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:

-1	0
0	1

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]**