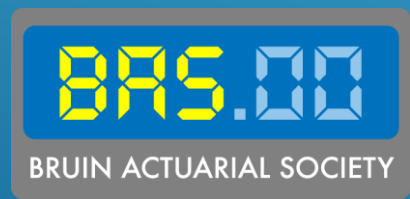
EXCEL REVIEW

Bruin Actuarial Society



Keyboard Shortcuts

	Windows/PC	Mac
Jump to end of data table	Ctrl + (Up/Down/Left/Right)	Ctrl + (Up/Down/Left/Right)
Jump to end of data table + highlight entire region	Ctrl + Shift + (Up/Down/Left/Right)	Ctrl + Shift + (Up/Down/Left/Right)
Cycle through absolute cell references	Fn + F4	Cmd + T

VLOOKUP

VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

Value you're looking for (must be in the **FIRST** column of table array)

Table with relevant data

Number of the column with the value you want returned

True (default): Approximate match (data must be sorted in ascending order)
False: Exact match

BAS.00
BRUIN ACTUARIAL SOCIETY

VLOOKUP (lookup_value, table_array, col_index_num, [range_lookup])

- Use quotation marks when looking for a specific value

	A	B	C	D	E
1	*Name*	*Student ID*		**Formula**	**Output**
2	Joe Bruin	272577814		=VLOOKUP("Joe Bruin",$A$2:$B$4,2,FALSE)	272577814
3	John Doe	644907243		=VLOOKUP("Jane Doe",$A$2:$B$4,2,FALSE)	534763964
4	Jane Doe	534763964		=VLOOKUP("Johnny",$A$2:$B$4,2,FALSE)	#N/A

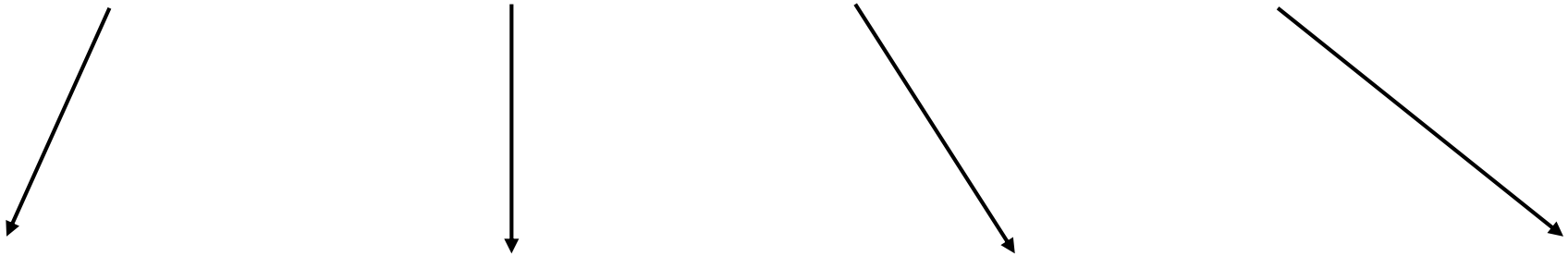
VLOOKUP (lookup_value, table_array, col_index_num, [range_lookup])

- Approximate match will return the largest value that does not exceed the lookup value

	A	B	C	D	E	F
1	Percent	Grade			Formula	Output
2	0	F		52	=VLOOKUP(D2,$A$2:$B$6,2,TRUE)	F
3	60	D		85	=VLOOKUP(D3,$A$2:$B$6,2,TRUE)	B
4	70	C		92	=VLOOKUP(D4,$A$2:$B$6,2,TRUE)	A
5	80	B		63	=VLOOKUP(D5,$A$2:$B$6,2,TRUE)	D
6	90	A		75	=VLOOKUP(D6,$A$2:$B$6,2,TRUE)	C
7				70	=VLOOKUP(D7,$A$2:$B$6,2,TRUE)	C

SUMIFS

SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], …)



Range of values to be summed

First range of criteria you're looking at

First criteria you're looking for

Can look at one or multiple criteria

SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], …)

