

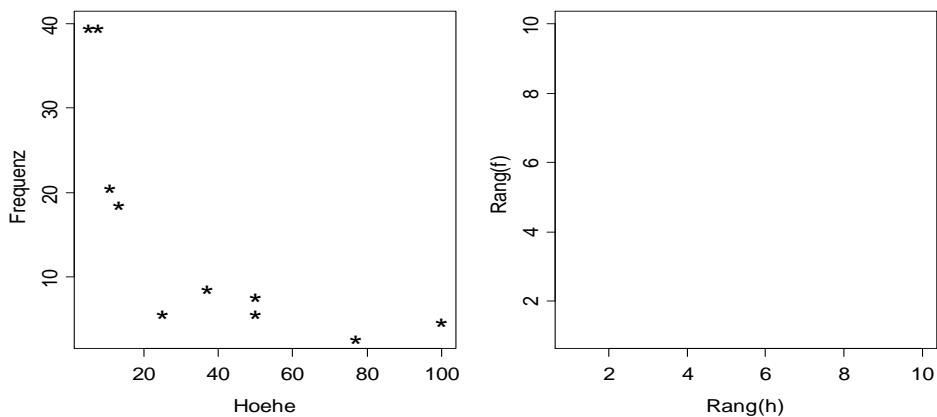
In-class exercise 10**Topic: Correlation**

In a science article (Science, 164 (1969), p.1513) a study was presented that investigated the association between the height of a waterfall and the frequency of vibrations in the ground.

Name	h: Hoehe	f: Frequenz	Rang(f)	Rang(h)
Lower.Yellowstone	100	5		
Yosemite	77	3		
Canadian.Niagara	50	6		
American.Niagara	50	8		
Upper.Yellowstone	37	9		
Lower.Gullfoss	25	6		
Firehole	13.3	19		
Godafoss	10.9	21		
Upper.Gullfoss	7.7	40		
Fort.Greeley	5.2	40		

The following graph shows a scatterplot of frequency vs height.

a) Describe the form of the association.



b) Is the Pearson correlation appropriate here? Give reasons.

c) Determine in the table the missing ranks and visualize the relationships as scatter plot.

d) Determine in R the Pearson and rank correlation.

e) What can you learn from the absolute value and the sign of the correlation?

Problem 2)

Please estimate the correlation coefficients for each of the following scatter plots.

