Lab 4, DIP1

Exercise 1
Implement a MatLab program that counts (approx.) the number of grain of rice in the image 'rice.tif'. You may use the MatLab command *imcrop()* to mask out a single grain of rice in the image.

Exercise 2
When doing MPEG video compression you need to calculate the so called motion vectors. This is a very time consuming process. In the following we will calculate the Gaussian pyramid that can be used to speed up this process.

1. We say that the original image is on scale level 0.

2. Calculate the image on scale level n from the image on scale n-1 in 2 steps:
   a. Filter the image on scale level n-1 using a Gaussian low pass filter
   b. Subsample the result of a. removing every 2. row and column.
   The result of this process is the image on scale level n.

Calculate the Gaussian pyramid for your favourite greyscale image (you choose how many levels you want to calculate).