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Completed



Originals



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from mediaComp import *

def resize(source, newWidth, newHeight):
    newPicture = makeEmptyPicture(newWidth, newHeight)
    for x in range(newWidth):
        for y in range(newHeight):
            sourceX = x * getWidth(source) // newWidth
            sourceY = y * getHeight(source) // newHeight
            srcPixel = getPixelAt(source, sourceX, sourceY)
            destPixel = getPixelAt(newPicture, x, y)
            setColor(destPixel, getColor(srcPixel))
    return newPicture

def copyOnto(source, target, left, top):
    for x in range(getWidth(source)):
        for y in range(getHeight(source)):
            srcPixel = getPixelAt(source, x, y)
            destPixel = getPixelAt(target, left + x, top + y)
            setColor(destPixel, getColor(srcPixel))

def grayScale(picture):
    for pixel in getPixels(picture):
        intensity = (getRed(pixel) + getGreen(pixel) + getBlue(pixel)) // 3
        setColor(pixel, makeColor(intensity, intensity, intensity))

def blendWithCherry(picture):
    for pixel in getPixels(picture):
        setRed(pixel, (getRed(pixel) + 190) // 2)
        setGreen(pixel, (getGreen(pixel) + 10) // 2)
        setBlue(pixel, (getBlue(pixel) + 35) // 2)

def swapColors(picture):
    for pixel in getPixels(picture):
        redValue = getRed(pixel)
        greenValue = getGreen(pixel)
        blueValue = getBlue(pixel)
        setRed(pixel, blueValue)
        setBlue(pixel, greenValue)
        setGreen(pixel, redValue)

def darkenBar(picture, startX, endX):
    for x in range(startX, endX):
        for y in range(getHeight(picture)):
            pixel = getPixelAt(picture, x, y)
            setRed(pixel, getRed(pixel) // 4)
            setGreen(pixel, getGreen(pixel) // 4)
            setBlue(pixel, getBlue(pixel) // 4)
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def addShutterBars(picture):
    barWidth = getWidth(picture) // 9
    darkenBar(picture, barWidth * 1, barWidth * 2)
    darkenBar(picture, barWidth * 3, barWidth * 4)
    darkenBar(picture, barWidth * 5, barWidth * 6)
    darkenBar(picture, barWidth * 7, barWidth * 8)

def stampSignature(canvas, signature, left, top):
    for x in range(getWidth(signature)):
        for y in range(getHeight(signature)):
            pixel = getPixelAt(signature, x, y)
            brightness = (getRed(pixel) + getGreen(pixel) + getBlue(pixel)) // 3
            if brightness < 160:
                canvasPixel = getPixelAt(canvas, left + x, top + y)
                setColor(canvasPixel, white)

def collage():
    folder = getMediaFolder()
    cat2 = makePicture(folder + "mina.jpeg")

    tileWidth = 240
    tileHeight = 245
    canvas = makeEmptyPicture(960, 490, black)

    original = resize(cat2, tileWidth * 2, tileHeight * 2)
    copyOnto(original, canvas, 0, 0)

    gray = resize(cat2, tileWidth, tileHeight)
    grayScale(gray)
    copyOnto(gray, canvas, tileWidth * 2, 0)

    swapped = resize(cat2, tileWidth, tileHeight)
    swapColors(swapped)
    copyOnto(swapped, canvas, tileWidth * 3, 0)

    cherry = resize(cat2, tileWidth, tileHeight)
    blendWithCherry(cherry)
    copyOnto(cherry, canvas, tileWidth * 2, tileHeight)

    shutter = resize(cat2, tileWidth, tileHeight)
    addShutterBars(shutter)
    copyOnto(shutter, canvas, tileWidth * 3, tileHeight)

    signature = makePicture(folder + "signature.jpeg")
    signLeft = getWidth(canvas) - getWidth(signature) - 15
    signTop = getHeight(canvas) - getHeight(signature) - 15
    stampSignature(canvas, signature, signLeft, signTop)

    show(canvas)
```