

## 1. Segmentation by thresholding

The aim of segmentation by thresholding is to obtain a region of intensities above or equal a certain value. The threshold will define if some pixels will become white (equal or above the threshold) or black (below the threshold).

1.1. To determine the threshold value, we can use the image histogram and then apply this value with the function `im2bw`. We can also use the functions that determine this value automatically in the following manner:

```
level = graythresh(I);  
BW = im2bw(I, level);
```

1.2. Try to segment the liver from the image `se000.jpeg`, what method do you choose, why?

## 2. Edge function

Now, use directly `edge` to extract edges in an image with different options. Be sure now that two steps - maxima extraction and thresholding - are used to define the 'edges'.

### 2.1. Applications

First, try to detect all the edges of the `T` image. Is there any method that seems better? Download the image of toy building blocks bricks, try to detect all the edges of the image. Try to detect firstly the edges for the blue bricks, and then for the red ones. Try now to detect all the edges of the images skin. Is it possible to isolate only salient edges, that is to say those which delimitate each homogeneous part?

## 3. Canny detector

The Canny detector is based on this gradient vector. During the previous section with the image `T`, if you missed the Canny's method, try it as the results are generally better.