

q2

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1 Applying and implementing convolution

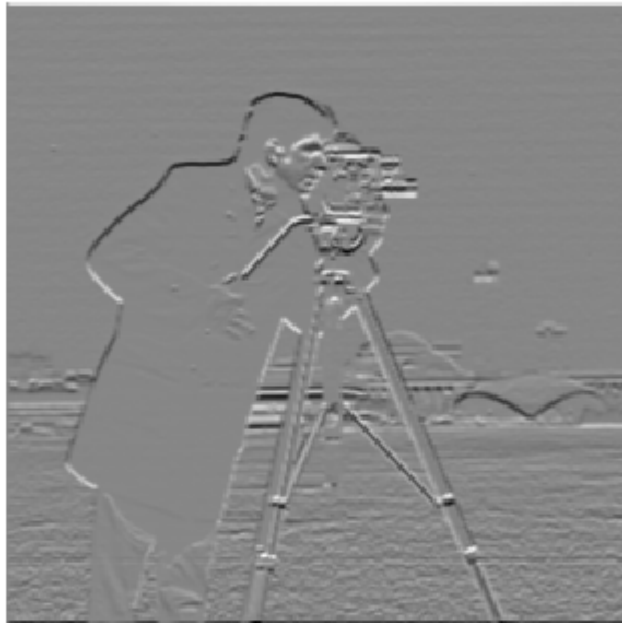
```
In [3]: img = imread('./cameraman.png');  
        imshow(img)  
        size(img);
```



```
In [6]: M = [1 2 1; 0 0 0; -1 -2 -1];  
        M = double(M);
```

2 Detecting Horizontal Edges

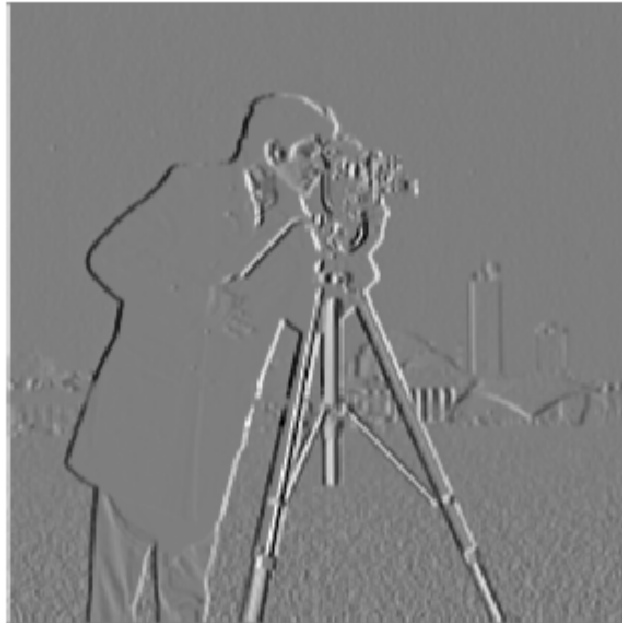
```
In [9]: new_img = conv2(M,img);  
        new_img = mat2gray(new_img);  
        imshow(new_img)
```



3 Detecting Vertical Edges

By taking the transpose we can find Vertical images

```
In [10]: new_img = conv2(M',img);  
         new_img = mat2gray(new_img);  
         imshow(new_img)
```



Originally we can't see much difference but after converting it to gray we can see the edges detected

In []: