Exercice 1   Given the following series of data on Gender and Height for 8 patients,

id	Height, cm	Gender : 1=M, 2=F
1	165	1
2	157	2
3	168	2
4	178	1
5	171	2
6	182	1
7	182	1
8	153	2

fill in two frequency tables one for each variable, according to the model below.

Modality	Absolute Freq.	Percent Freq.	Cumulative Freq.
⋮	⋮	⋮	⋮

Then add a graph. Then create a contingency table and describe the relation between Gender and Height using appropriate statistical summaries.

Exercice 2   Suppose that the management of a chain of package delivery stores would like to develop a model for predicting the weekly sales (in thousands of dollars) for individual stores based on the number of customers who made purchases. A random sample of 20 stores was selected from among all the stores in the chain. Since we wish to predict Sales with number of Customers, that makes Sales the dependent, response, or "Y" variable, and number of Customers is the independent, explanatory, or "X" variable.

Customers	Weekly Sales	Customers	Weekly Sales
907	11.20	420	6.12
926	11.05	679	7.63
506	6.84	872	9.43
741	9.21	924	9.46
789	9.42	607	7.64
889	10.08	452	6.92
874	9.45	729	8.95
510	6.73	794	9.33
529	7.24	844	10.23
1010	11.77	621	7.41

1. Set up a scatter diagram.

2. Assuming a linear relationship, use the least-squares method to find the regression coefficients b_0 and b_1.

3. Interpret the meaning of the slope b_1 in this problem.

4. Predict the average weekly Sales (in thousands in dollars) for stores that have 600 customers.

Exercice 3

1. Use your R skills to learn a little about the size and structure of the `iris` data (available straight-forwardly by calling `iris`).

2. Get some summary statistics for the dataset.

3. Use some plots to investigate the relationships between the variables.

4. Quantify the relationships between the quantitative variables.

Exercice 4   For a sample of 15 students we observe the Time (in minutes, X) usually spent using Facebook per day, and the final grade in the Statistics exam (Y) :

Facebook X	Statistics Y
0	25
11	22
17	28
16	30
22	22
17	27
25	26
30	21
27	27
27	28
31	23
35	29
30	30
45	24
60	27

Build a frequency distribution both for X and Y choosing a suitable class grouping, for example (choose one for X and one for Y) :

- Proposed grouping for X :
  — $[0; 10)$, $[10; 20)$, $[20; 30)$, $[30; 40)$, $[40; 50)$, $[50; 60]$
  — $[0; 15)$, $[15; 30)$, $[30; 60]$
- Proposed grouping for Y :
  — $[18; 22)$, $[22; 26)$, $[26; 30]$
  — $[18; 21)$, $[21; 24)$, $[24; 27)$, $[27; 30]$
  — $[18; 20)$, $[20; 22)$, $[22; 24)$, $[24; 26)$, $[26; 28)$, $[28; 30]$

Then, for both X and Y, plot a histogram using the classes you choose.