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CPE 592 Homework 1

1b. When comparing the LSB and MSB images, it's easy to see that MSB results in much greater alteration to the image in the selected pixels, whereas LSB results in an almost identical image. This is most likely due to the fact that the most significant bit in a pixel's value has more influence on the resultant pixel's appearance than the least significant bit. The following example I've used to illustrate this is a small simple 25x25 JPEG image of a blue square. It's easier to see the changes made by the steganography when the images are this small because the secret message (my name) for this assignment is relatively short.

Original Test Image



LSB Steganography



MSB Steganography



To run the python script from the command line, enter:

```
$ python homework1.py <payload> <carrier filename> <stego key>
```

With the images included in the ZIP file, I used the key "CPE592". The lsb image is identical to the original to the human eye, while the msb image has a small segment of distortion as expected on the top center of the image.