Lab11 Summary

Canny edge detection

- Applying Sobel, Prewitt and Roberts is done easily, by using the specified kernels, but a new convolution function, that does not normalize the output's contents should be used (just convolve, do not scale and shift)
- Magnitude, on the other hand, after being computed, should be normalized (by dividing with 4 sqrt(2))
- Non maxima suppression is done by computing directions, finding their field of orientation and comparing the current pixel's magnitude with the corresponding pixels' magnitudes
- Thresholding is done by finding the thresholds first (using the formula with the histogram), then dividing the histogram into three parts
- Edge linking is done using bfs

NOTE: the images do not coincide – the back part of Saturn's contour is not present

Redo all the steps using float instead of int. Also, the algorithm for finding a direction's field can be enhanced from a serios of ifs to a more refined version (dir = `int(floor(atan(y/x) / (2 * PI) * 8 + 0.5)) % 8;`)

The algorithms seems to work better, as Saturn's backedge is present in the final image.