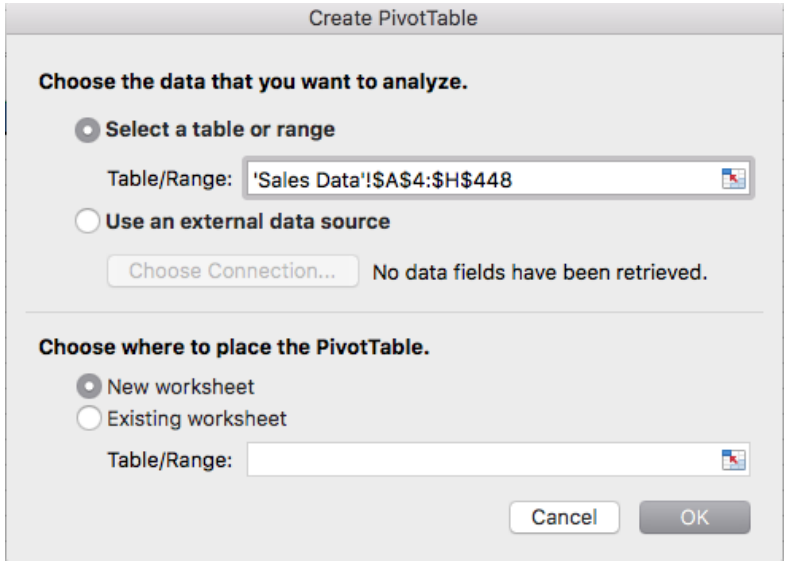
	A	B	C	D	E	F
1	Gender	Age	Number of Claims		Formula	Output
2	M	24	0		=SUMIFS(C2:C14,A2:A14,"F",B2:B14,">30")	1
3	M	37	1		=SUMIFS(C2:C14,A2:A14,"F")	3
4	M	38	0		=SUMIFS(C2:C14,C2:C14,"1")	5
5	M	31	2			
6	M	28	2			
7	F	36	0			
8	F	25	1			
9	M	60	0			
10	F	27	1			
11	F	61	0			
12	F	35	1			
13	M	32	1			
14	M	54	2			

COUNTIFS and AVERAGEIFS

- COUNTIFS and AVERAGEIFS are useful formulas that use similar syntax as SUMIFS
- As their names imply, COUNTIFS can be used to determine the count over a specified range when certain criteria are met while AVERAGEIFS can be used to determine the average

PivotTables

- Select a table or range of data and place it on a new worksheet or the existing one



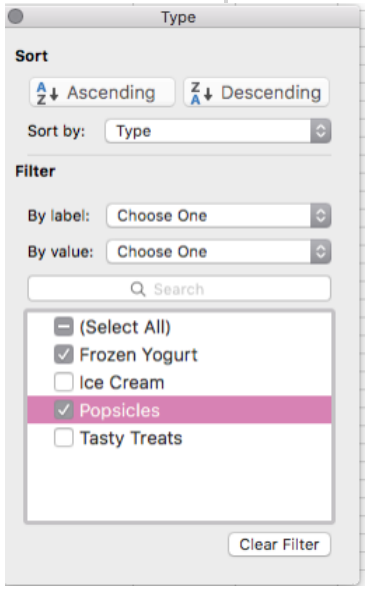
Sum of Sales	Column Labels							
Row Labels	January	February	March	April	May	November	December	Grand Total
Frozen Yogurt	228816	164259	96570	24552	4482	51246	105984	675909
Ice Cream	156849	190458	69768	378864	286704	201333	156825	1440801
Popsicles	21321	44883	86679	42606	132183	18504	68211	414387
Tasty Treats	105516	133470	198126	248490	41283	115506	42570	884961
Grand Total	512502	533070	451143	694512	464652	386589	373590	3416058

BAS.00
BRUIN ACTUARIAL SOCIETY

PivotTables: Filter

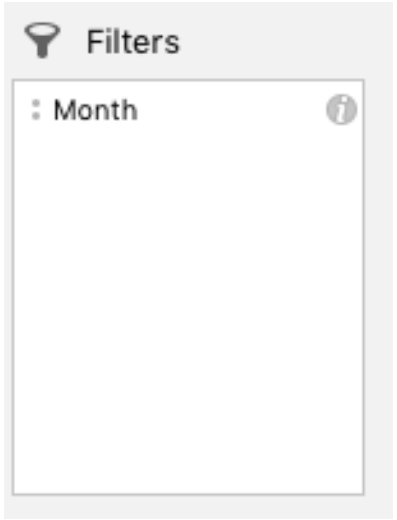
- Dropdown arrows beside row/column labels

Sum of Sales	Column Labels		
Row Labels	Bishop	Parker	Grand Total
Frozen Yogurt	$ 111,132.00	$ 168,435.00	$ 279,567.00
Popsicles	$ 82,413.00	$ 58,257.00	$ 140,670.00
Grand Total	$ 193,545.00	$ 226,692.00	$ 420,237.00



- Drag a field down in the filters section.

