contains the responses, another contains codes for the levels of factor A, and a third column contains codes for the levels of factor B. We describe how to convert Xm15-03 to this format.

Open Xm14-04.



	C1-T	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15
		Convenience	Quality	Price											
1	Television	491	677	575	491	1	1								
2		712	627	614	712	1	1								
3		558	590	706	558	1	1								
4		447	632	484	447	1	1								
5		479	683	478	479	1	1								
6		624	760	650	624	1	1								
7		546	690	583	546	1	1								
8		444	548	536	444	1	1								
9		582	579	579	582	1	1								
10		672	644	795	672	1	1								
11	Newspaper	464	689	803	464	1	2								

2. Click **Stat**, **ANOVA**, and **Twoway…** . Complete the dialog box.

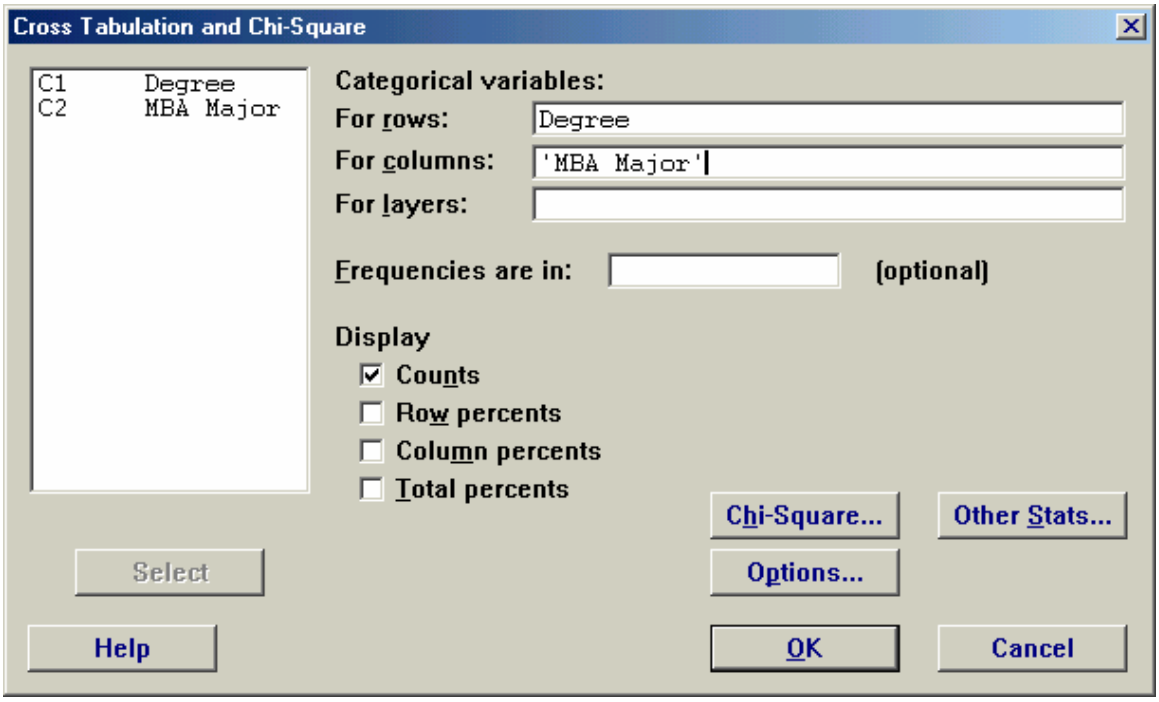


Chapter 15

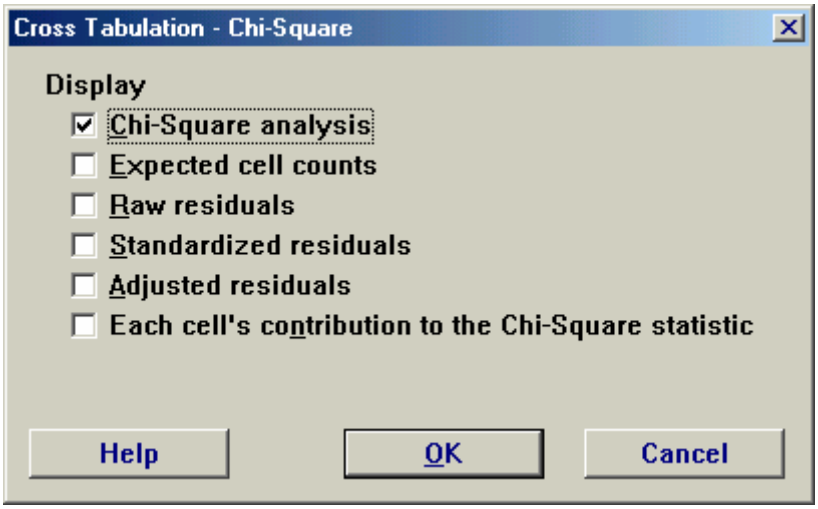
Example 15.2

1. Open Xm15-02.

1 Click **Stat**, **Tables**, and **Cross Classification and Chi-Square…**



3 Click **Chi-Square…** and click **Chi-Square analysis**.

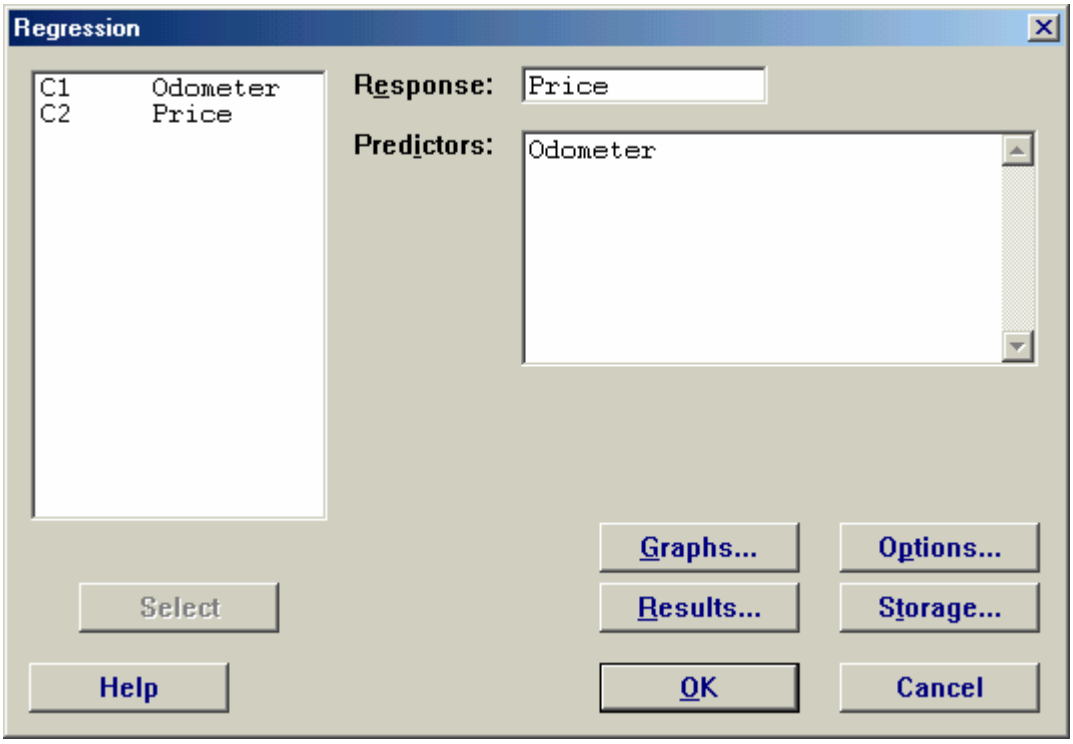


Chapter 16

Example 16.2

1. Open Xm16-02.

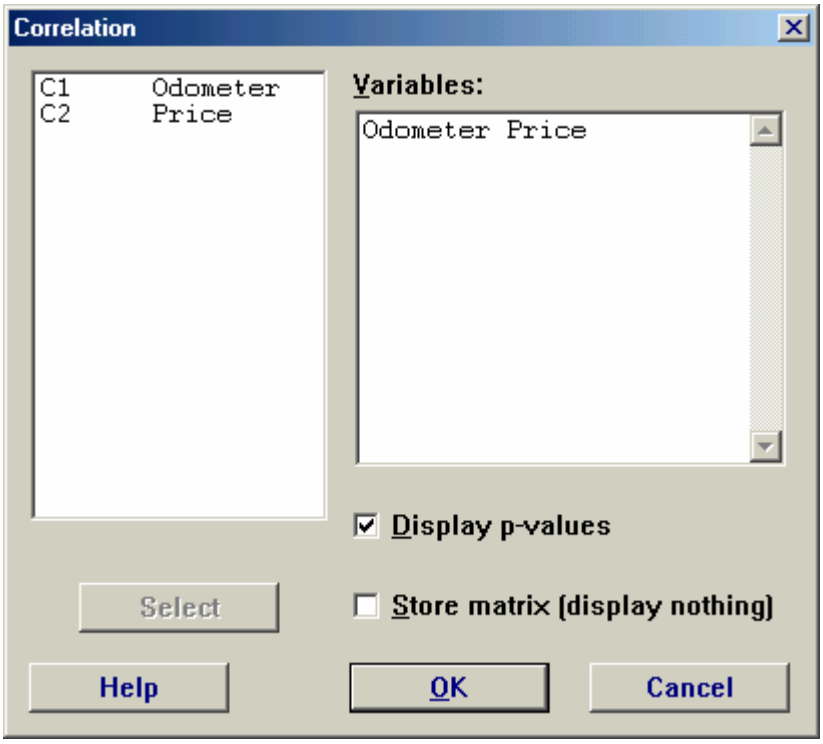
2. Click **Stat**, **Regression**, and **Regression…**



Example 16.6

1.Open Xm16-02.

