# Report HW1

**Function:** Flip an image horizontally

```
def flip_image(image):
    """
    Flip an image horizontally using OpenCV
    """
    return cv2.flip(image, 1)
```


**Function:** Rotate the image with defined angle

```
def rotate_image(image, angle):
    """
    Rotate an image using OpenCV. The angle is in degrees
    """
    (width, height) = image.shape[1::-
    1]image_center = (width/2,
    height/2)

    rotate_matrix = cv2.getRotationMatrix2D(center=image_center, angle=angle,
    scale=1)result = cv2.warpAffine(src=image, M=rotate_matrix, dsize=(width,
    height))
    return result
```


**Function:** Convert the image to grayscale

```
def grayscale_image(image):
    """
    Convert an image to
    grayscale."""
    return  cv2.cvtColor(image,  cv2.COLOR_RGB2GRAY)
```