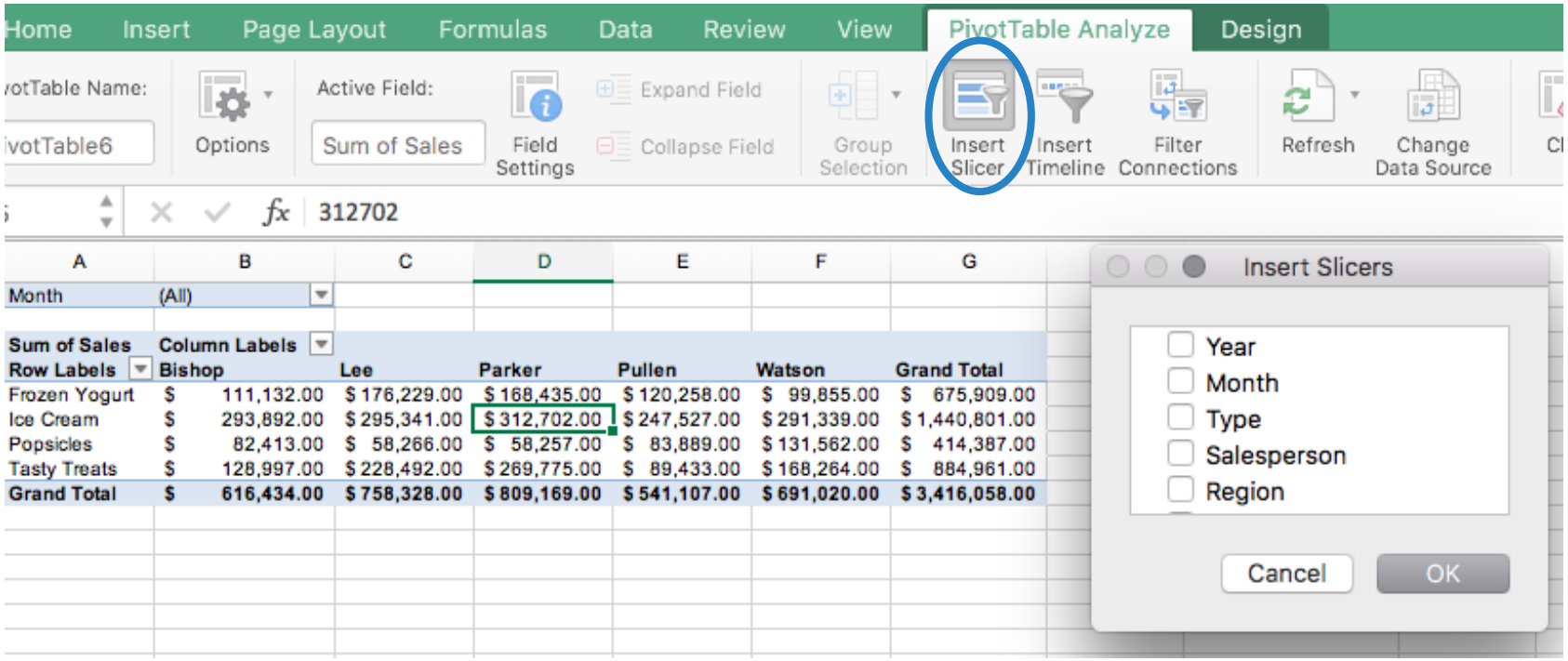
Month	April		
Sum of Sales	Column Labels		
Row Labels	Bishop	Parker	Grand Total
Popsicles	$ 14,202.00	$ 14,202.00	$ 28,404.00
Grand Total	$ 14,202.00	$ 14,202.00	$ 28,404.00

