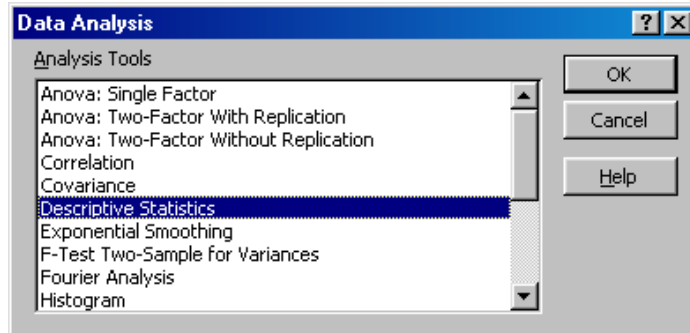


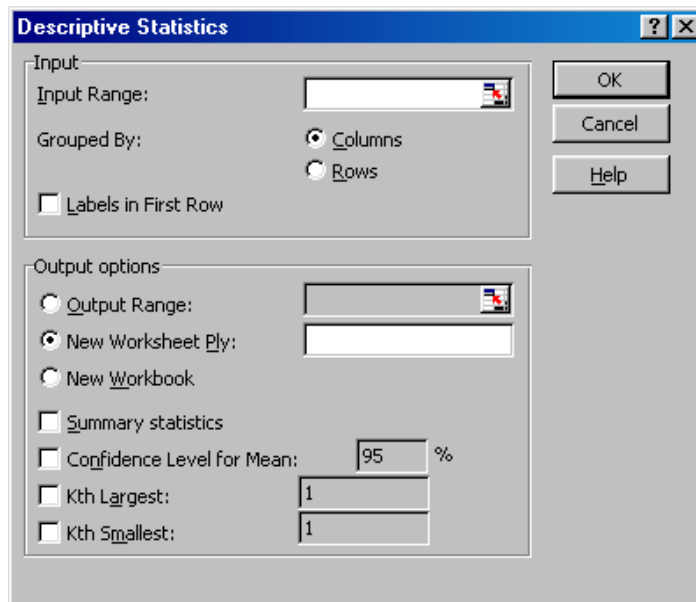
Getting Descriptive Statistics with EXCEL.

If one wishes to obtain descriptive statistics for the weight variable,

- 1) First **open** or create the data sheet and then click on the **T**ools on the menu bar and select **D**ata **A**nalysis. The following dialog box will appear on the screen.



- 2) Select **Descriptive Statistics** and click **OK**. The following dialog box will appear. Click on the right end of the Input Range Box that has a red arrow mark and select a range of data to be used for calculating descriptive statistics.



When one clicks on the right end of the Input Range Box that has a red arrow mark, the following dialog will be shown.



- 3) Go to the data sheet and select a range of data (by clicking and holding left button of the mouse and dragging it through the data you wish to select) to be processed and click on the right end lower corner of the dialog box that has a red arrow sign pointing down for entering the data. You should see things similar to the following pictures.

The screenshot shows a Microsoft Excel window with a data table and the Descriptive Statistics dialog box open. The data table has columns labeled NO, HEIGHT, WEIGHT, BIRTHDAY, COIN, SEX, and Bin. The Descriptive Statistics dialog box is set to analyze the range \$C\$2:\$C\$23, grouped by columns, with summary statistics checked.