2. Click **Stat, Basic Statistics**, and **Correlation**.

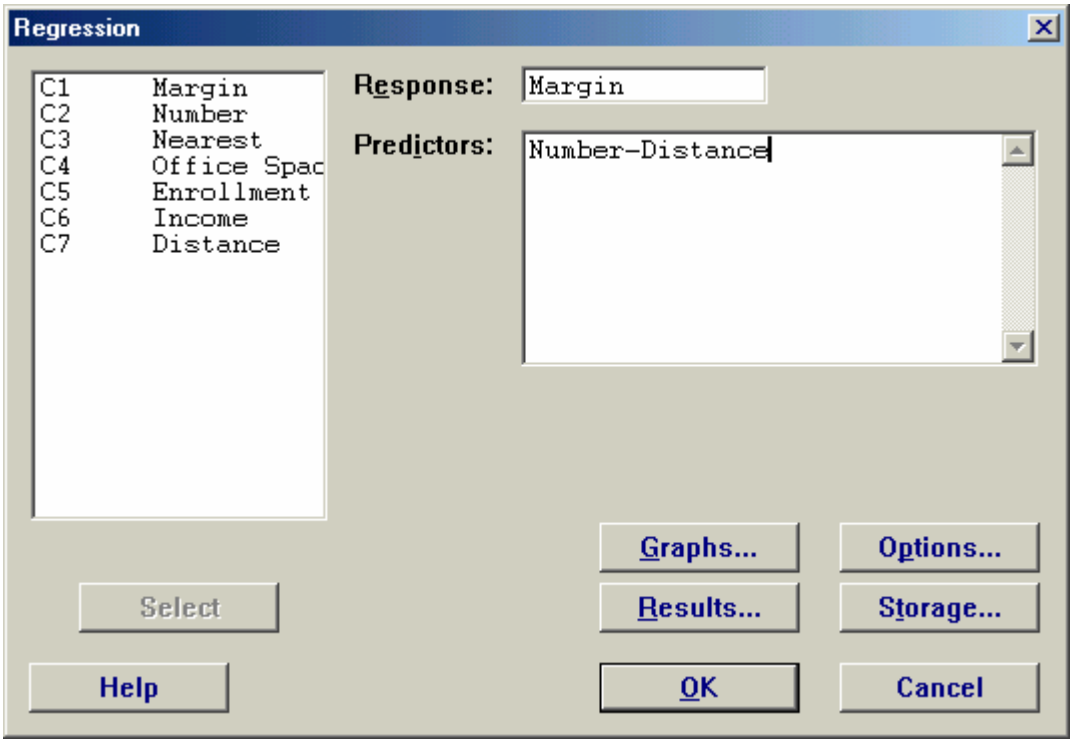


Chapter 17

Example 17.1

1. Open Xm17-01.

2.Click **Stat**, **Regression**, and **Regression…**

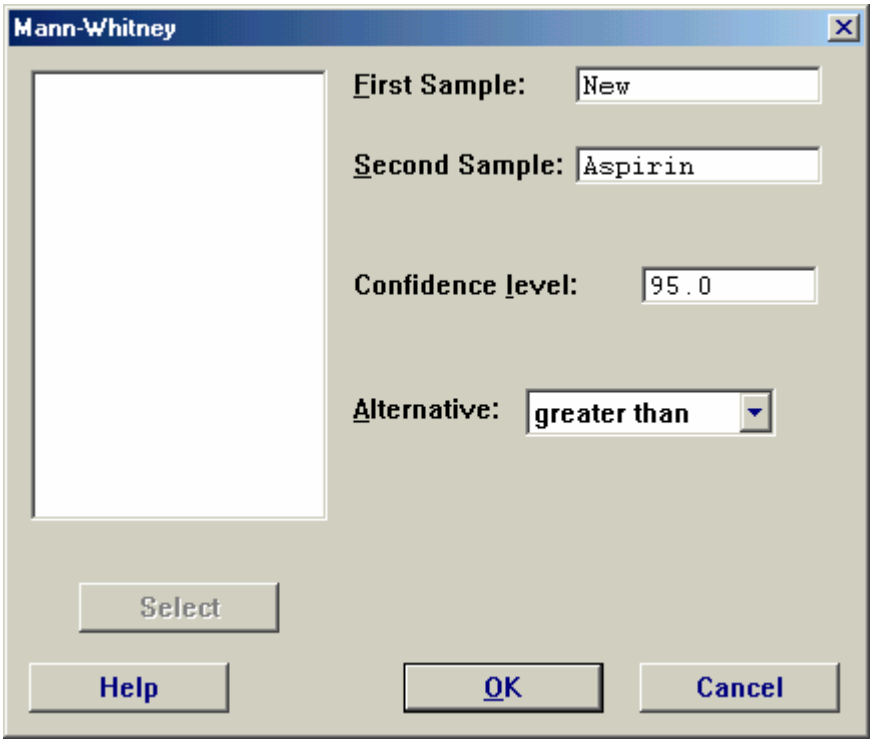


Chapter 19

Example 19.1

1. Open Xm19-02.

2. Click **Stat, Nonparametrics**, and **Mann-Whitney…**

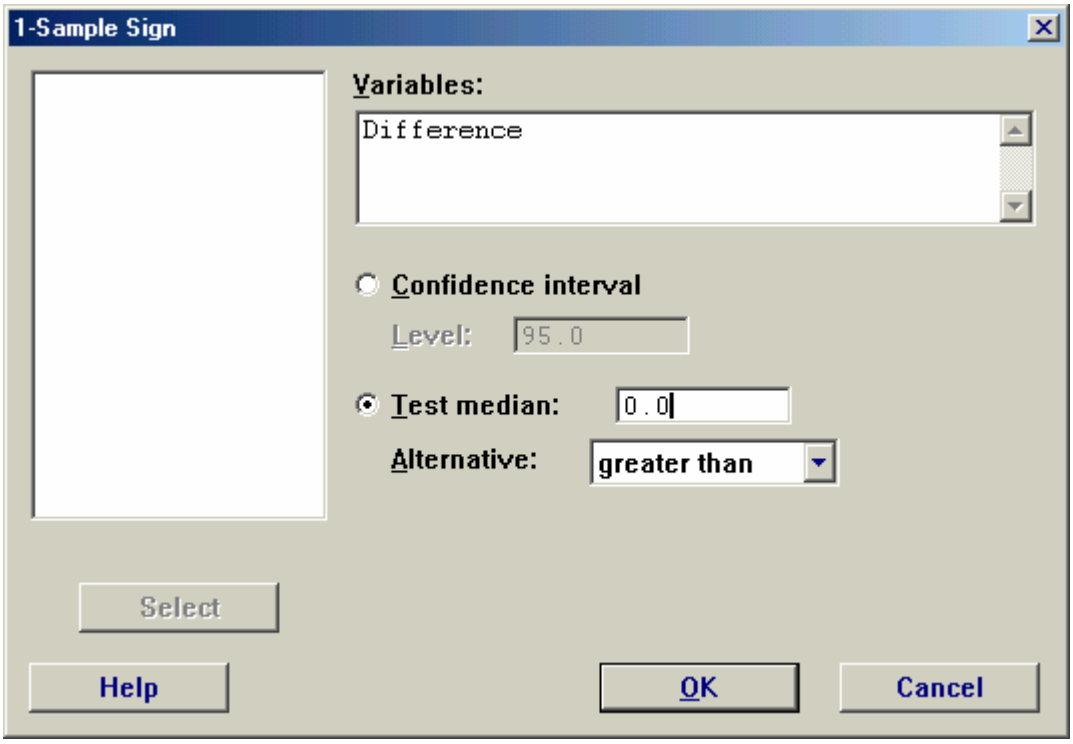


Example 19.3

1. Open Xm19-03.

2 Create a new variable, the paired difference.