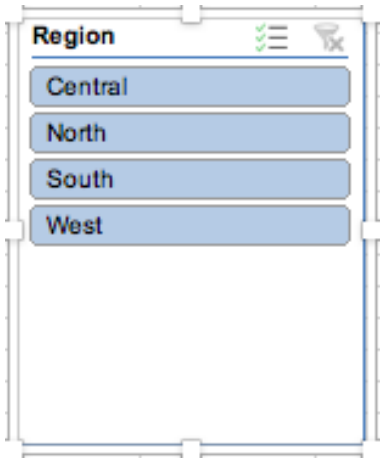


BAS.00
BRUIN ACTUARIAL SOCIETY

PivotTables: Slicer

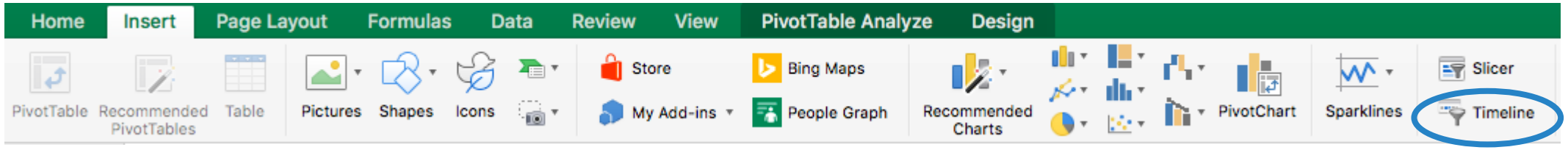
- More robust and accessible way to filter the results of a PivotTable
  - PivotTable Analyze > Insert Slicer





BAS.00
BRUIN ACTUARIAL SOCIETY

PivotTables: Timeline



- Quicker way to shift your PivotTable according to dates and time and to zoom in and out of specific time periods

BAS.00
BRUIN ACTUARIAL SOCIETY

Goal Seek

- Solves for a desired output by changing an assumption that drives it
- Answers “what if” type questions by adjusting one cell entry to see the result

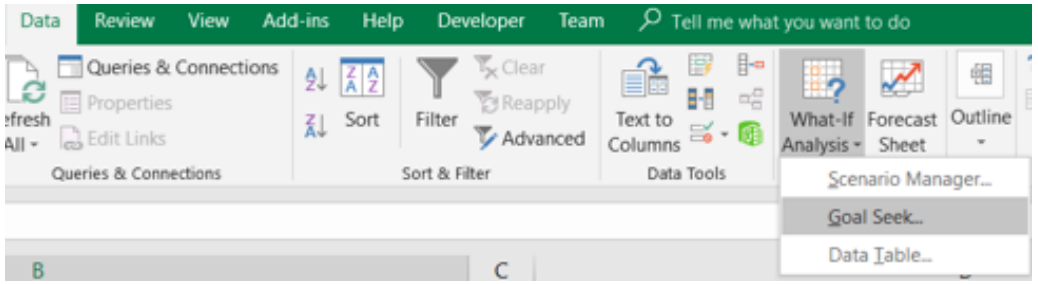
For example, you want to know how many “NO” voters needed to be converted to win the election ? (needs approval from ⅔ (66.67%) of the voters)

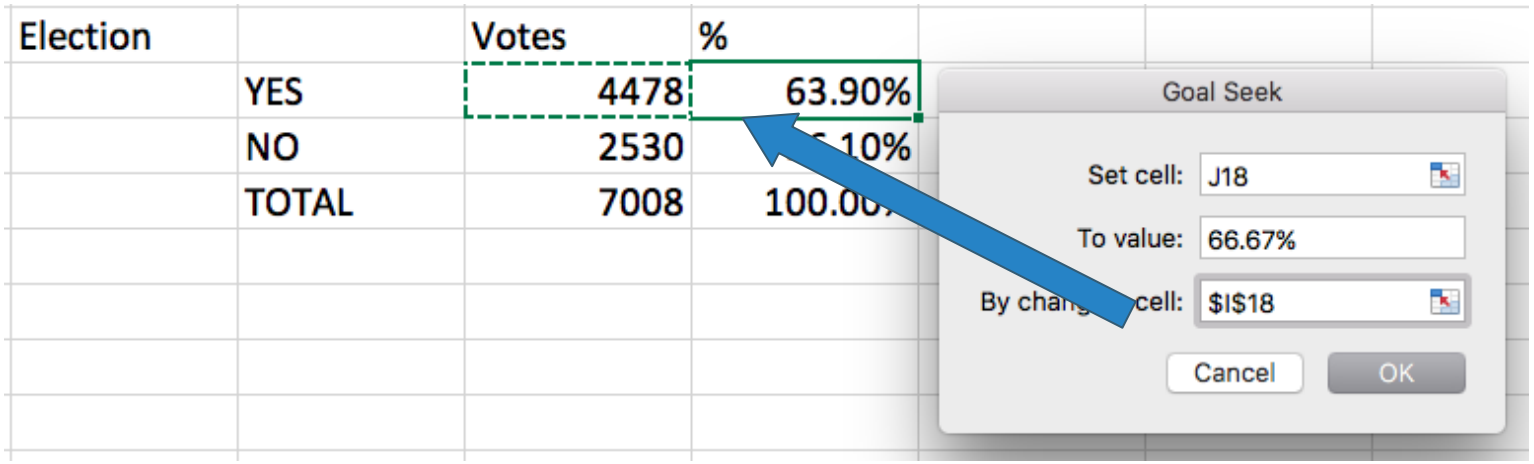
Election		Votes	%
	YES	4478	63.90%
	NO	2530	36.10%
	TOTAL	7008	100.00%