	A	B	C	D	E	F	G	H	I	J
1	NO	HEIGHT	WEIGHT	BIRTHDAY	COIN	SEX	Bin			
2	1.00	6.00	135.00	4.00	1.00	.00	110			
3	2.00	63.00	119.00	9.00	1.00	.00	130			
4	3.00	72.00	175.00	11.00	.00	1.00	150			
5	4.00	60.00	106.00	9.00	1.00	.00	170			
6	5.00	65.00	135.00	8.00	.00	.00	190			
7	6.00	72.00	170.00	10.00	1.00	1.00	210			
8	7.00	64.00	180.00	8.00	1.00	.00	230			
9	8.00	71.00	205.00	10.00	1.00	1.00	250			
10	9.00	75.00	195.00	6.00	.00	1.00	270			
11	10.00	71.00	185.00	8.00	1.00	1.00	290			
12	11.00	71.00	182.00	6.00	.00	1.00				
13	12.00	65.00	108.00	8.00	.00	.00				
14	13.00	73.00	150.00	4.00	1.00	1.00				
15	14.00	67.00	128.00	6.00	.00	.00				
16	15.00	74.00	175.00	6.00	1.00	1.00				
17	16.00	66.00	160.00	9.00	1.00	.00				
18	17.00	65.00	143.00	9.00	.00	.00				
19	18.00	72.00	190.00	11.00	.00	1.00				
20	19.00	64.00	180.00	2.00	1.00	1.00				
21	20.00	61.00	195.00	5.00	.00	1.00				
22	21.00	72.00	220.00	7.00	1.00	1.00				
23	22.00	69.00	285.00	7.00	1.00	1.00				
24										
25										
26										
27										

The Descriptive Statistics dialog box is configured as follows:

- Input:**
 - Input Range:
 - Grouped By: Columns, Rows
 - Labels in First Row
- Output options:**
 - Output Range:
 - New Worksheet Ply:
 - New Workbook
 - Summary statistics
 - Confidence Level for Mean: %
 - Kth Largest:
 - Kth Smallest:

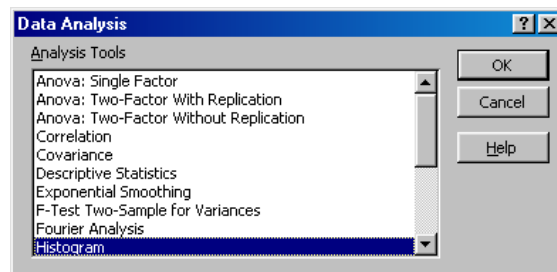
- 4) Check **C**olumns if the data is from a column and check the **S**ummary statistics or other statistics that you wish to obtain and click **O**K. The summary statistics will be shown on a different worksheet. Click on that worksheet to see the statistics.

Use EXCEL to make a histogram.

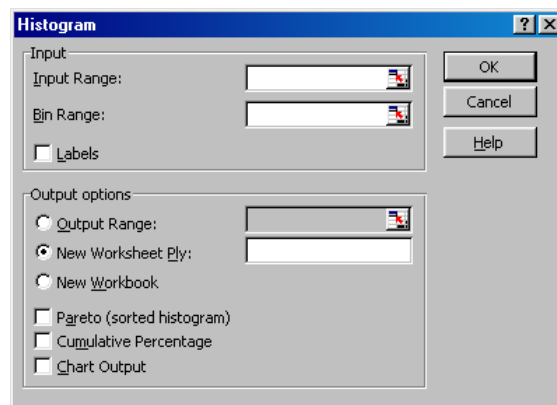
- 1) From the descriptive statistics of the data we can define and enter the Bin values that are the upper boundaries of classes for the histogram. The data sheet should look like the following image. Bin values is in the right most column.

	A	B	C	D	E	F	G
1	NO	HEIGHT	WEIGHT	BIRTHDAY	COIN	SEX	Bin
2	1.00	6.00	135.00	4.00	1.00	.00	110
3	2.00	63.00	119.00	9.00	1.00	.00	130
4	3.00	72.00	175.00	11.00	.00	1.00	150
5	4.00	60.00	106.00	9.00	1.00	.00	170
6	5.00	65.00	135.00	8.00	.00	.00	190
7	6.00	72.00	170.00	10.00	1.00	1.00	210
8	7.00	64.00	180.00	8.00	1.00	.00	230
9	8.00	71.00	205.00	10.00	1.00	1.00	250
10	9.00	75.00	195.00	6.00	.00	1.00	270
11	10.00	71.00	185.00	8.00	1.00	1.00	290
12	11.00	71.00	182.00	6.00	.00	1.00	
13	12.00	65.00	108.00	8.00	.00	.00	
14	13.00	73.00	150.00	4.00	1.00	1.00	
15	14.00	67.00	128.00	6.00	.00	.00	
16	15.00	74.00	175.00	6.00	1.00	1.00	
17	16.00	66.00	160.00	9.00	1.00	.00	
18	17.00	65.00	143.00	9.00	.00	.00	
19	18.00	72.00	190.00	11.00	.00	1.00	
20	19.00	64.00	180.00	2.00	1.00	1.00	
21	20.00	61.00	195.00	5.00	.00	1.00	
22	21.00	72.00	220.00	7.00	1.00	1.00	
23	22.00	69.00	285.00	7.00	1.00	1.00	