3. Click **Stat, Nonparametrics,** and **1-Sample Sign…**

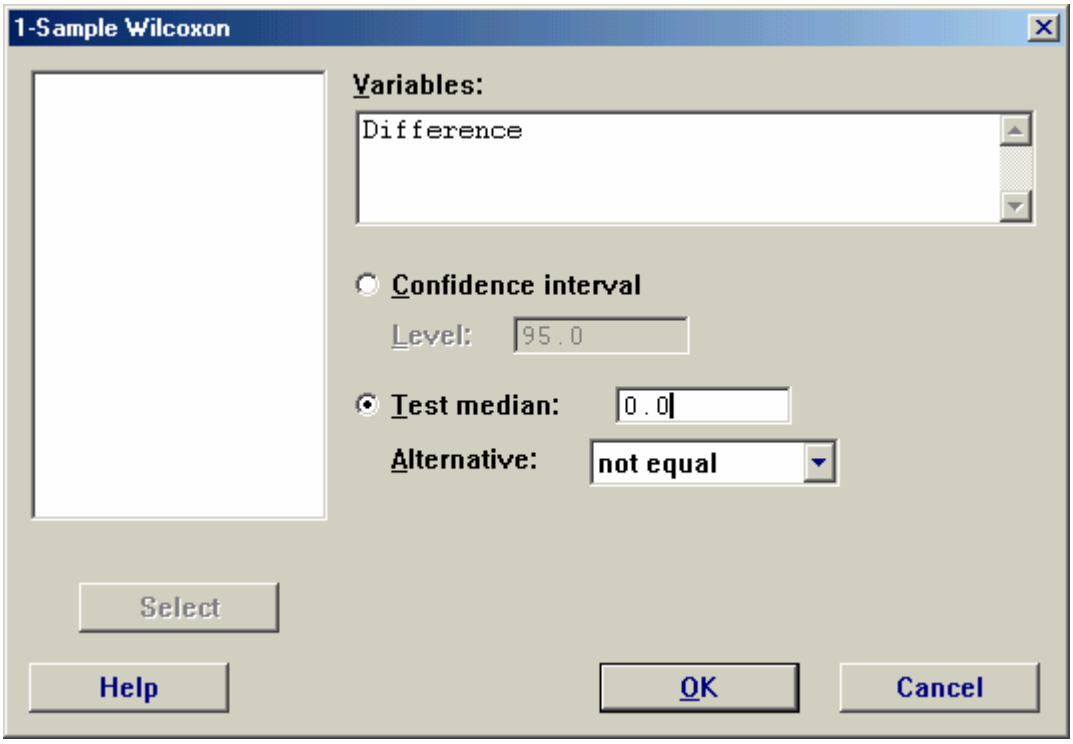


Example 19.4

1. Open Xm19-04.

2 Create a new variable, the paired difference.

3. Click **Stat, Nonparametrics,** and **1-Sample Wilcoxon…**

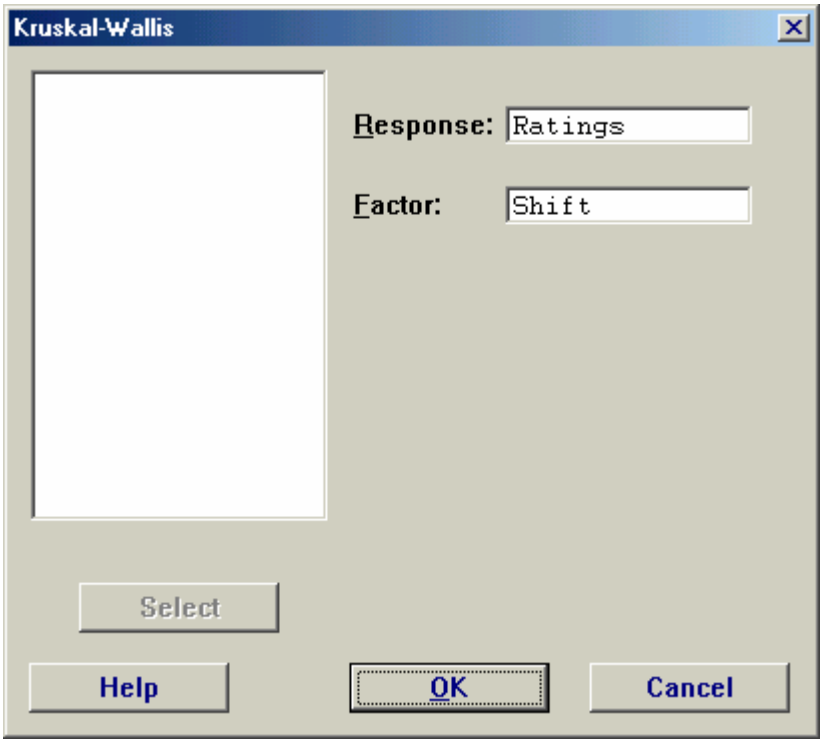


Example 19.5

1. Open Xm19-05.

2. The data must be stacked. So that one column represents the responses are in one column and the codes identifying the shift in a second column.