→ Using Goal Seek we can change the percentage to 66.67% to see how YES votes change.

Goal Seek

- Data > What-If Analysis > Goal Seek.



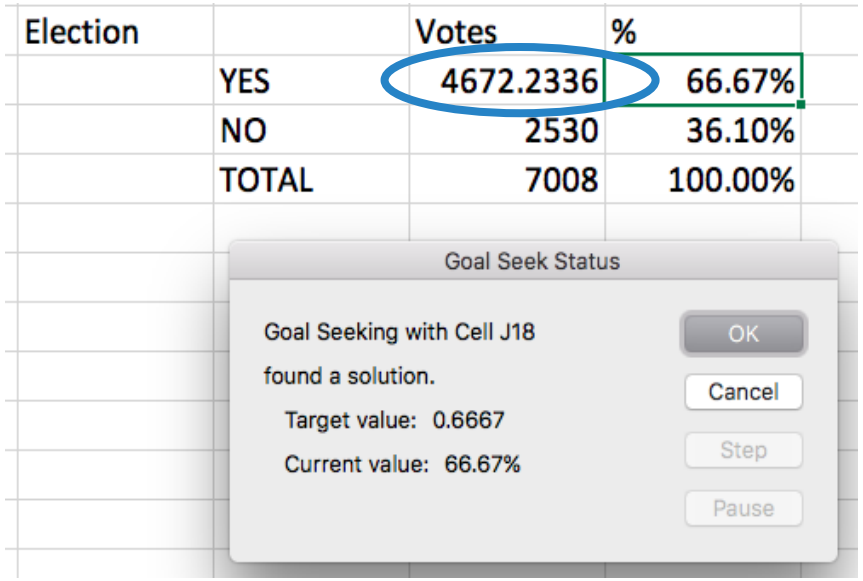


- Set Cell : click the cell you want to change. ex: 63.90% (J18).
- To value: enter the new “what if” amount. ex: 66.67%.
- By changing cell : tell Excel which cell to change. ex: 4478 ($I$18).

BAS.00
BRUIN ACTUARIAL SOCIETY

Goal Seek

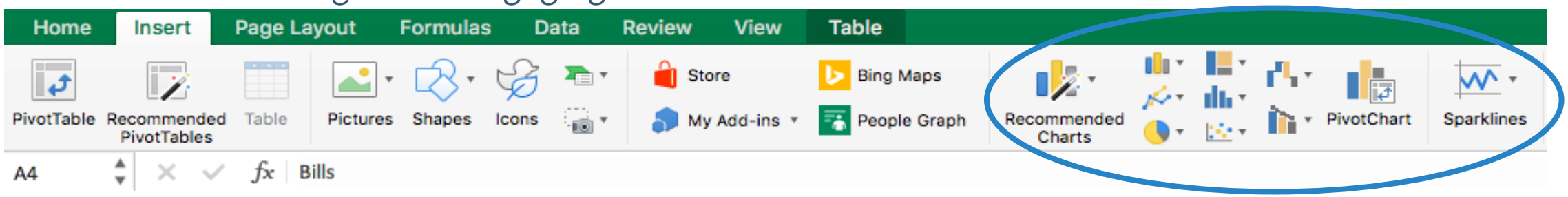
- Click “OK”. Excel will overwrite the previous cell value with the new one.



- Notice: The Set cell must contain a formula. ex: 63.90% is YES votes / TOTAL votes.

