Advanced Programming F19 - Practical Test

TEST	1 (A)	MARKS	20
DURATION	60 MIN	DATE	28 - Oct - 19

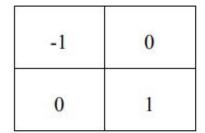
Write a script in python, which contains a function as shown below:

returnedImage = customConvolve(image, kernel, major)

Function arguments:

- 1. image input image to convolve
- 2. kernel kernel to use for convolution (can be any dimension)
- 3. major row or column major convolution (0=row, 1=column)

Use the following kernels for testing:



0	-1
1	0

Figure 4: Convolution masks for Robert operator.

-1	0	1
-1	0	1
-1	0	1

1	1	1
0	0	0
-1	-1	-1

Figure 5: Convolution masks for Sobel Operator.

Grading:

- 1. Correct convolution logic [5]
- 2. Accepts all image and kernel sizes, with proper application of each [5]
- 3. Correct use of row/column majored approach [5]
- 4. Flawless function, returning perfect image [5]

Bonus: Proper labeling/commenting of all code (subjective) [5]

Bonus: Can apply convolve on RGB image as well [5]