- 2) In EXCEL click **T**ools in the menu bar and select **D**ata **A**nalysis. You'll see the following dialog box. Select the **H**istogram and click **O**K.



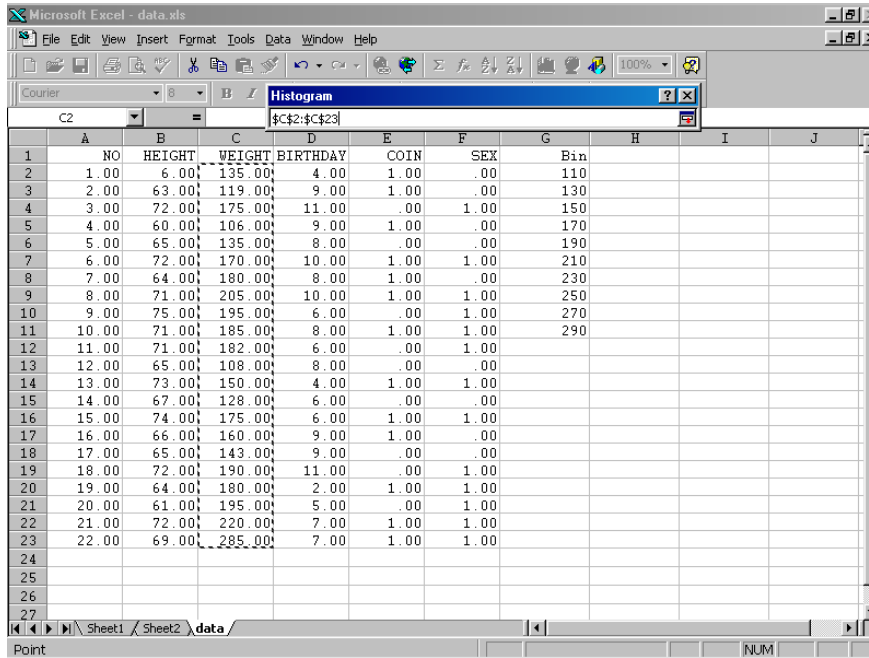
You should then see the following dialog box.



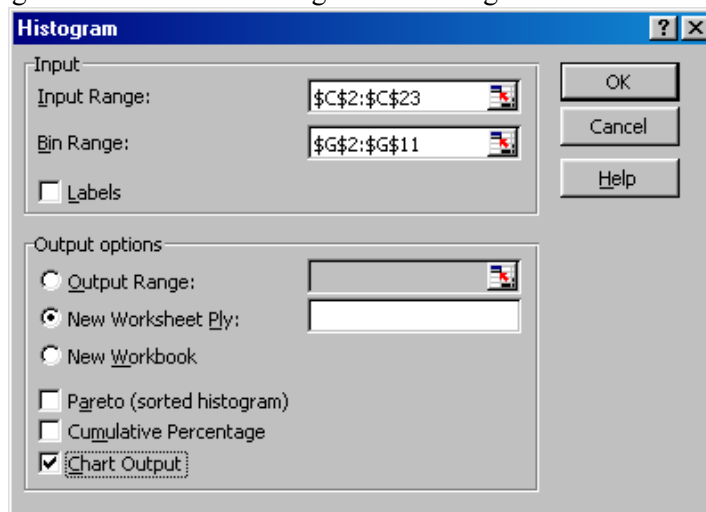
- Click the square box (has blue, red and white colors in it) on the right of the Input Range box. You should see the following box. Select the range of data to be processed and click on the square gray box on the lower right corner of the box that has a red arrow pointing down.