Data Visualization

- Presentation of data (both qualitative and quantitative) in a graphical format.
- Why is it useful?
  - Understand the composition, distribution, and overlapping of data
  - Find relationship among data
  - Determine patterns and predict future trends
  - Tell meaningful and engaging stories to decision makers

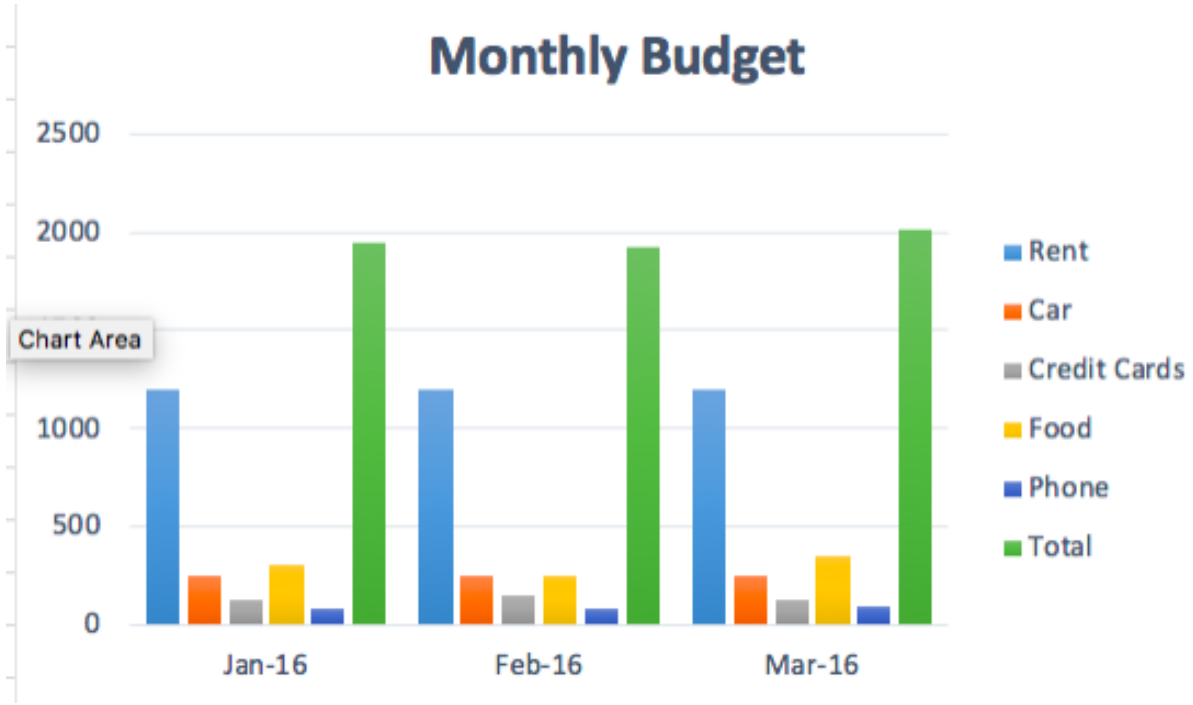


BAS.00
BRUIN ACTUARIAL SOCIETY

Data Visualization

- Select Data > Insert a chart > Add chart elements.

Bills	Jan-16	Feb-16	Mar-16	Total	Percent
Rent	1200	1200	1200	3600	0.611724724
Car	250	250	250	750	0.127442651
Credit Cards	125	150	120	395	0.067119796
Food	300	250	350	900	0.152931181
Phone	75	75	90	240	0.040781648
Total	1950	1925	2010	5885	1



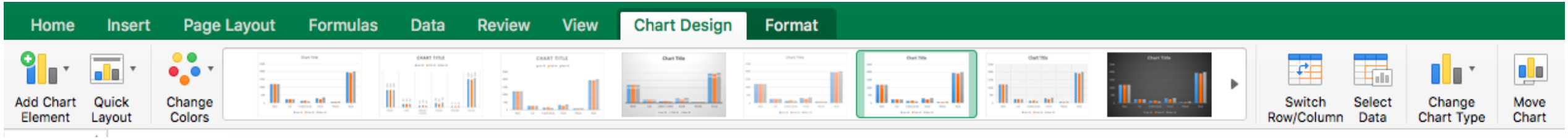
- After creating the chart...
  - change the title, legend, row/column, color
  - find the best chart to visualize your data
  - manipulate the chart (lower right corner)

Bills	Jan-16	Feb-16	Mar-16
Rent	1200	1200	1200
Car	250	250	250
Credit Cards	125	150	120
Food	300	250	350
Phone	75	75	90
Total	1950	1925	2010

BAS.UD
BRUIN ACTUARIAL SOCIETY

Data Visualization

- Chart Design Tab:



- Format Tab:

BAS.UCLA
BRUIN ACTUARIAL SOCIETY