3. Click **Stat**, **Nonparametrics**, and **Kruskal-Wallis…** .

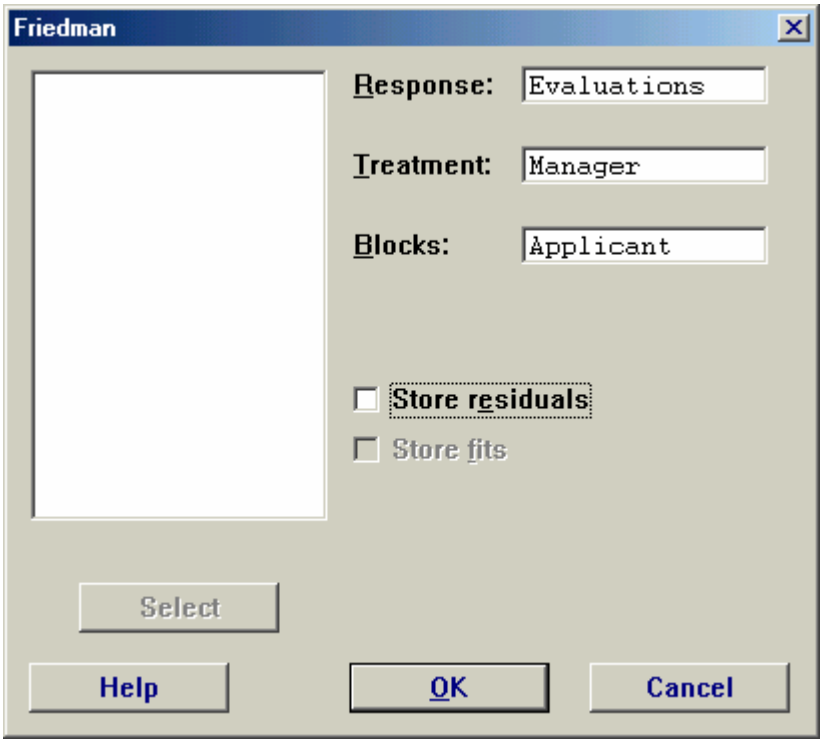


Example 19.6

1. Open Xm19-06.

2. The responses are stored in one column, the treatment codes are stored in another column, and the block codes are stored in a third column.

