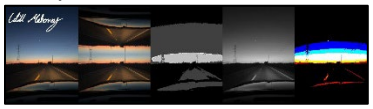
Will Mahoney

Completed



Original

```
from mediaComp import *

# Will Mahoney, 10/19/2025

def mirror(picture):
    height = getHeight(picture)
    mirror_point = height // 2
    for y in range(0, mirror_point):
        for x in range(0, getWidth(picture)):
            left_pixel = getPixelAt(picture, x, height - y - 1)
            right_pixel = getPixelAt(picture, x, y)
            color = getColor(left_pixel)
            setColor(right_pixel, color)
    return picture

def grayScale(picture):
    for pixel in getPixels(picture):
        new_red = getRed(pixel) * 0.299
        new_green = getGreen(pixel) * 0.587
        new_blue = getBlue(pixel) * 0.114
        intensity = int(new_red + new_green + new_blue)
        setColor(pixel, makeColor(intensity, intensity, intensity))
    return picture

def posterize(picture):
    for pixel in getPixels(picture):
        red_value = getRed(pixel)
        green_value = getGreen(pixel)
        blue_value = getBlue(pixel)
        luminance = (red_value + green_value + blue_value) // 3
        if luminance < 50:
            setColor(pixel, black)
        elif luminance < 150:
            setColor(pixel, darkGray)
        elif 151 < luminance < 200:
            setColor(pixel, lightGray)
        else:
            setColor(pixel, white)
    return picture

def highContrast(picture):
    for pixel in getPixels(picture):
        red = getRed(pixel)
        green = getGreen(pixel)
        blue = getBlue(pixel)
        setRed(pixel, 255 if red > 128 else 0)
        setGreen(pixel, 255 if green > 128 else 0)
        setBlue(pixel, 255 if blue > 128 else 0)
    return picture
```

```
def images(picture, newPic, oldStartX, oldEndX, newStartX):
    height = getHeight(picture)
    for x in range(oldStartX, oldEndX):
        for y in range (height):
            color = getColor(getPixelAt(picture, x, y))
            newPixel = getPixelAt(newPic, newStartX + (x - oldStartX), y)
            setColor(newPixel, color)

def signature(source, background):
    setMediaFolder()
    for pixel in getPixels(source):
        x = getX(pixel)
        y = getY(pixel)
        if getRed(pixel) < 200 and getGreen(pixel) < 200 and getBlue(pixel) < 200:
                source_pixel = getPixelAt(source, x, y)
                setColor(getPixelAt(background, x, y), white)
    return background

def collage():
    setMediaFolder()
    picture = makePicture(getMediaFolder('Car.png'))
    source = makePicture(getMediaFolder('Signature.jpg'))
    finalPicture = makeEmptyPicture((getWidth(picture) * 5), getHeight(picture))
    images(picture,finalPicture, 0, getWidth(picture), 0)
    horizontal = mirror(picture)
    images(horizontal,finalPicture,0, getWidth(picture), getWidth(finalPicture) // 5)
    picture1 = makePicture(getMediaFolder('Car.png'))
    poster = posterize(picture1)
    images(poster,finalPicture,0,getWidth(picture),(getWidth(finalPicture) // 5) * 2)
    picture2 = makePicture(getMediaFolder('Car.png'))
    gray = grayScale(picture2)
    images(gray,finalPicture,0, getWidth(picture), (getWidth(finalPicture) // 5) * 3)
    picture3 = makePicture(getMediaFolder('Car.png'))
    contrast = highContrast(picture3)
    images(contrast,finalPicture,0,getWidth(picture),(getWidth(finalPicture)//5) * 4)
    sig = signature(source, finalPicture)
    images(sig, finalPicture,0, getWidth(source), 0)
    show(finalPicture)
```