Assignment 15

# DL29A.py

## Original Output

Text

Description automatically generated

## New Output

Text

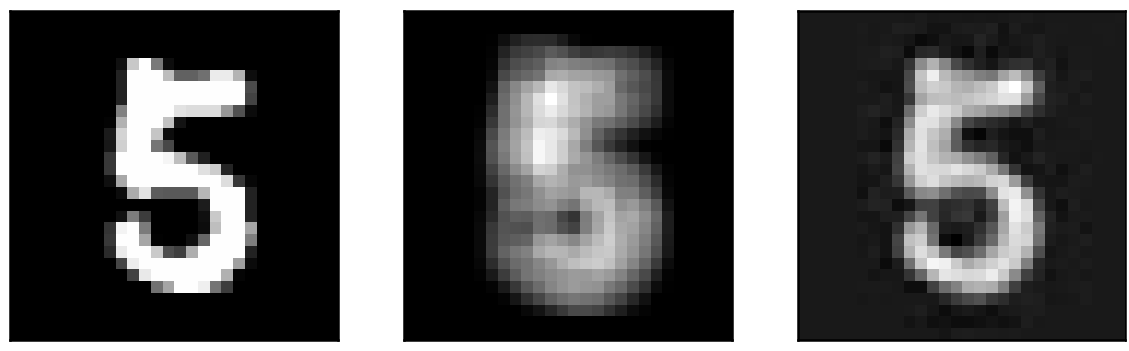
Description automatically generated

## Modification to Code

target = data.filter(ImageFilter.CONTOUR)

# DL29B.py

## Original Output

A picture containing application

Description automatically generated

A picture containing text

Description automatically generated

A picture containing text

Description automatically generated

A picture containing text

Description automatically generated

## New Output

A picture containing text

Description automatically generated

A black and white image of a person's face

Description automatically generated with low confidence

A picture containing text

Description automatically generated

A picture containing text

Description automatically generated

Text

Description automatically generated with low confidence

## Modification to Code

No changes to code. Input file, DL29Aepoch1.zip modified by aforementioned DL29A.py changes (using COTOUR instead of BLUR).

# DL29C.py

## Original Output

Text

Description automatically generated

A picture containing text

Description automatically generated

Text

Description automatically generated

A picture containing text

Description automatically generated

A picture containing text, electronics, loudspeaker

Description automatically generated

A picture containing text

Description automatically generated

A picture containing text

Description automatically generated

A black and white photo of a person's face

Description automatically generated with low confidence

A picture containing chart

Description automatically generated

A picture containing text

Description automatically generated

A picture containing text

Description automatically generated

## New Output

Text

Description automatically generated

A picture containing text, tape

Description automatically generated

Text

Description automatically generated

A picture containing text

Description automatically generated

Text

Description automatically generated

A picture containing text

Description automatically generated

A picture containing text, clipart, screenshot

Description automatically generated

Text

Description automatically generated

A black and white image of a person's face

Description automatically generated with low confidence

A picture containing text

Description automatically generated

Text

Description automatically generated

## Modification to Code

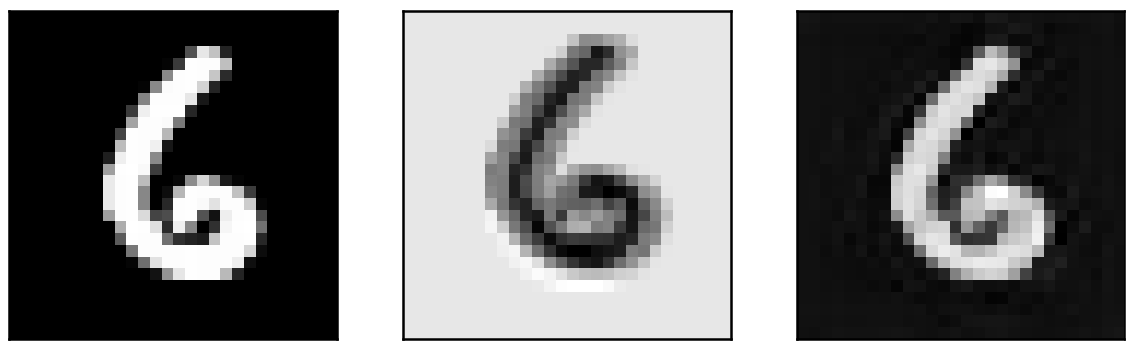
Changed fuzzy as follows:

fuzzy = torchvision.transforms.functional.solarize(torch.randn(1, 1, 3, 3), threshold=0.4)

## Comments

As you can observe above, changing the kernel to use solarize inverts the colors making lighter pixels darker and darker pixels lighter. It does not help with denoising as much since the resulting pixels are proportionate to that of the original image. Adjusting the threshold, however, does enhance (as well as diminish) the picture significantly by reducing/increasing noise. Here are some of the results for different threshold values, for reference.

### Threshold=0.1



### Threshold=0.2

A black and white photo of a person's face

Description automatically generated with low confidence

### Threshold=0.6

A black and white image of a person's face

Description automatically generated with low confidence

### Threshold=0.9