3. Click **Stat, Nonparametrics,** and **Friedman…**



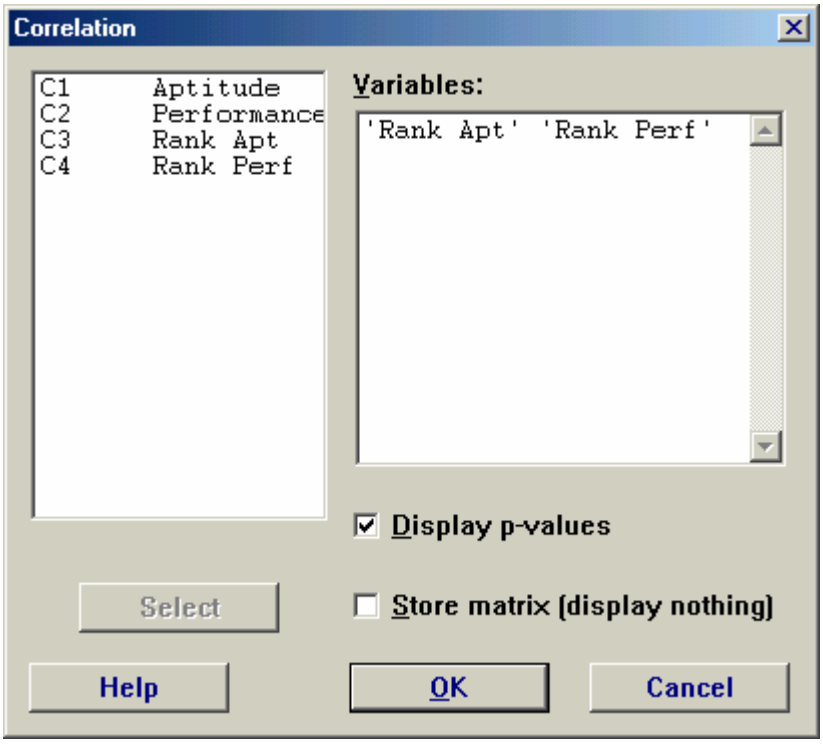
Example 19.7

INSTRUCTIONS

1. Open Xm19-07.

2 Rank each variable.

3 Click **Stat**, **Basic Statistics**, and **Correlation**.

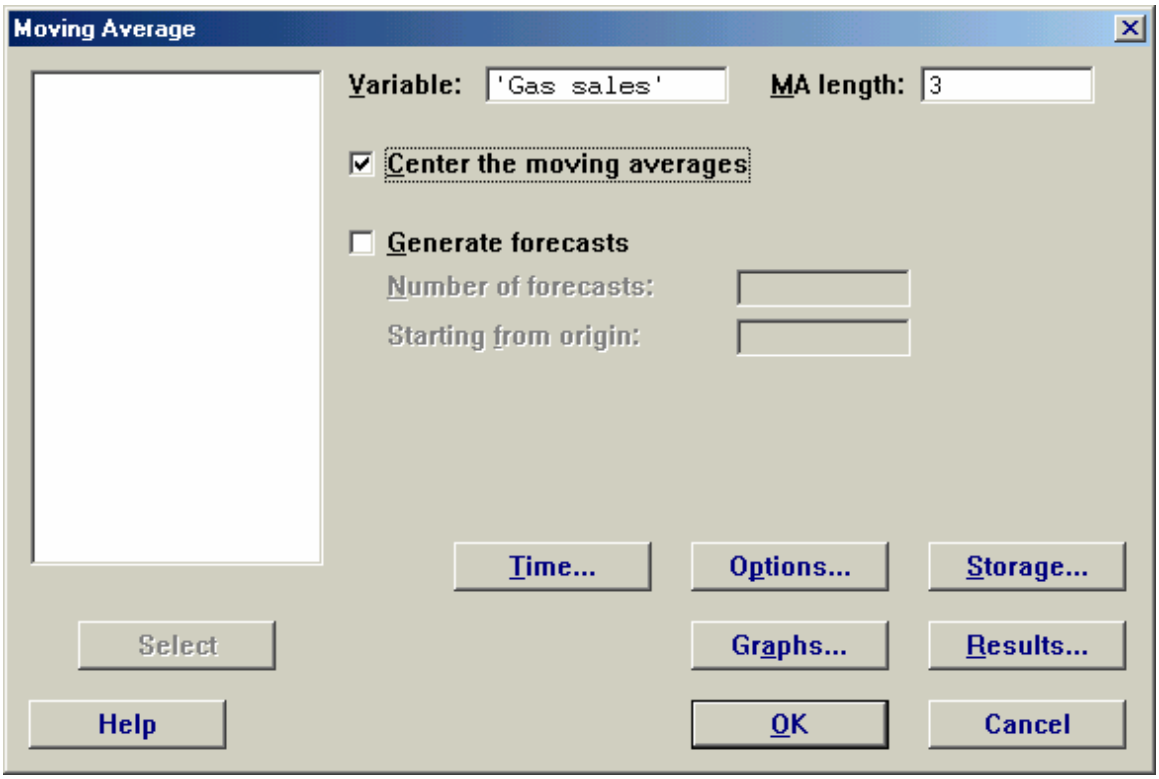


Chapter 20

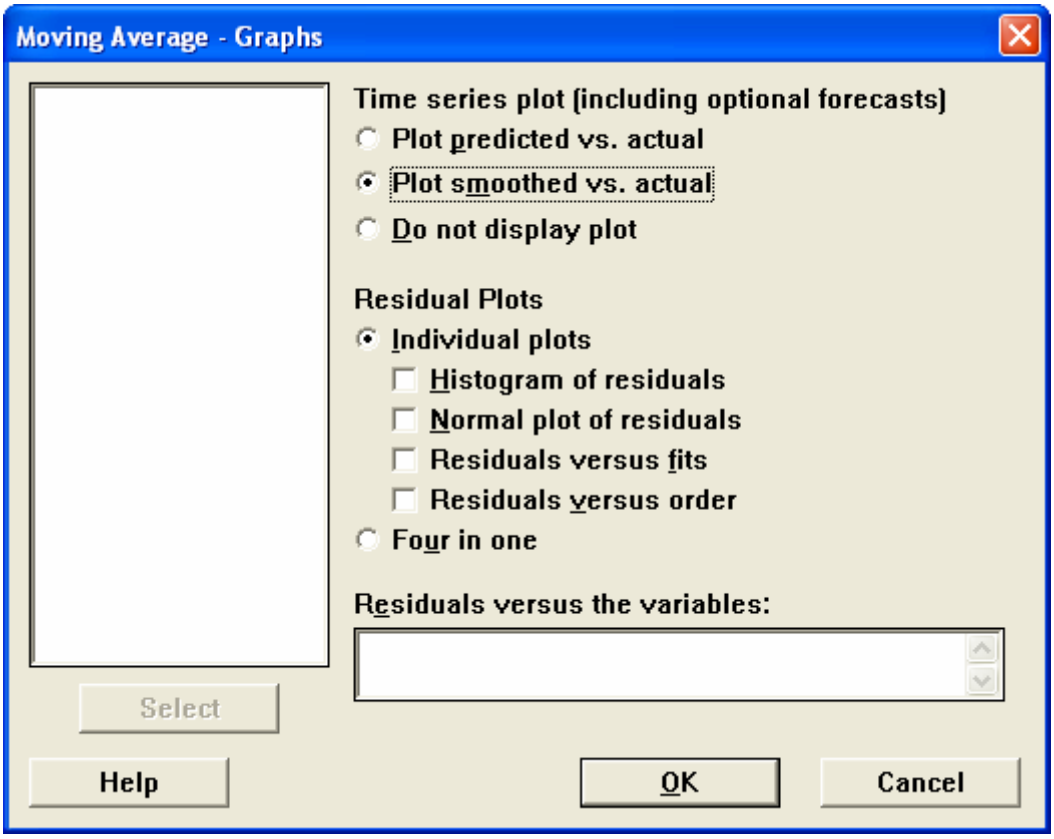
Example 20.1

1. Open Xm20-01.

2. Click **Stat**, **Time series**, and **Moving Averages…** . Fill in the dialog box as shown below.



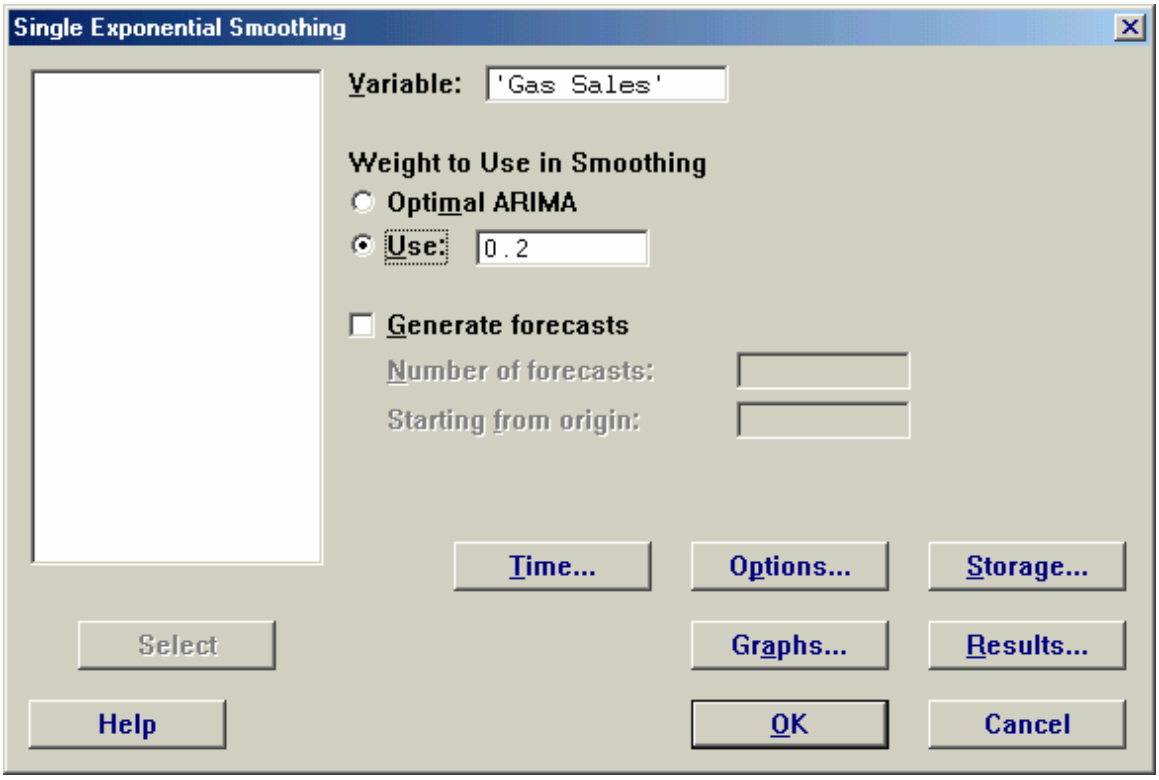
3. Click **Graphs…** .



