

Elementary Statistics

Computer Assignment 2

Name:.....

Sampling distribution

We rolled 4 six-sided balanced dice 50 times in class (MWF 1.00 p.m.). The data collected is given below.

x_1	x_2	x_3	x_4	\bar{x}
4	4	4	3	
2	3	4	5	
1	2	3	4	
2	3	6	6	
1	2	5	6	
1	4	5	6	
1	1	2	4	
1	1	1	4	
3	3	5	6	
1	2	1	5	
1	3	4	4	
1	4	6	6	
2	2	5	6	
1	2	3	5	
1	5	5	4	
1	2	3	6	
3	3	5	5	
2	4	4	4	
1	2	5	6	
4	5	6	6	
1	3	4	5	
2	3	4	6	
3	4	6	6	
2	2	3	5	
2	3	4	5	
2	2	3	5	
4	4	5	6	
4	4	4	6	
1	3	4	6	
2	2	6	6	
1	2	3	3	
2	2	3	3	
2	2	5	6	

5	5	6	6	
2	4	4	6	
2	2	3	3	
1	4	4	4	
3	4	4	6	
1	3	4	5	
3	3	4	5	
1	2	1	5	
3	4	5	5	
2	2	6	6	
1	2	3	4	
1	4	4	5	
1	4	5	5	
3	3	4	4	
2	4	4	5	
1	1	4	5	
1	2	4	6	

- 1 Find the sample average for each row.

Example: First row. $\frac{4+4+4+3}{4} = 3.75$

- 2 Find the summary statistics of \bar{x} .

- 3 Construct a histogram for \bar{x} using bins 0.499, 0.999, 1.499, ..., 5.999.

I also did roll 9 six-sided balanced dice. Data is given below. Repeat what you did for the previous data set.

x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8	x_9	\bar{x}
6	4	2	5	1	6	1	1	1	
3	5	3	1	6	5	3	5	1	
6	3	6	1	6	2	4	5	2	
4	5	2	1	2	3	6	3	2	
2	4	3	5	5	6	2	1	5	
1	5	3	1	1	6	2	4	3	
6	4	3	2	4	6	1	5	6	
4	3	1	1	6	2	3	6	1	

Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer

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B I U

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Wrap Text Merge & Center

Alignment

General

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Number

Conditional Formatting Format as Table Cell Styles

Styles

E4

Excel2.xls [Compatibility Mode]

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Excel Assignment 2 data												
2													
3	4	4	4	3	3.75								
4	2	3	4	5									
5	1	2	3	4									
6	2	3	6	6									
7	1	2	5	6									
8	1	4	5	6									
9	1	1	2	4									
10	1	1	1	4									
11	3	3	5	6									
12	1	2	1	5									
13	1	3	4	4									
14	1	4	6	6									
15	2	2	5	6									
16	1	2	3	5									
17	1	5	5	4									
18	1	2	3	6									
19	3	3	5	5									
20	2	4	4	4									
21	1	2	5	6									
22	4	5	6	6									
23	1	3	4	5									
24	2	3	4	6									

