

Homework 6
(Return date: 26.2.2003)

Understanding correlation.

There is some evidence that drinking moderate amounts of wine helps prevent heart attacks. The Table below gives data on yearly wine consumption (liters of alcohol from drinking wine per person) and yearly deaths from heart disease (death per 100000 people) in 19 nations.

- Make a scatter plot that shows how wine consumption affects heart disease.
- Describe the form of the relationship. Is there a straight line pattern? Compute the correlation coefficient and discuss how strong is the relationship.
- Make a linear regression analysis. Compute the slope and intercept. Display scatterplot of the given data set and linear regression line.
- Is the direction of the association positive or negative? Explain in simple language what this says about wine and heart disease.

Country	Alcohol from wine	Heart disease deaths
Australia	2.5	211
Austria	3.9	167
Belgium	2.9	131
Canada	2.4	191
Denmark	2.9	220
Finland	0.8	297
France	9.1	71
Iceland	0.8	211
Ireland	0.7	300
Italy	7.9	107
Netherlands	1.8	167
New Zealand	1.9	266
Norway	0.8	227
Spain	6.5	86
Sweden	1.6	207
Switzerland	5.8	115
United Kingdom	1.3	285
United States	1.2	199
West Germany	2.7	172

The data set is available at:

<http://www.iam.fmph.uniba.sk/institute/sevcovic/studium/cityu/>