STATISTICS AND GEOGEBRA
Part II

Bar Chart

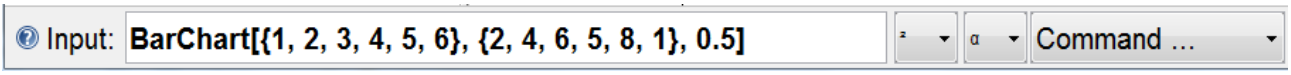
This guide provides examples of commands for drawing a bar Chart. For additional commands refer to the official manual.

Bar Chart using a list of data

We use the following table showing the distribution of grades in mathematics for a student group.

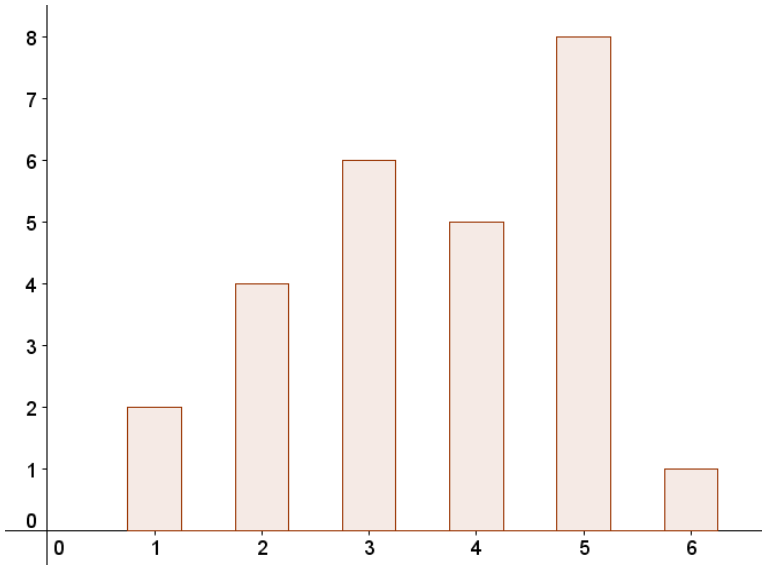
Grade	1	2	3	4	5	6
Frequency	2	4	6	5	8	1

The command we use is
BarChart[list of data, list of frequencies, Width of Bars w]:



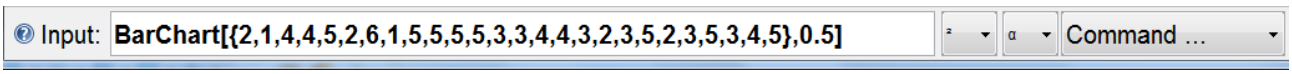
The first list contain grades, the second frequencies. *It is important that the numbers in first list are in ascending order!* The width is set to 0.5 to leave gaps between the bars.

Here is the result:



BarChart using raw data

If the data are not grouped, as in the example above, we can use the command BoxPlot[List of raw data, Width of Bars]. The Bar Charts will be identical.



Histogram

The table below shows how many lessons students at a school were absent during one month (Sandvold et al. 2007).

Lessons	[0,3⟩	[3,6⟩	[6,10⟩	[10,14⟩	[14,18⟩	[18,24⟩	[24,40⟩
Frequency	49	67	89	83	41	19	6

The command we use is Histogram[list of Class Boundaries, List of Heights].

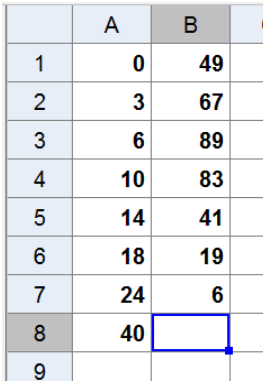
We use the spreadsheet in GeoGebra to create lists.

1. Show spreadsheets (view menu) and create columns of class boundaries and frequencies as shown below. NB! Column A should have one row more than column B. If not, the last class Boundarie [24,40⟩ will not appear.

In a histogram the area of a column is equal to the frequency of a class. We must therefore make one column that shows the class Boundarie, and one that shows the height.

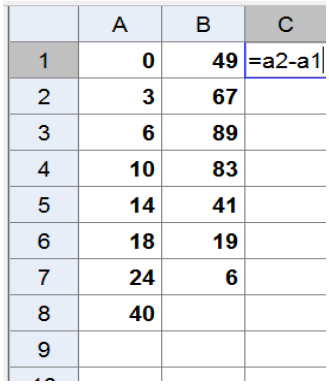
2. Class Boundaries:
   Type =a2-a1 in cell C1, and copy the formula all the way down to C7.
3. Height: Type = b1/c1 in cell D1, and copy the formula all the way down to D7.
4. In the histogram, we need two lists. The list of classes, which is found in column A and list of heights, which is found in column D. Create two lists, named L1 and L2.

1.



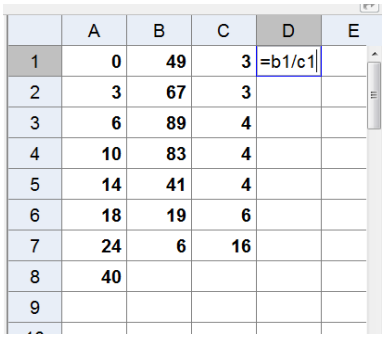
	A	B
1	0	49
2	3	67
3	6	89
4	10	83
5	14	41
6	18	19
7	24	6
8	40	
9		

2.



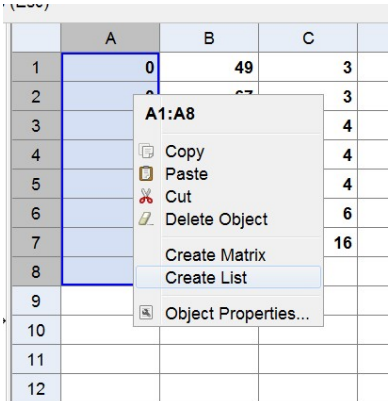
	A	B	C
1	0	49	=a2-a1
2	3	67	
3	6	89	
4	10	83	
5	14	41	
6	18	19	
7	24	6	
8	40		
9			

3.



	A	B	C	D	E
1	0	49	3	=b1/c1	
2	3	67	3		
3	6	89	4		
4	10	83	4		
5	14	41	4		
6	18	19	6		
7	24	6	16		
8	40				
9					

4.



We write the following in the algebra field (GeoGebra name the lists L_1 and L_2). The histogram will be shown in the Graphics field.