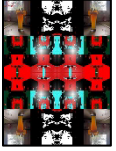
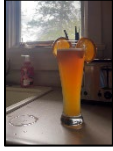


Devin Kilmer

Completed



Original



```
from mediaComp import *
# created by Devin Kilmer 03/02/2026

def collage():
    picture= makePicture(getMediaFolder('BlueMoon.jpg'))
    signature= makePicture(getMediaFolder('Signature.jpeg'))
    width=getWidth(picture)
    height= getHeight(picture)
    newpicture=makeEmptyPicture(width, height, black)
    canvas=makeEmptyPicture(736, 1000, black)

    scaledOriginal=scale(picture, 1/3)
    scaledQuarters=posterizedQuarters(picture, newpicture)
    copyimage(canvas, scaledOriginal, 0, 0)
    copyimage(canvas, scaledQuarters, 184, 0)

    scaledMirror1=mirrorPostQuads(picture, newpicture)
    blurredmirror= blurimage(scaledMirror1)
    waffledMirror= waffle(scaledMirror1)
    copyimage(canvas, blurredmirror, 0, 250)
    copyimage(canvas, waffledMirror, 184, 250)

    mirrorpicLeftRight(canvas)
    mirriorpicUpDown(canvas)

    scaledSignature=ScaledSignature(signature, 15)
    Reversechromakey(scaledSignature, canvas)
    pictureTool(canvas)

def mirrorPostQuads(picture, newpicture):
    posterizedQuarters(picture, newpicture)
    mirrorpicRightLeft(newpicture)
    scaledQuarters=scale(newpicture, 1 / 3)
```

```

return scaledQuarters

def posterizedQuarters (picture, newpicture):
    width=getWidth (picture)
    height= getHeight (picture)
    GrabandplaceQuarters (picture, newpicture, 0, 0, 0, 0)
    posterize4color (newpicture, black, cyan, blue, green)
    GrabandplaceQuarters (picture, newpicture, width // 2, 0, width // 2, 0)
    posterize4color (newpicture, orange, black, cyan, green)
    GrabandplaceQuarters (picture, newpicture, width // 2, height // 2, width // 2, height // 2)
    posterize4color (newpicture, black, orange, orange, green)
    GrabandplaceQuarters (picture, newpicture, 0, height // 2, 0, height // 2)
    posterize4color (newpicture, black, cyan, orange, red)
    scale (newpicture, 1 / 3)
    return newpicture

def posterize4color (picture, color1, color2, color3, color4):
    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, color1)
        elif luminance >= 51 and luminance <= 100:
            setColor (pixel, color2)
        elif luminance >= 101 and luminance <= 150:
            setColor (pixel, color3)
        elif luminance >= 151 and luminance <= 240:
            setColor (pixel, color4)
        else:
            setColor (pixel, white)

def GrabandplaceQuarters (picture, newpicture, startX, startY, targetX, targetY):
    X=targetX
    for sourceX in range (startX, startX + getWidth (picture) // 2):
        Y=targetY
        for sourceY in range (startY, startY + getHeight (picture) // 2):
            oldpixel=getPixelAt (picture, sourceX,sourceY)
            newpixel=getPixelAt (newpicture, X, Y)
            color=getColor (oldpixel)
            setColor (newpixel, color)
            Y= Y + 1
        X= X + 1

```

```

def mirrорpicRightLeft (picture):
    width= getWidth (picture)
    fold= width // 2
    for x in range (0, fold):
        for y in range (0, getHeight (picture)):
            leftpixel= getPixelAt (picture, x, y)
            rightpixel= getPixelAt (picture, width - x - 1, y)
            color= getColor (rightpixel)
            setColor (leftpixel, color)

def mirrорpicLeftRight (picture):
    width= getWidth (picture)
    fold= width // 2
    for x in range (0, fold):
        for y in range (0, getHeight (picture)):
            leftpixel= getPixelAt (picture, x, y)
            rightpixel= getPixelAt (picture, width - x - 1, y)
            color= getColor (leftpixel)
            setColor (rightpixel, color)

def mirriорpicUpDown (picture):
    height= getHeight (picture)
    for x in range (0, getWidth (picture)):
        for y in range (0, height // 2):
            toppixel= getPixelAt (picture, x, y)
            bottompixel= getPixelAt (picture, x, height - y - 1)
            color= getColor (toppixel)
            setColor (bottompixel, color)

def copyimage (canvas, picture, newX, newY):
    targetX= newX
    for x in range (0, getWidth (picture)):
        targetY= newY
        for y in range (0, getHeight (picture)):
            pixel=getPixelAt (picture, x, y)
            color=getColor (pixel)
            pixel2=getPixelAt (canvas, targetX, targetY)
            setColor (pixel2, color)
            targetY = targetY + 1
        targetX= targetX + 1
    return canvas

def scale (source_picture, scaleby):
    new_width = getWidth (source_picture) * scaleby
    new_height = getHeight (source_picture) * scaleby

```

```

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 / scaleby
    source_x = source_x + 1 / scaleby
return new_picture

def blurimage(source_picture):
    blur_picture = duplicatePicture(source_picture)
    for x in range(1, getWidth(source_picture) - 1):
        for y in range(1, getHeight(source_picture) - 1):
            center = getPixelAt(blur_picture, x, y)
            left = getPixelAt(source_picture, x - 1, y)
            right = getPixelAt(source_picture, x + 1, y)
            top = getPixelAt(source_picture, x, y - 1)
            bottom = getPixelAt(source_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 waffle(picture):
    for x in range(0,183,2):
        for y in range(0,249,2):
            pixels=getPixelAt(picture, x,y)
            setColor(pixels, white)
    return picture

def Reversechromakey(source, background):
    for source_pixel in getPixels(source):
        x = getX(source_pixel)
        y = getY(source_pixel)
        if getRed(source_pixel) < 100 and getGreen(source_pixel) < 100 and getBlue(source_pixel) < 100:
            background_pixel = getPixelAt(background, x, y)
            setColor(background_pixel, red)

def ScaledSignature(signature, scaleBy):
    scaledSignature=scale(signature, 1 / scaleBy)
    return scaledSignature

```