Exercise 11: Frequency domain

In this exercise, you will compute, visualize and analyse a DFT of an image of rotated text in order to rectify the image rotation

- Use openCV to compute the DFT of the image "rotatedText.png"

- Visualize the fourier magnitude and phase

- Manually find the major orientation of high frequency sinusoids in the image and compute the rotation

- Rotate the image into a desired orientation

- Optional: Play around with the fourier spectrum. What does the spectrum look like for images of different textures and patterns? Can you construct a filter in frequency domain for edge detection similar to the Sobel mask?

- Hint: OpenCV tutorial: https://docs.opencv.org/4.x/d8/d01/tutorial_discrete_fourier_transform.html