

1. Flip an image vertically.
2. Flip an image horizontally.
3. Create an "extreme contrast" of an image. If the red value is less than 128, change it to 0, otherwise change it to 255. If the green value is less than 128, change it to 0, otherwise change it to 255. If the blue value is less than 128, change it to 0, otherwise change it to 255.
4. Create a "pixelated" image. This is more challenging. Average the color over 20 x 20 pixel "squares" and then change the color to that average for every pixel in the 20 x 20 square.
5. Very challenging: Rotate an image. This formula may help:

$$x_{\text{new}} = x \cos z - y \sin z$$

$$y_{\text{new}} = x \sin z + y \cos z$$

where x and y are the original coordinates, and z is the angle of rotation.