Ready

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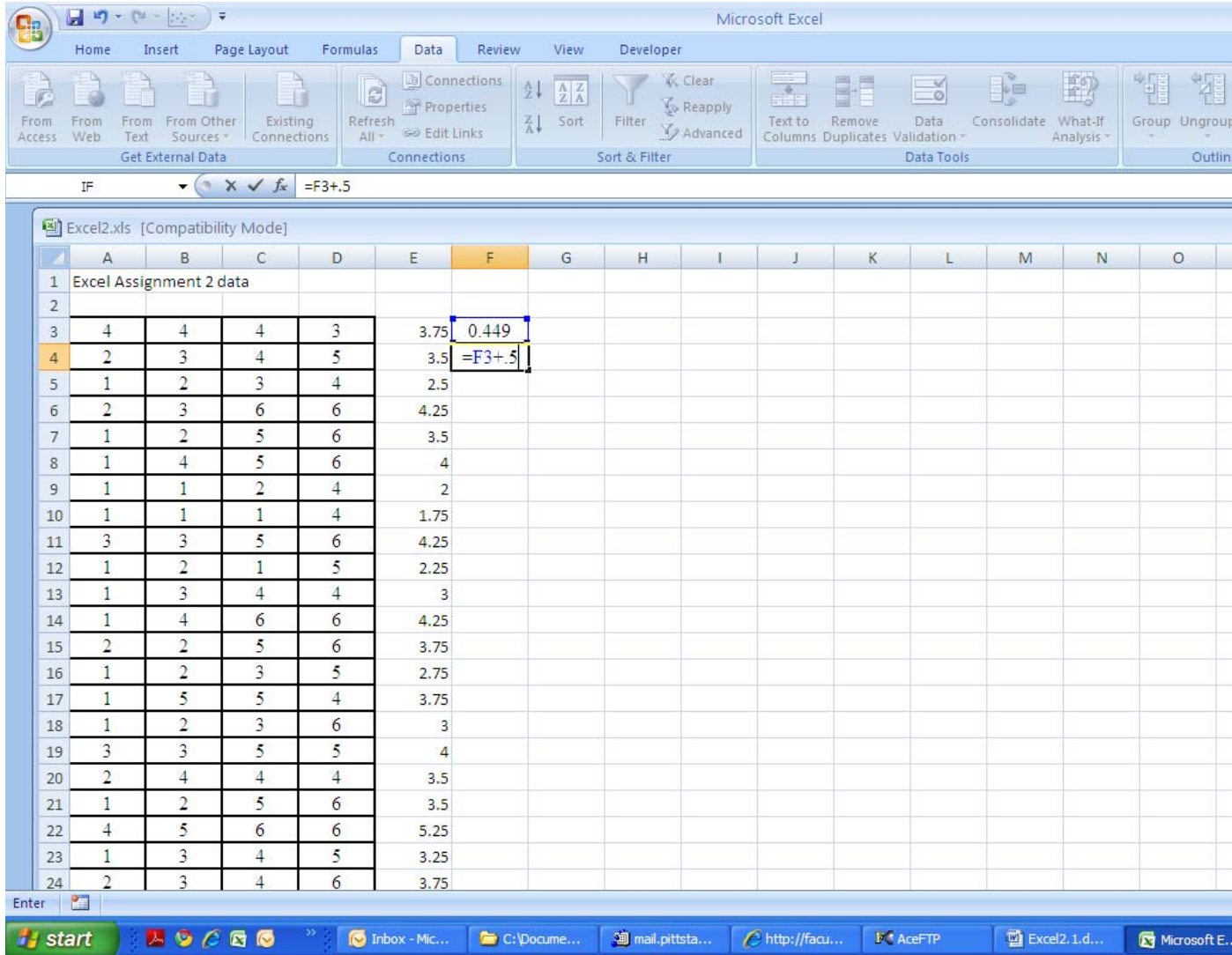
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Click back on E3 and fill in the column E3 to E52

The screenshot shows the Microsoft Excel interface. The ribbon is set to 'Home'. The formula bar displays the formula `=AVERAGE(A3:D3)` for cell E3. The spreadsheet contains data in columns A through D, with the average values calculated in column E. The status bar at the bottom indicates 'Average: 3.5 Count: 50'.

	A	B	C	D	E
1	Excel Assignment 2 data				
2					
3	4	4	4	3	3.75
4	2	3	4	5	3.5
5	1	2	3	4	2.5
6	2	3	6	6	4.25
7	1	2	5	6	3.5
8	1	4	5	6	4
9	1	1	2	4	2
10	1	1	1	4	1.75
11	3	3	5	6	4.25
12	1	2	1	5	2.25
13	1	3	4	4	3
14	1	4	6	6	4.25
15	2	2	5	6	3.75
16	1	2	3	5	2.75
17	1	5	5	4	3.75
18	1	2	3	6	3
19	3	3	5	5	4
20	2	4	4	4	3.5
21	1	2	5	6	3.5
22	4	5	6	6	5.25
23	1	3	4	5	3.25
24	2	3	4	6	3.75

Type 0.499 in cell F3 and then in cell F4, type =F3+0.5 and hit enter



Fill in from F3 to F14

Microsoft Excel

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From Access From Web From Text From Other Sources Existing Connections Refresh All Connections Sort Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate

Get External Data Connections Sort & Filter Data Tools

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Excel2.xls [Compatibility Mode]

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Excel Assignment 2 data												
2													
3	4	4	4	3	3.75	0.449							
4	2	3	4	5	3.5	0.949							
5	1	2	3	4	2.5	1.449							
6	2	3	6	6	4.25	1.949							
7	1	2	5	6	3.5	2.449							
8	1	4	5	6	4	2.949							
9	1	1	2	4	2	3.449							
10	1	1	1	4	1.75	3.949							
11	3	3	5	6	4.25	4.449							
12	1	2	1	5	2.25	4.949							
13	1	3	4	4	3	5.449							
14	1	4	6	6	4.25	5.949							
15	2	2	5	6	3.75								
16	1	2	3	5	2.75								
17	1	5	5	4	3.75								
18	1	2	3	6	3								
19	3	3	5	5	4								
20	2	4	4	4	3.5								
21	1	2	5	6	3.5								
22	4	5	6	6	5.25								
23	1	3	4	5	3.25								
24	2	3	4	6	3.75								

Ready

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Now click on data tab and Data Analysis and select Histogram

