Microeconomics HU WS 2006/2007, Exercises 1 (one page)

Exercises for Chapter 3

1. Give an example for human behavior which is not in accordance with the transitivity axiom.

2. Give examples of ordinal and cardinal orders.

3. Which difficulties would result from a purely ordinal measurement of the performance of students?

4. Show algebraically that the marginal rate of substitution of y for x equals the ratio of marginal utility of x divided by the marginal utility of y.

5. Sketch an indifference curve in a two goods space for i) coffee-milk and coffee, and ii) margarine and butter.

6. Can indifference curves cross? If not, which assumption rules this out?

7.
   a. Which of the following remarks corresponds to nonconvex indifference curves:
      i. "I would rather spend all my life in the country or all in the town, rather than divide myself between the two",
      ii. "I prefer a mixture of town and country life to being restricted to one or the other."
   b. Which type of preferences will produce a more stable economy?

8. Consider two individuals A and B with the following utility functions: $U_A = X^{0.6} \cdot Y^{0.4}$ and $U_B = X^{0.4} \cdot Y^{0.6}$

   a. Currently they both consume as much X as Y. Could they improve their situation by exchange?

   b. Can you say anything from the above about in which direction they should trade?

9.
   a. Show that the following utility function $U = \alpha \dfrac{x^{\delta}}{\delta} + \beta \dfrac{y^{\delta}}{\delta}$ is homothetic.

   b. How does the marginal rate of substitution of the utility function under a. compare to that from a Cobb-Douglas utility function if $\delta = 0$?

   c. How would you assess the substitutability between X and Y if $\delta = 1$?

Exercises for Chapter 4

10. A consumer spends her total income on two goods: Y and X. In situation A and B she acts as follows:

Situation	Income	Price for X	Price for Y	Quantity of X bought
A	40	1	1	20
B	60	2	1	25

Does the consumer behave in accordance with a consistent order of preferences?
(Hint: put the problem in a graph may help)