You should be able to see similar thing in the following picture on your screen while selecting a range of data.



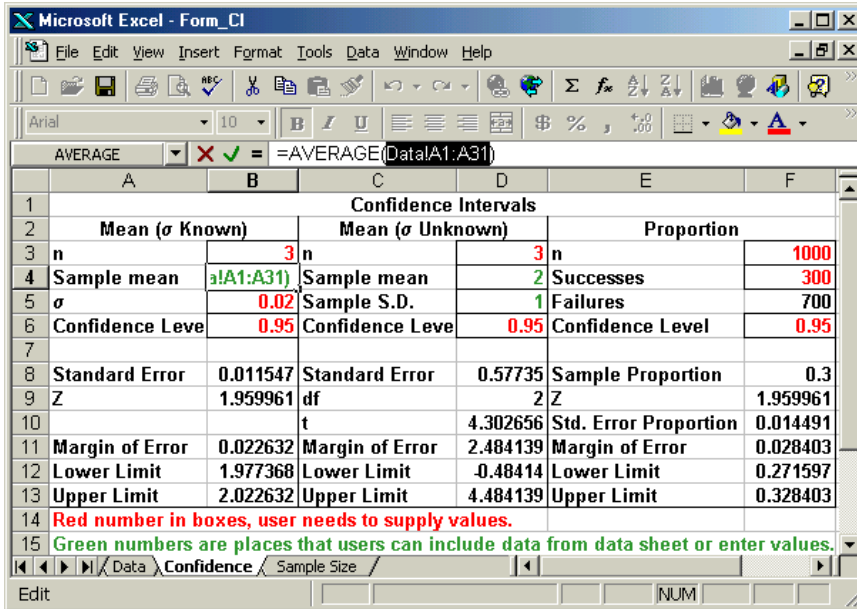
- After the range of data is selected, you should see the following dialog box. Select a range of Bin values using the similar way as selecting the data range. You should then see the following information in the dialog box for histogram.



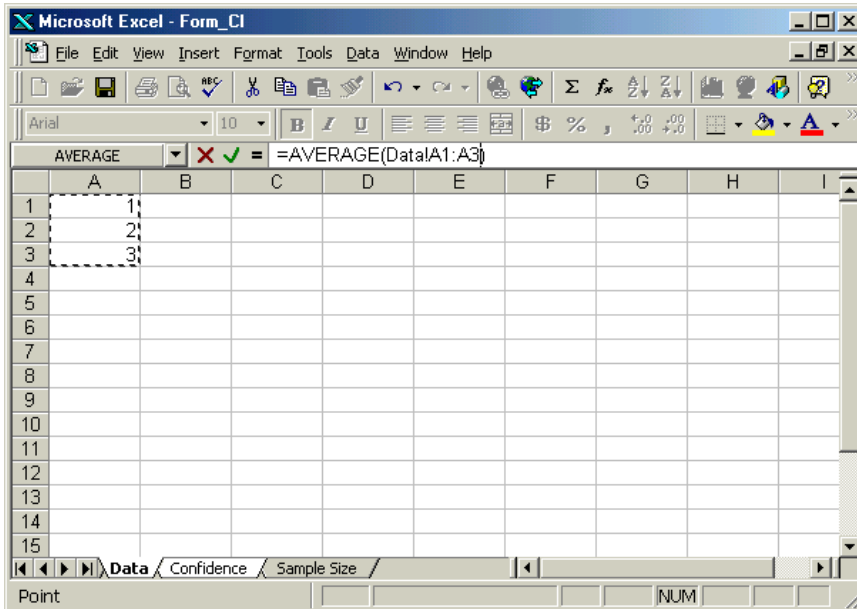
- Check the Chart Output box and click OK the histogram will be shown in another worksheet.

