

## 2.0. PRiNS Course Study guide: VISUALIZATION OF DATA

### 2.0 Exercises / Questions for Visualisation course

An important first step in pattern recognition is looking at the data itself. This will tell you about trends in the data, deviating samples and variables and possible information in the data. You will visualise data from a table in Time magazine, that showed the amounts of alcoholic beverages consumed in various countries, together with some health-related figures. For now we will use Excel for visualisation because this facilitates nice and easy construction of plots and is frequently used in laboratories and industry.

	Liquor (gallon/person)	Wine (gallon/person)	Beer (gallon/person)	Life Expectancy (Year)	Heart Disease (cases/100,000 persons)
France	2.5	63.5	40.1	78	61.1
Italy	0.9	58	25.1	78	94.1
Switzerland	1.7	46	65	78	106.4
Australia	1.2	15.7	102.1	78	173
Great Britain	1.5	12.2	100	77	199.7
U.S.A.	2	8.9	87.8	76	176
Russia	3.8	2.7	17.1	69	373.6
Czech	1	1.7	140	73	283.7
Japan	2.1	1	55	79	34.7
Mexico	0.8	0.2	50.4	73	36.4

**Exercise.** Visualise this data in Microsoft Excel, showing:

- Alcohol preferences around the world
- Relations between life expectancy and heart disease rate
- Relation between alcohol intake and life expectancy and Heart Disease

Use for example Pie charts (think of Minard!), Bar Charts, Bubble plots but try out all visualisations that were mentioned in the course.

If you see outliers or 'special' points, hypothesise why these countries do not follow the trends!

Also make some additional (standard) visualisations from Excel and mention what you do and do not like about them on an artistic and an information-level.

The end result (and not your Excel skill) counts, so copy, paste and Powerpoint all you like!