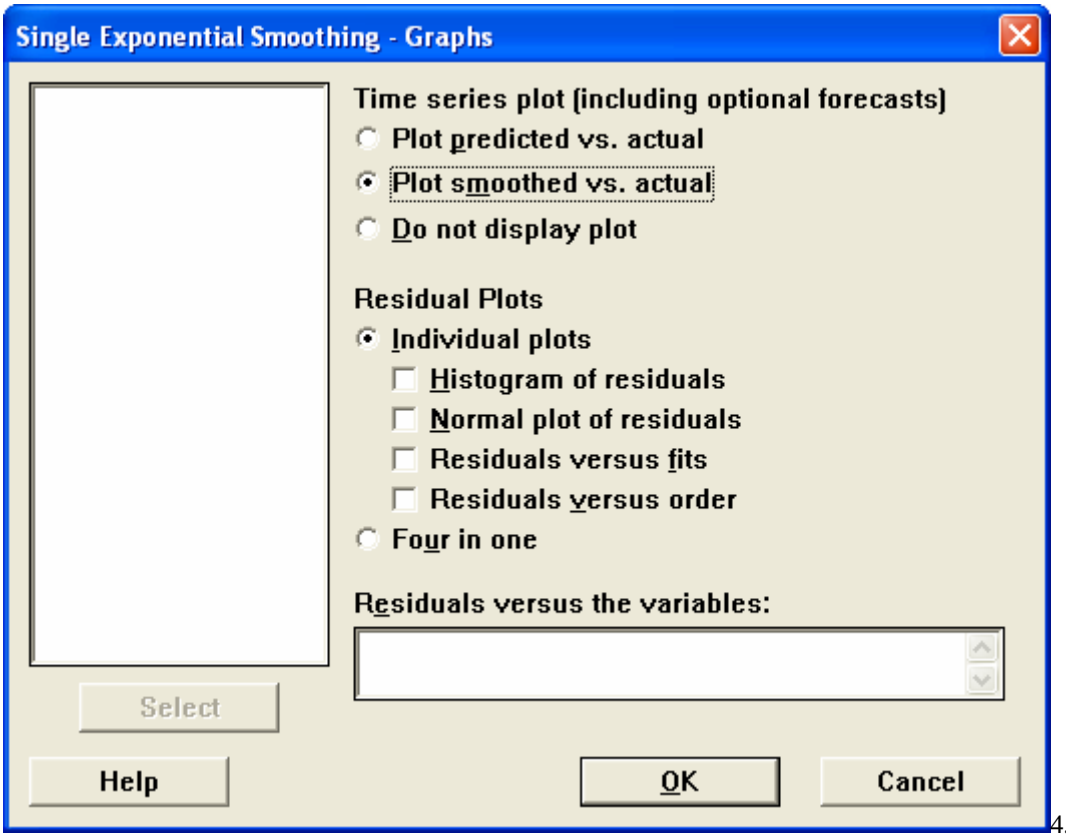
Example 20.2

1. Open Xm20-01.

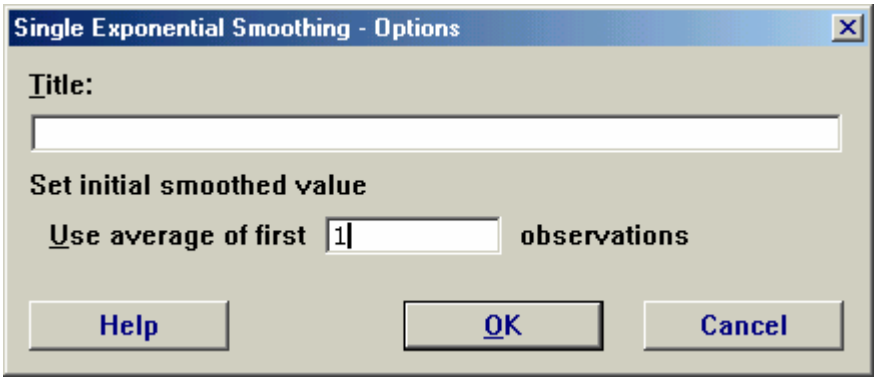
2. Click **Stat**, **Time Series**, and **Single Exp Smoothing…**.and fill in the box.



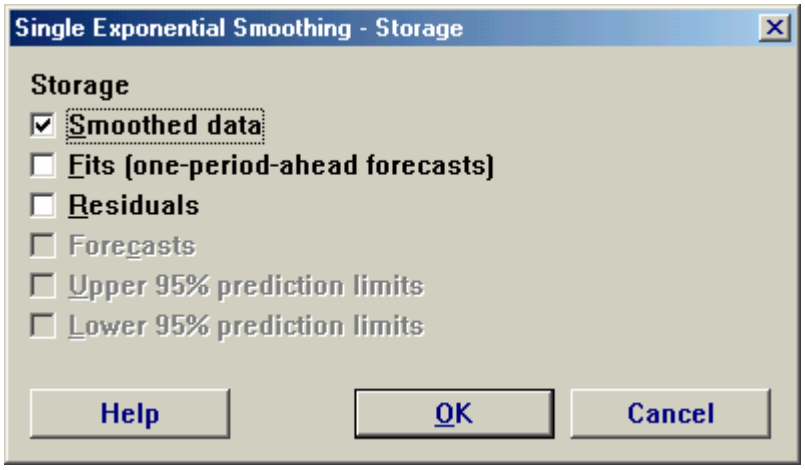
3. Click **Graphs…**.



4. Click **OK** and **Options…** .



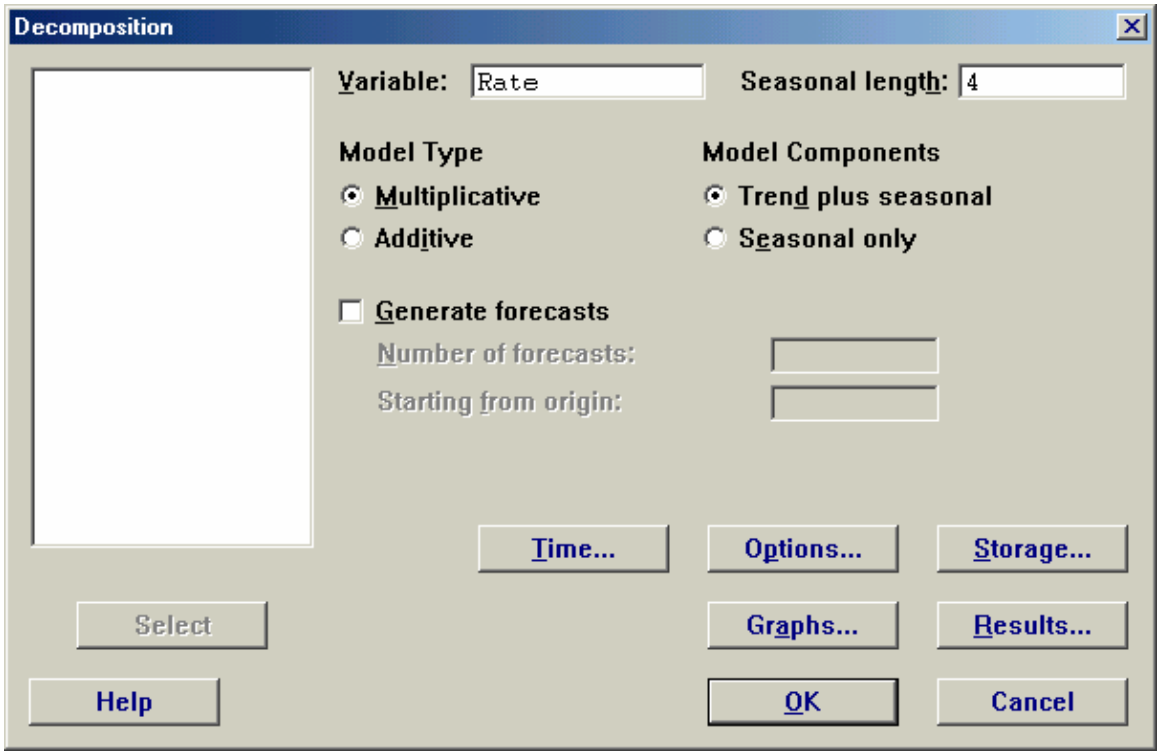
5. Click **OK.** Click **Storage…** and **Smoothed data**.