Use EXCEL to calculate the confidence interval estimate for mean with a known σ .

- 1) Open the **Form_OneSample.XLS** file. (An EXCEL worksheet that contains formula. Down load the file from our class web page on WebCT.)
- 2) Prepare you data column in **Data** worksheet.
- 3) Click **B4** cell and highlight the block of text in the =AVERAGE() function or simply just enter the sample mean.



- 4) Click the Data sheet and select the range of data to be used and hit **Enter** key.



- 5) Enter the sample size, confidence level and σ in column B, and the confidence limits and margin of error will be calculated.

Use EXCEL to calculate the confidence interval estimate for mean with unknown σ .

- 1) Open the **Form_OneSample.XLS** file. (An EXCEL worksheet that contains formula.)
- 2) Prepare you data column in **Data** worksheet.
- 3) Click **D4** cell and highlight the block of text in the =AVERAGE() function, or simply enter the sample mean.

The screenshot shows the Microsoft Excel interface with the 'Form_CI' worksheet. The formula bar displays '=AVERAGE(Data!A1:A3)'. The worksheet contains the following data:

Confidence Intervals					
Mean (σ Known)		Mean (σ Unknown)		Proportion	
n	3	n	3	n	1000
Sample mean	2	Sample mean	=AVERAGE(Data!A1:A3)	Successes	300
σ	0.02	Sample S.D.	1	Failures	700
Confidence Level	0.95	Confidence Level	0.95	Confidence Level	0.95
Standard Error	0.011547	Standard Error	0.57735	Sample Proportion	0.3
Z	1.959961	df	2	Z	1.959961
		t	4.302656	Std. Error Proportion	0.014491
Margin of Error	0.022632	Margin of Error	2.484139	Margin of Error	0.028403
Lower Limit	1.977368	Lower Limit	-0.48414	Lower Limit	0.271597
Upper Limit	2.022632	Upper Limit	4.484139	Upper Limit	0.328403

Red number in boxes, user needs to supply values.
Green numbers are places that users can include data from data sheet or enter values.

- 4) Click the Data sheet and select the range of data to be used and hit **Enter** key.

The screenshot shows the 'Data' worksheet in Microsoft Excel. The range A1:A3 is selected, indicated by a dashed border around the cells containing the values 1, 2, and 3.

A	B	C	D	E	F	G	H	I
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

- 5) Click **D5** and select a range of data in the Data sheet or enter the sample standard deviation.
- 6) Enter the sample size in **D3**, confidence level in **D6**, and the confidence limits and margin of error will be calculated.

Use EXCEL to calculate the confidence interval estimate for proportion.

Method I

- 1) Open the **Form_CI.XLS** file.
- 2) Enter sample size in **F3**, and the total count of individual in the category of interest in **F4**, and the confidence level in **F6**. The confidence interval will be calculated.

Method II (Data need to be 0's and 1's)

- 1) Open the **Form_CI.XLS** file.
- 2) Enter the sample size in **F3** and find the sum of data in the Data sheet use a SUM function for **F4**.
- 3) Enter the confidence level in **F6**, and the confidence limits and margin of error will be calculated.

Confidence Intervals					
Mean (σ Known)		Mean (σ Unknown)		Proportion	
n	3	n	3	n	1000
Sample mean	2	Sample mean	2	Successes	300
σ	0.02	Sample S.D.	1	Failures	700
Confidence Level	0.95	Confidence Level	0.95	Confidence Level	0.95
Standard Error	0.011547	Standard Error	0.57735	Sample Proportion	0.3
Z	1.959961	df	2	Z	1.959961
		t	4.302656	Std. Error Proportion	0.014491
Margin of Error	0.022632	Margin of Error	2.484139	Margin of Error	0.028403
Lower Limit	1.977368	Lower Limit	-0.48414	Lower Limit	0.271597
Upper Limit	2.022632	Upper Limit	4.484139	Upper Limit	0.328403
Red number in boxes, user needs to supply values.					
Green numbers are places that users can include data from data sheet or enter values.					