

# Computer Vision (Spring 2019) Problem Set #1

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# 1a. Interesting Images



Image 1 - ps1-1-a-1



Image 2 - ps1-1-a-2

## 2a. Swapped Green and Blue



ps1-2-a-1

## 2b: Monochrome Green



ps1-2-b-1

## 2c: Monochrome Red



ps1-2-c-1

# 3a: Replacement of Pixels



ps1-3-a-1

# 4a: Image Stats

Min: 0

Max: 0

Mean: 0

Standard Deviation: 0

## 4b: Arithmetic Operation



ps1-4-b-1



## 4c: Shifted Image



ps1-4-c-1

## 4d: Difference Image



ps1-4-d-1

# 5a: Noisy Green Channel



ps1-5-a-1

## 5b: Noisy Blue Channel



ps1-5-b-1

# 6a. Discussion

Between all color channels, which channel, in your opinion, most resembles a gray-scale conversion of the original. Why do you think this? Does it matter for each respective image? (For this problem, you will have to read a bit on how the eye works/cameras to discover which channel is more prevalent and widely used)

I think  
my answer  
is ...

# 6b. Discussion

What does it mean when an image has negative pixel values stored? Why is it important to maintain negative pixel values?

I think  
my answer  
is ...

# 6c. Discussion

In question 5, noise was added to the green channel and also to the blue channel. Which looks better to you? Why? What sigma was used to detect any discernible difference?

I think  
my answer  
is ...