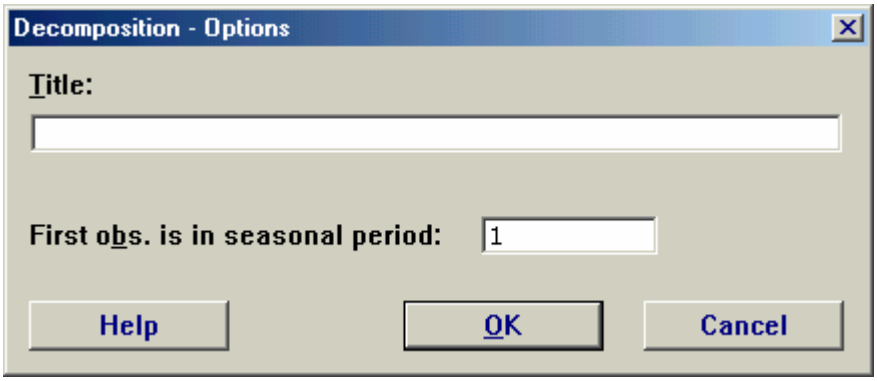
Example 20.3

1. Open file Xm20-03.

2. Click **Stat, Time Series**, and **Decomposition…**.



3. Click **Options…** .

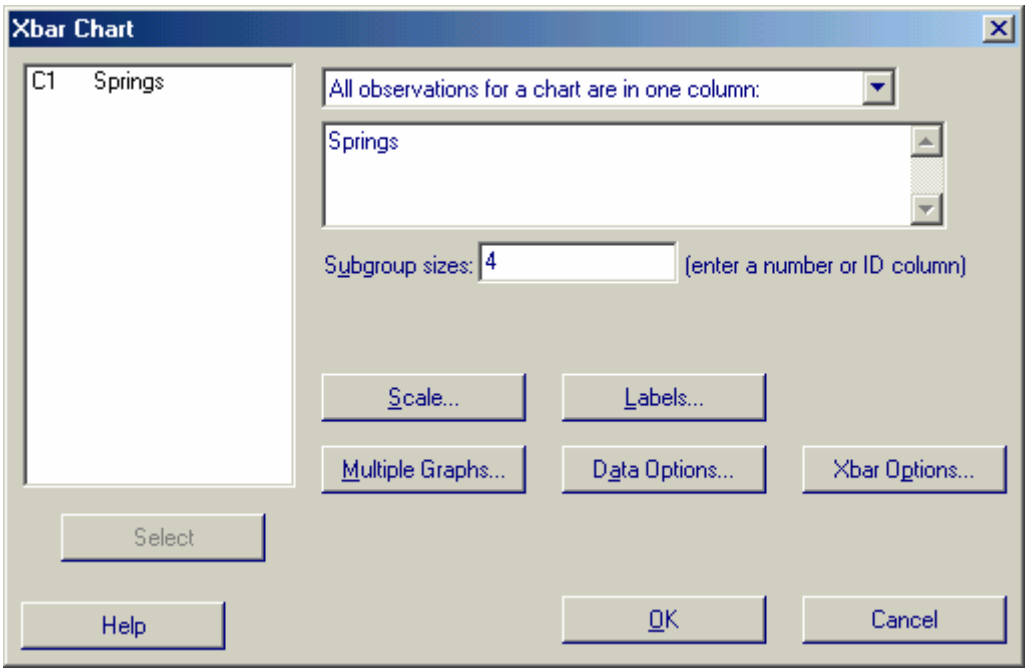


Chapter 21

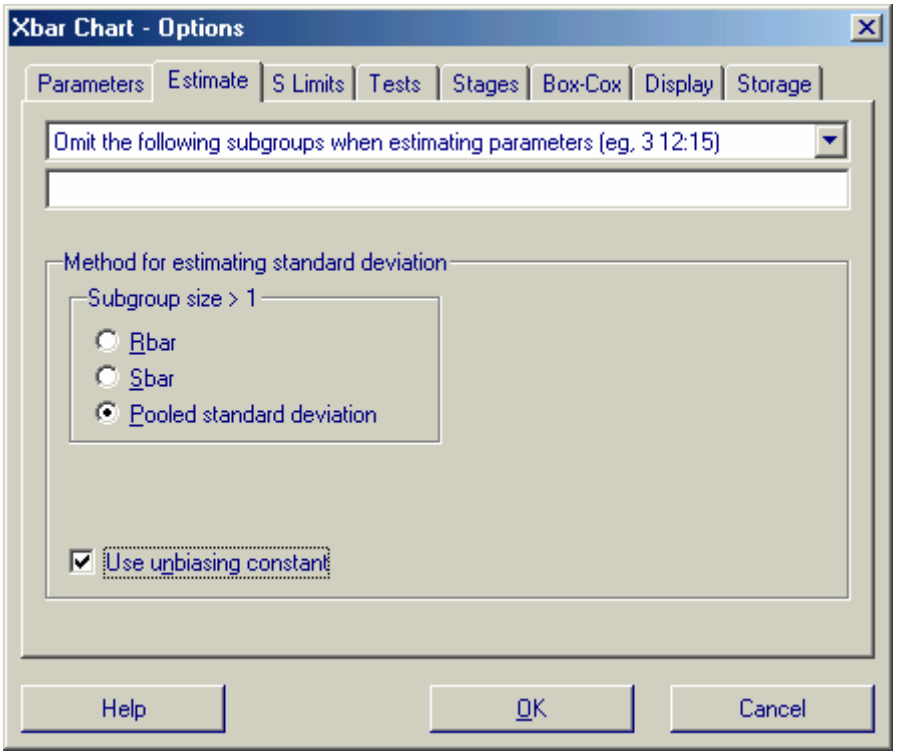
Example 21.1

1. Open Xm21-01.

2. Click **Stat, Control Charts, Variable charts for subgroups**, and **Xbar….**



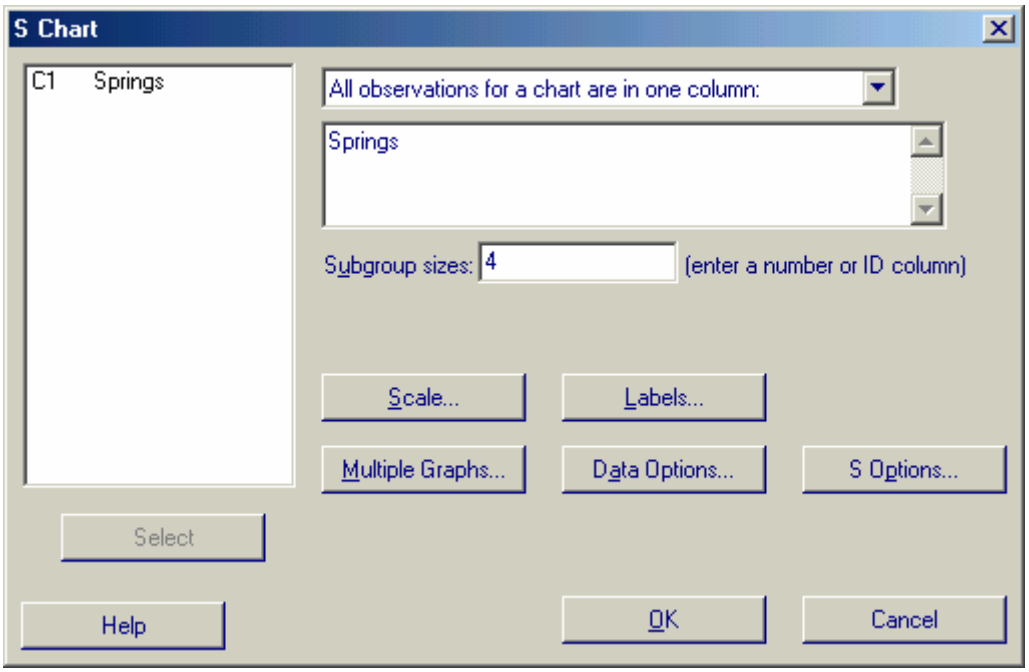
3. Click **Xbar Options….** and **Estimate**.



