Computer Vision Lab - Filters

CSCI 380 Computer Vision

1. Create two smoothing kernels, the first one should be of dimensions 3x3, the second: 7x7.
    filterOne is shown below, you will need to complete step 1b (the 7x7 filter).
    a. smoothingFilterOne = [1/9 1/9 1/9; 1/9 1/9 1/9; 1/9 1/9 1/9];
    b. smoothingFilterTwo =

2. Apply both smoothing filters to the cameraman image. The cameraman image comes with
    matlab and can be accessed as shown below:
    a. myImage = imread('cameraman.tif');

3. Your output should include a single figure containing the original image followed by each of the
    above filtered images.

4. At the end of your script, output the answers to the following questions (use the *fprintf*
    command):

    a. What 3x3 filter could be used to produce the exact same image after convolution?
    b. What 3x3 filter could be used to shift all pixels to the *left.*

Turn-in:
1. Matlab script used to complete the above exercise.
2. Screenshot of the figure generated.

Extra credit:

1. Implement the convolution function (using for loops and matrix multiplication).