

INF 4300

Exercise on shape representation for Friday 15.10.2010

Problem 11.1

Problem 11.8

Problem 11.9

Problem 11.10

### **Fourier descriptors for symbol reconstruction**

You find images of segmented number on `~inf3300/www_docs/bilder/` and the files 1.tiff,2.tiff, 3.tiff, 4.tiff, 7.tiff and 9.tiff. Try Fourier descriptors on these images.

We have access to the source code for the DIPUM-toolbox on `/local/opt/matlab/ifi/toolbox/dipum`. DIPUM has two functions for computing Fourier descriptors, `frdescp()` and `ifrdescp()`.

- Study the link with the 2D (x,y) coordinates and the Fourier-transform by looking at the code.
- Select some images of single digits. Reconstruct them using a few, then more Fourier coefficients and see when the symbol resembles the boundary.

Good Luck!