1a.

1b.

2a.

1. An OpenCV file is stored in memory by pixels, and each pixels contains three 24-bit numbers, which are the colors. The first number represents how much blue is in the image, the second number represents how much green is in the image, and the last number represents how much red is in the image. Since they are 24-bits, the largest value they can be is 255. I find this interesting because I always think of images as RGB values, instead of BGR values.

2b.

1. There are 7 morphological transformations that can be performed on an image. These include erosion, dilation, opening, closing, morphological gradient, top hat, and black hat.
2. Erosion cuts away at the edges of a shape or white space on an image, leaving a skinnier version of the original shape. This is useful for eliminating noise that is outside the shape or white space (when combined with dilation after).
3. Dilation adds to the edges of a shape or white space in an image, leaving a thicker version of the original shape. This is useful for eliminating noise that is inside the shape or white space (when combined with erosion after).