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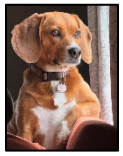
Completed

Original



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from mediaComp import *

def RedScale(picture): #turns images red
    for pixel in getPixels(picture):
        intensity = getRed(pixel)
        setColor(pixel, makeColor(intensity, 0, 0))

def BlueScale(picture): #turns images blue
    for pixel in getPixels(picture):
        intensity = getBlue(pixel)
        setColor(pixel, makeColor(0, 0, intensity))

def ScaleDownBy5(picture): #gets my main image to the size I need it to be
    new_width = getWidth(picture) // 5
    new_height = getHeight(picture) // 5
    new_picture = makeEmptyPicture(new_width, new_height)
    source_x = 0
    for new_x in range(0,getWidth(new_picture)):
        source_y = 0
        for new_y in range(0,getHeight(new_picture)):
            color = getColor(getPixelAt(picture, source_x, source_y))
            setColor(getPixelAt(new_picture, new_x, new_y), color)
            source_y = source_y + 5
        source_x = source_x + 5
    return new_picture

def signature(): #gives my signature a variable name
    pic = makePicture(getMediaFolder("signature.JPG"))
    return ScaleDownBy5(pic)


def lighten(picture): #lightens photo
    for pixel in getPixels(picture):
        for i in range(3):
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            x = getX(pixel)
            color = getColor(pixel)
            color = makeLighter(color)
            setColor(pixel, color)

def darken(picture): # darkens photo
    for pixel in getPixels(picture):
        for i in range(3):
            x = getX(pixel)
            color = getColor(pixel)
            color = makeDarker(color)
            setColor(pixel, color)

def blur(picture): # slightly blurs the image
    blur_picture = duplicatePicture(picture)
    for x in range(1, getWidth(picture) - 1):
        for y in range(1, getHeight(picture) - 1):
            center = getPixelAt(blur_picture, x, y)
            left = getPixelAt(picture, x - 1, y)
            right = getPixelAt(picture, x + 1, y)
            top = getPixelAt(picture, x, y - 1)
            bottom = getPixelAt(picture, x, y + 1)
            new_red = (getRed(center) + getRed(left) + getRed(right) + getRed(top) + getRed(bottom)) // 5
            new_green = (getGreen(center) + getGreen(left) + getGreen(right) + getGreen(top)+getGreen(bottom))//5
            new_blue = (getBlue(center) + getBlue(left) + getBlue(right) + getBlue(top) + getBlue(bottom)) // 5
            setColor(center, makeColor(new_red, new_green, new_blue))
    return blur_picture

def scaleFuncDown(source_picture, x): # variable scale down function for pixelization
    new_width = getWidth(source_picture) // x
    new_height = getHeight(source_picture) // x
    new_picture = makeEmptyPicture(new_width, new_height)
    source_x = 0
    for new_x in range(0,getWidth(new_picture)):
        source_y = 0
        for new_y in range(0,getHeight(new_picture)):
            color = getColor(getPixelAt(source_picture, source_x, source_y))
            setColor(getPixelAt(new_picture, new_x, new_y), color)
            source_y = source_y + x
        source_x = source_x + x
    return new_picture

def scaleFuncUp(source_picture, x): # variable scale up function for pixelization
    new_width = getWidth(source_picture) * x
    new_height = getHeight(source_picture) * x
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    new_picture = makeEmptyPicture(new_width, new_height)
    source_x = 0
    for new_x in range(0,getWidth(new_picture)):
        source_y = 0
        for new_y in range(0,getHeight(new_picture)):
            color = getColor(getPixelAt(source_picture, int(source_x), int(source_y)))
            setColor(getPixelAt(new_picture, new_x, new_y), color)
            source_y = source_y + 1/x
        source_x = source_x + 1/x
    return new_picture

def chromakey(source, background): # takes the background away from my signature and turns my signature blue
    for source_pixel in getPixels(source):
        x = getX(source_pixel)
        y = getY(source_pixel)
        if getRed(source_pixel) <= 150:
            background_pixel = getPixelAt(background, x, y)
            setColor(background_pixel, blue)

def pastePicture(source, target, target_x, target_y): #pastes modified picture into a collage.
    for x in range(getWidth(source)):
        for y in range(getHeight(source)):
            color = getColor(getPixelAt(source, x, y))
            setColor(getPixelAt(target, target_x + x, target_y + y), color)

def Collage(): #creates the new images
    pic1 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
    pic1 = ScaleDownBy5(pic1)
    darken(pic1)
    RedScale(pic1)
    scaleFuncDown(pic1, 5)
    scaleFuncUp(pic1, 5)

    pic2 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
    pic2 = ScaleDownBy5(pic2)
    RedScale(pic2)
    for i in range(5):
        pic2 = blur(pic2)

    pic3 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
    pic3 = ScaleDownBy5(pic3)
    lighten(pic3)
    RedScale(pic3)
    scaleFuncDown(pic3, 5)
    scaleFuncUp(pic3, 5)
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pic4 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
pic4 = ScaleDownBy5(pic4)
darken(pic4)
for i in range(5):
    pic4 = blur(pic4)

pic5 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
pic5 = ScaleDownBy5(pic5)

pic6 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
pic6 = ScaleDownBy5(pic6)
lighten(pic6)
for i in range(5):
    pic6 = blur(pic6)

pic7 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
pic7 = ScaleDownBy5(pic7)
darken(pic7)
BlueScale(pic7)
scaleFuncDown(pic7, 5)
scaleFuncUp(pic7, 5)

pic8 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
pic8 = ScaleDownBy5(pic8)
BlueScale(pic8)
for i in range(5):
    pic8 = blur(pic8)

pic9 = makePicture(getMediaFolder("Fancy_Hahel.PNG"))
pic9 = ScaleDownBy5(pic9)
lighten(pic9)
BlueScale(pic9)
scaleFuncDown(pic9, 5)
scaleFuncUp(pic9, 5)

width = getWidth(pic1)
height = getHeight(pic1)

collage = makeEmptyPicture(width*3, height*3) #creates the 3x3

pastePicture(pic1, collage, 0, 0)
pastePicture(pic2, collage, width, 0)
pastePicture(pic3, collage, width*2, 0)
pastePicture(pic4, collage, 0, height)
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pastePicture(pic5, collage, width, height)
pastePicture(pic6, collage, width*2, height)
pastePicture(pic7, collage, 0, height*2)
pastePicture(pic8, collage, width, height*2)
pastePicture(pic9, collage, width*2, height*2)

name = signature() #places in the signature
chromakey(name, collage)

pictureTool(collage)
```