EXERCISES FOR IMAGE PROCESSING I
PROBLEM SHEET 1

Due date: 22.10.15 before 12:00h

Topics: Getting started and basic Image Processing

Submission: Please send your solutions via email to seppke@informatik.uni-hamburg.de. Successful completion of exercises is a prerequisite for admission to an oral examination. Work and submit group wise with a group size of 2-3 students.

Note: Practical exercises for Image Processing I require programming with Python. As an Introduction you can download the Python presentation from the Lecture's Homepage:

http://kogs-www.informatik.uni-hamburg.de/~seppke/?page=ip1-1516

1 GETTING ACQUAINTED WITH THE PROGRAMMING ENVIRONMENT

a) Create the required programming environment by installing all necessary SW or by using pre-installed computers in the iMac pool rooms (D-011 – D-013).

b) Start a terminal and enter "spyder" or "ipython" in order to start Spyder or iPython. Try out some examples of the Python introduction.

2 IMAGE TRANSFORMATION 10 P.

a) Write a function "`mirror(image)`" which takes an image as input and delivers the horizontal mirror image as output. The original image must not be changed.

b) Extend the program written for a) to generate either a horizontal or a vertical mirror image or a mirror image for both axes using input parameters "`horizontal=True`", "`vertical=False`" etc. Again, the original image must not be changed by the transformations.