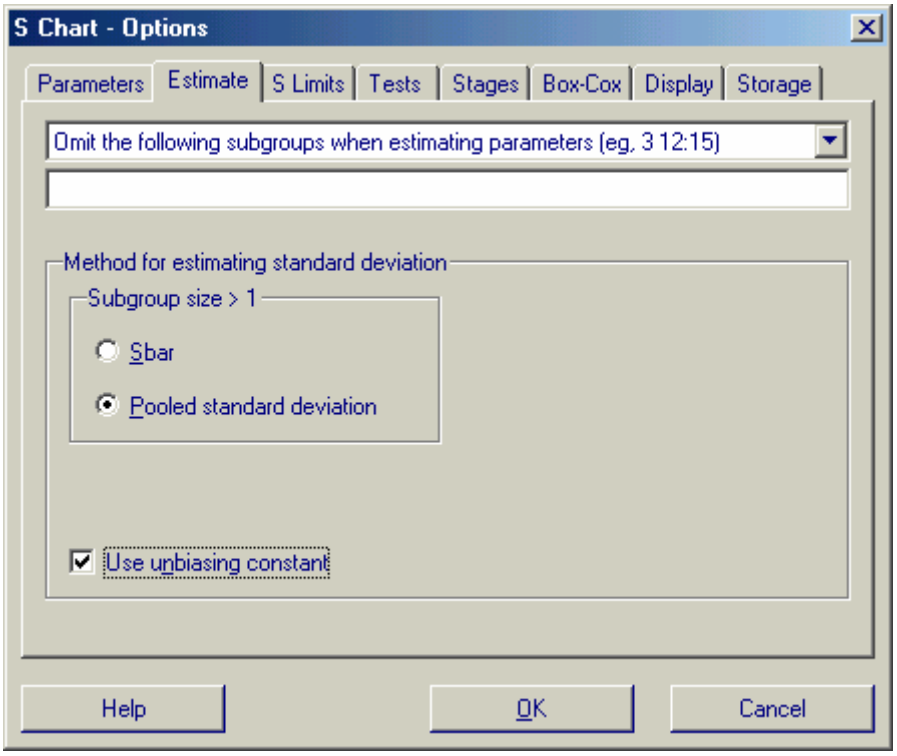
Example 21.2

1. Open Xm21-01.

2. Click **Stat, Control Charts, Variable charts for subgroups**, and **S….**



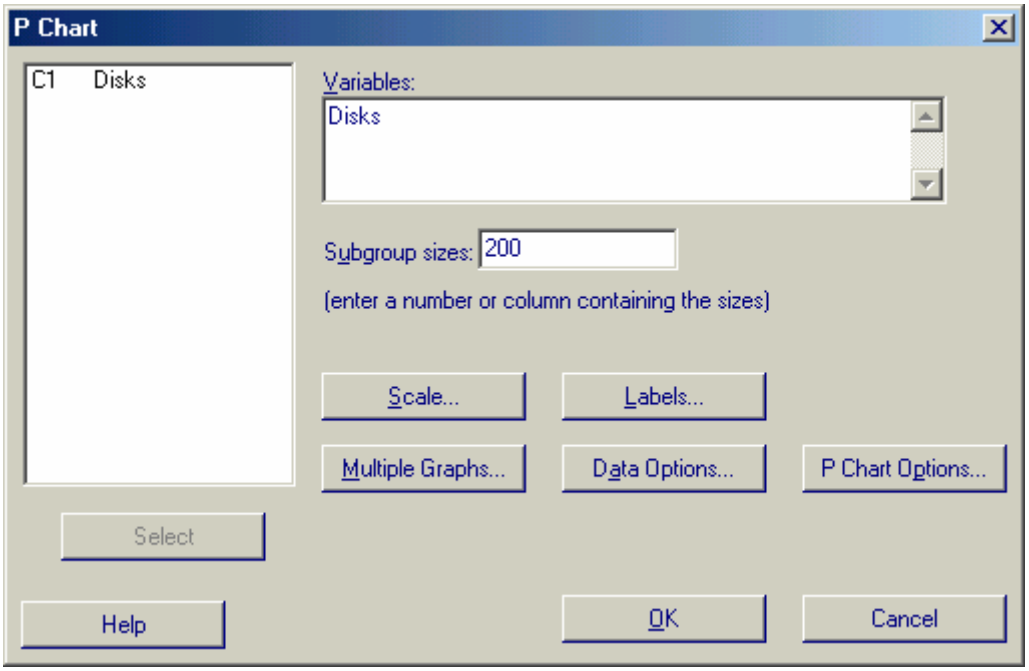
3. Click **S Options…** and **Estimate…** .



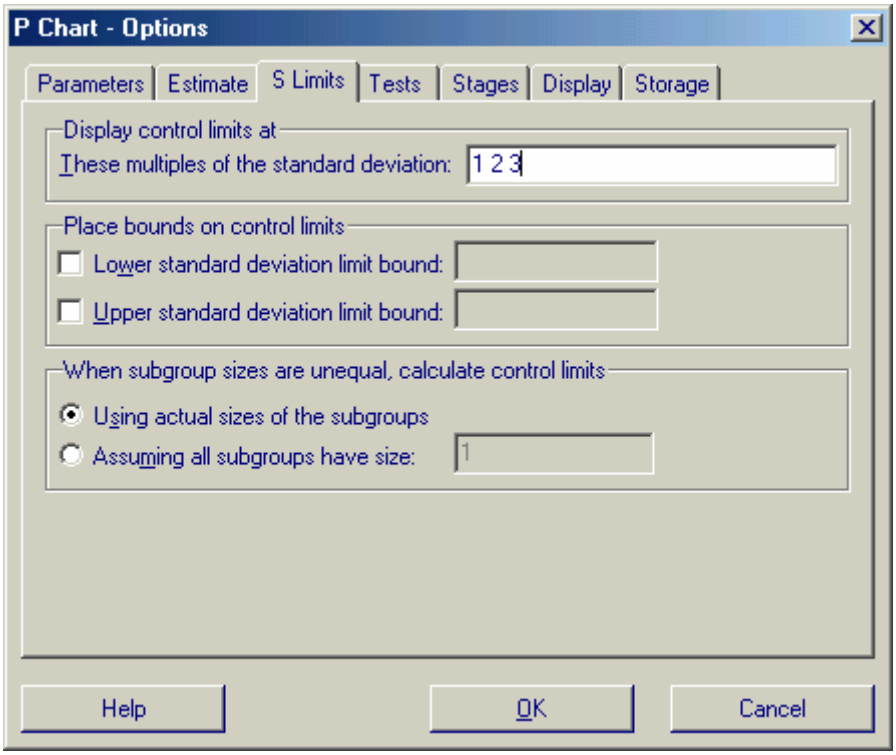
Detecting the Source of Defective Disks Example

1. Open Xm21-00.

2 Click **Stat, Control Charts, Attribute Charts**, and **P…**



3 Click **P Chart Options…** and **S Limits**.



4. Click **Tests**.