The screenshot shows Microsoft Excel with the 'Data' tab selected in the ribbon. The 'Data Analysis' task pane is open, and 'Histogram' is selected in the list of analysis tools. The background spreadsheet contains data for 'Excel Assignment 2' with columns A through L and rows 1 through 24. The data in columns A through E is as follows:

	A	B	C	D	E	F	G
1	Excel Assignment 2						
2							
3	4	4					
4	2	3					
5	1	2					
6	2	3	0	0	4.25	1.949	
7	1	2	5	6	3.5	2.449	
8	1	4	5	6	4	2.949	
9	1	1	2	4	2	3.449	
10	1	1	1	4	1.75	3.949	
11	3	3	5	6	4.25	4.449	
12	1	2	1	5	2.25	4.949	
13	1	3	4	4	3	5.449	
14	1	4	6	6	4.25	5.949	
15	2	2	5	6	3.75		
16	1	2	3	5	2.75		
17	1	5	5	4	3.75		
18	1	2	3	6	3		
19	3	3	5	5	4		
20	2	4	4	4	3.5		
21	1	2	5	6	3.5		
22	4	5	6	6	5.25		
23	1	3	4	5	3.25		
24	2	3	4	6	3.75		

The 'Data Analysis' dialog box is open, showing the following list of tools:

- Anova: Two-Factor Without Replication
- Correlation
- Covariance
- Descriptive Statistics
- Exponential Smoothing
- F-Test Two-Sample for Variances
- Fourier Analysis
- Histogram**
- Moving Average
- Random Number Generation

The 'Histogram' option is highlighted in blue. The dialog box has 'OK', 'Cancel', and 'Help' buttons on the right side.

Click OK.

Give the Input Range $\$E\$3:\$E\52 (These are the means of samples)

Give the Bin Range $\$F\$3:\$F\14 (These are the class marks of the histogram)

Check on Chart Output

Click OK.

Microsoft Excel

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From Access From Web From Text From Other Sources Existing Connections Refresh All Connections

Sort Filter Clear Reapply Advanced

Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Outline

H14 fx

Excel2.xls [Compatibility Mode]

	A	B	C	D	E	F	
1	Excel Assignment 2 data						
2							
3	4	4	4	3	3.75	0.499	
4	2	3	4	5	3.5	0.999	
5	1	2	3	4	2.5	1.499	
6	2	3	6	6	4.25	1.999	
7	1	2	5	6	3.5	2.499	
8	1	4	5	6	4	2.999	
9	1	1	2	4	2	3.499	
10	1	1	1	4	1.75	3.999	
11	3	3	5	6	4.25	4.499	
12	1	2	1	5	2.25	4.999	
13	1	3	4	4	3	5.499	
14	1	4	6	6	4.25	5.999	
15	2	2	5	6	3.75		
16	1	2	3	5	2.75		
17	1	5	5	4	3.75		
18	1	2	3	6	3		
19	3	3	5	5	4		
20	2	4	4	4	3.5		
21	1	2	5	6	3.5		
22	4	5	6	6	5.25		
23	1	3	4	5	3.25		

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Your final output will look like the screen copy below.

Microsoft Excel

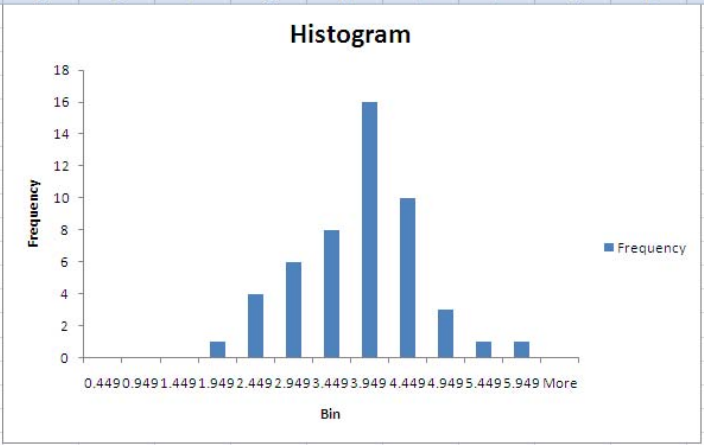
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From Access From Web From Text From Other Sources Existing Connections Refresh All Properties Edit Links Connections Sort & Filter Filter Sort Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Outline Analy

P15

Excel2.xls [Compatibility Mode]

	A	B	C
1	Bin	Frequency	
2	0.449	0	
3	0.949	0	
4	1.449	0	
5	1.949	1	
6	2.449	4	
7	2.949	6	
8	3.449	8	
9	3.949	16	
10	4.449	10	
11	4.949	3	
12	5.449	1	
13	5.949	1	
14	More	0	
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			



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