Lab 1 – image enhancement

1. Install an image processing/computer vision library on your computer (OpenCV)
2. Open an image (lena.tif), display its size, plot/write the image.
3. Apply filters that blur/sharpen the image (https://learnopencv.com/image-filtering-using-convolution-in-opencv/). Test these functions with at least 2 values for the parameters (when the function has at least one parameter). Plot the results (or save the images).
4. Apply the following filter:

$$w = \begin{pmatrix} 0 & -2 & 0 \\ -2 & 8 & -2 \\ 0 & -2 & 0 \end{pmatrix}.$$

5. Rotate an image using different angles, clockwise and counterclockwise. How can an image rotation function be implemented?
6. Write a function that crops a rectangular part of an image. The parameters of this function are the position of the upper, left pixel in the image, where the cropping starts, the width and the length of the rectangle.
7. Create an **emoticon image (emoji)** using OpenCV functions. Include this image in the archive that you'll send at the end of the semester (save it as your_name.jpg).
8. Write a short essay about the ethics in Computer Vision (some ideas: 1, 2, 3)

Optional: show me an image that, in your opinion, "says more than 1000 words".