Report 6 - Map

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1 Algorithm

For transform to binary image:

- Setup Image Array
- Setup threshold value (in 255 scale in this case)
- Then load each pixel into process
- Compute average value (int type) from RGB of each pixel
- Compare value to threshold value
- If value is higher than threshold, set both RGB of pixel to 255
- Else set both RGB of pixel to 0
- Return processed pixel to output

For increase brightness of image:

- Setup Image Array
- Setup brightness value (in 255 scale in this case)
- Load each pixel into process
- Plus both RGB of each pixel with brightness value
- If RGB value is higher than 255 after plus, set it to 255
- Return processed pixel to output

For blending two images:

- Load image 1 and image 2 into array
- Set weight for each image

- Load each pixel of both 2 images into process
- With each RGB value, plus value of 2 images multiply with weight and divided by sum of 2 weights
- Return processed pixel to output

2 Result

2.1 Text Result

```
USTH ICT Master 2018, Advanced Programming for HPC.
Warming up...
Starting labwork 6
signal 2
labwork 6 GPU binary ellapsed 13.5ms
labwork 6 GPU brighness ellapsed 13.9ms
labwork 6 GPU blending ellapsed 13.5ms
labwork 6 ellapsed 13.6ms
```

2.2 Image Result

The experience used 2 image:

Figure 1: Main: Ghost JPEG

Here are output results:

Figure 2: Secondary: Cloud JPEG

Figure 3: Binary Result of Ghost JPEG

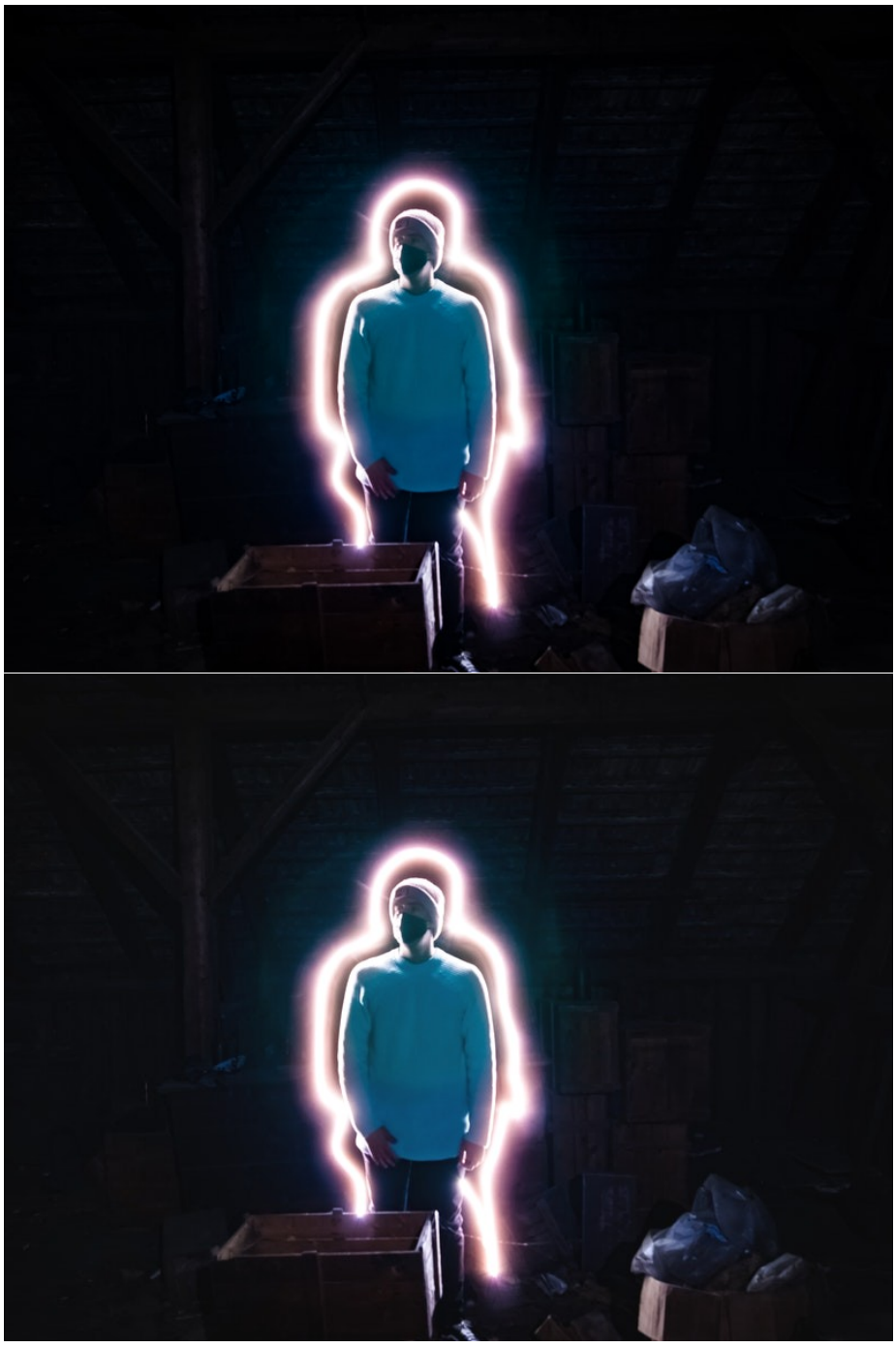

Figure 4: Brightness Result of Ghost JPEG

Figure 5: Blending Result of Ghost and Cloud JPEG