

Charlotte Niziolek

Completed



Original



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# Charlotte Niziolek
# 03/10/2026
# I took this picture over this past Spring Break, and these are my dogs, Luciano
# and Capone
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from mediaComp import *
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setMediaFolder()
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def shrink(sourcePicture, scaleFactor):
    newWidth = getWidth(sourcePicture)*scaleFactor
    newHeight = getHeight(sourcePicture)*scaleFactor
    resized = makeEmptyPicture(newWidth,newHeight)
    sourceX = 0
    for newX in range(0,getWidth(resized)):
        sourceY = 0
        for newY in range(0,getHeight(resized)):
            color = getColor(getPixelAt(sourcePicture, sourceX, sourceY))
            setColor(getPixelAt(resized, newX, newY), color)
            sourceY = sourceY + (1/scaleFactor)
            sourceX = sourceX + (1/scaleFactor)
    return resized
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def border(sourcePicture, borderColor):
    pixels = getPixels(sourcePicture)
    borderWidth = 7
    bottom = getHeight(sourcePicture)-borderWidth
    sides = getWidth(sourcePicture)-borderWidth
    for pixel in pixels:
        x = getX(pixel)
        y = getY(pixel)
        if y < borderWidth:
            setColor(pixel, borderColor)
        elif y >= bottom:
            setColor(pixel, borderColor)
        elif x < borderWidth:
            setColor(pixel, borderColor)
        elif x >= sides:
            setColor(pixel, borderColor)
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def tint(sourcePicture):
    pixel=getPixels(sourcePicture)
    for pixel in getPixels(sourcePicture):
        x = getX(pixel)
        y = getY(pixel)
        if x >= 7 and x <= 212 and y >= 7 and y <= 292:
            setRed(pixel, 75)
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def fourLvlFilter(sourcePicture):
    pixel = getPixels(sourcePicture)
    for pixel in getPixels(sourcePicture):
        x = getX(pixel)
        y = getY(pixel)
        red_value = getRed(pixel)
        green_value = getGreen(pixel)
        blue_value = getBlue(pixel)
        luminance = (red_value + green_value + blue_value) // 2
        if x >= 523 and x <= 728 and y >= 707 and y <= 992:
            if luminance < 50:
                setColor(pixel, red)
            elif luminance >= 50 and luminance <= 150:
                setColor(pixel, orange)
            elif luminance >= 151 and luminance <= 200:
                setColor(pixel, magenta)
            elif luminance >= 251 and luminance <= 325:
                setColor(pixel, pink)
            else:
                setColor(pixel, white)

def darken(sourcePicture):
    for pixel in getPixels(sourcePicture):
        x = getX(pixel)
        y = getY(pixel)
        if x >= 523 and x <= 728 and y >= 7 and y <= 292:
            x = getX(pixel)
            color = getColor(pixel)
            color = makeDarker(color)
            color = makeDarker(color)
            setColor(pixel, color)

def lighten(sourcePicture):
    for pixel in getPixels(sourcePicture):
        x = getX(pixel)
        y = getY(pixel)
        if x >= 7 and x <= 212 and y >= 707 and y <= 992:
            color = getColor(pixel)
            color = makeLighter(color)
            color = makeLighter(color)
            setColor(pixel, color)

def topLeft(sourcePicture, background):
    for sourcePixel in getPixels(sourcePicture):
        x = getX(sourcePixel)
        y = getY(sourcePixel)
        sourceColor = getColor(sourcePixel)
        backgroundPixel = getPixelAt(background, x, y)
        setColor(backgroundPixel, sourceColor)

def topRight(sourcePicture, background):
    for x in range(0, getWidth(sourcePicture)):
        for y in range(0, getHeight(sourcePicture)):
            sourcePixel = getPixelAt(sourcePicture, x, y)
            sourceColor = getColor(sourcePixel)
            newPixel = getPixelAt(background, x + ((getWidth(background) // 2) + 148), y)
            setColor(newPixel, sourceColor)

def bottomLeft(sourcePicture, background):
    for x in range(0, getWidth(sourcePicture)):

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    for y in range(0,getHeight(sourcePicture)):
        sourcePixel = getPixelAt(sourcePicture,x,y)
        sourceColor = getColor(sourcePixel)
        newPixel = getPixelAt(background,x,y+(getHeight(background)//2+200))
        setColor(newPixel,sourceColor)

def bottomRight(sourcePicture,background):
    for x in range(0,getWidth(sourcePicture)):
        for y in range(0,getHeight(sourcePicture)):
            sourcePixel = getPixelAt(sourcePicture,x,y)
            sourceColor = getColor(sourcePixel)
            newWidth = getWidth(background)//2+148
            newHeight = getHeight(background)//2+200
            newPixel = getPixelAt(background,x+newWidth,y+newHeight)
            setColor(newPixel,sourceColor)

def collage():
    sourcePicture = makePicture(getMediaFolder("Luciano and Capone.jpg"))
    background = makePicture(getMediaFolder("Luciano and Capone.jpg"))
    resized = shrink(sourcePicture, 0.3)
    border(background, black)
    border(resized, black)
    topLeft(resized, background)
    topRight(resized, background)
    bottomLeft(resized, background)
    bottomRight(resized, background)
    tint(background)
    fourLvlFilter(background)
    lighten(background)
    darken(background)
    pictureTool(background)

```