

Inf1B Data and Analysis

Tutorial 9 (week 11)

18 March 2009

- Please answer all questions on this worksheet in advance of the tutorial, and bring with you all work. Tutorials cannot function properly unless you do the work in advance.
- Data & Analysis tutorial exercises are not assessed, but are a compulsory and important part of the course. If you do not do the exercises then you are unlikely to pass the exam.
- Attendance at tutorials is obligatory; please let your tutor know if you cannot attend.
- *Background Reading:* Slides for part V.

Correlation between categorical data

The purpose of this exercise is to investigate correlations between nationality and alcohol intake, using the data for Tutorial 8 (data.pdf).

No. UK/Irish students who drank some alcohol: 27

No. UK/Irish students who drank no alcohol: 6

No. foreign students who drank some alcohol: 22

No. foreign students who drank no alcohol: 13

No. UK/Irish students who drank at least 10 units alcohol: 13

No. UK/Irish students who drank less than 10 units alcohol: 20

No. foreign students who drank at least 10 units alcohol: 9

No. foreign students who drank less than 10 units alcohol alcohol: 26

Answer the following questions.

- (a) Compile the relevant contingency tables to investigate correlation between: (a) nationality and drinking some alcohol; (b) nationality and drinking at least 10 units of alcohol.
- (b) Calculate the corresponding tables of expected frequencies.
- (c) Calculate the corresponding χ^2 values.
- (d) Are there correlations? What are the significance levels?
- (e) Estimate the mean alcohol intake of UK/Irish students and the mean alcohol intake of other students.
- (f) Which information do you find more informative: the answer to question d or the answer to question e?