Workflow of statistical data analysis — Exam

Please answer the following questions. Write down the answer and email your answer to *oliver@kirchkamp.de* before 1. August 2009, 18:00.

On the homepage of the course you find a dataset *exam.Rdata* which you may need to answer some of the questions.

1. Load the data from the file *exam.Rdata* into R. Now you have a dataframe *trust*. Which variables are defined in this dataframe? (in your answer, simply write down the commands you need to load the dataset and to find out the names of the variables).

2. The dataset contains data from a ficticious trust game. Write down the commands you need to answer to the following questions:

   (a) How many experimental sessions were run?

   (b) How many periods are there at most in each session?

   (c) Was the number of periods the same in each session?

   (d) How many subjects participated in each session? Was the number the same for each session?

3. The trust game is a game of two players. All subjects in an experimental session are divided into groups of two. The variable *Group* indicates the group. Within a group, players can have two roles, trustor and trustee. The trustor (the player who sends first an offer to the other player) always has *Pos=1*, the trustee (the recipient of the first offer) always has *Pos=2*. Write down the commands you need to answer to the following questions

   (a) What is the average value of *Offer* you find for trustors?

   (b) What is the average value of *Offer* you find for trustees? Does this number make any sense?

   (c) Calculate the median offer in period 1. To answer this question the following might help: If you want have two conditions fulfilled at the same time, like *age<21* and *drink=="lemonade"*, you use an ampersand, as in *age<21 & drink=="lemonade"*

   (d) Write a little function which calculates the median offer for any period.

(e) Use this function to draw a plot with the period on the horizontal axis and the average offer on the vertical axis.