Digital Image Processing - Assignment 02

Implement the Marr-Hildreth edge detector:

a. Create a function called Gradient_magnitude that computes the gradient magnitude of an image. 創建一個名為 Gradient_magnitude 的函數，該函數可計算圖像的梯度大小

b. Create a function called Laplacian_mask that computes the Laplacian of an image. 創建一個稱為 Laplacian_mask 的函數來計算圖像的 Laplacian

c. Write a function called Zero-crossing that calculates the zero crossings in an image. (set a pixel to 1 if it is a zero crossing and 0 otherwise.)

d. Apply the detector to the given images (Lena and headCT) and display the result.

e. Summarize the difference and your findings while choosing various parameters. (window size, σ, threshold)

*Please check the code example if you have no idea how to implement. You still have to write your functions or find appropriate functions in toolbox to support this implementation.