

Max Reed

Completed



Original



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#Max Reed  
#2/21/2020
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def collage():  
    slices = 5  
    pic1 = makePicture(getMediaPath("blueFLower.jpg"))  
    pic = small(pic1)  
    slicewidth = getWidth(pic)/slices  
    height = getHeight(pic)  
    width = slicewidth*slices  
    Negative(pic, slicewidth, slicewidth*2, pic)  
    Green(pic, slicewidth*2, slicewidth*3, pic)  
    Blue(pic, slicewidth*2, slicewidth*3, pic)  
    anticolorv(pic, slicewidth*3, slicewidth*5, pic)  
    anticolorh(pic, slicewidth*3, slicewidth*5, pic)  
    anticolorv(pic, slicewidth*4, slicewidth*5, pic)  
    darkbottom(pic)  
    repaint(pic)  
  
#Does a slice of negative vertically  
def Negative(pic, startx, endx, empty):  
    height = getHeight(pic)  
    for x in range(startx, endx, 1):  
        for y in range(0, height):  
            r = getRed(getPixel(pic, x, y))  
            g = getGreen(getPixel(pic, x, y))  
            b = getBlue(getPixel(pic, x, y))  
            color = makeColor(255-r, 255-g, 255-b)  
            setColor(getPixel(empty, x, y), color)  
  
#Makes half the height and 1.5 times the width more Green  
def Green(pic, startx, endx, empty):  
    height = getHeight(pic)  
    for x in range(endx/2, endx, 1):  
        for y in range(height/2, height):  
            value1 = getGreen(getPixel(pic, x, y))  
            setGreen(getPixel(empty, x, y), value1*1.5)
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#increases a horizontal slices Blue value
def Blue(pic, startx, endx, empty):
    height = getWidth(pic)
    for y in range(startx, endx, 1):
        for x in range(0, height):
            value1 = getBlue(getPixel(pic, x, y))
            setBlue(getPixel(empty, x, y), value1*2)

#makes a slice negative but rotates the color values
def anticolorv(pic, startx, endx, empty):
    height = getHeight(pic)
    for x in range(startx, endx, 1):
        for y in range(0, height):
            r = getBlue(getPixel(pic, x, y))
            g = getRed(getPixel(pic, x, y))
            b = getGreen(getPixel(pic, x, y))
            color = makeColor(255-r, 255-g, 255-b)
            setColor(getPixel(empty, x, y), color)

#does the same as anticolorv but is horizontal
def anticolorh(pic, startx, endx, empty):
    height = getWidth(pic)
    for y in range(startx, endx, 1):
        for x in range(0, height):
            r = getBlue(getPixel(pic, x, y))
            g = getRed(getPixel(pic, x, y))
            b = getGreen(getPixel(pic, x, y))
            color = makeColor(255-r, 255-g, 255-b)
            setColor(getPixel(empty, x, y), color)

def small(pic):
    canvas = makeEmptyPicture(int(getWidth(pic)/2), int(getHeight(pic)/2))
    sourceX = 0
    for targetX in range(0, int(getWidth(pic)/2)):
        sourceY = 0
        for targetY in range(0, int(getHeight(pic)/2)):
            color = getColor(getPixel(pic, sourceX, sourceY))
            setColor(getPixel(canvas, targetX, targetY), color)
            sourceY = sourceY + 2
        sourceX = sourceX + 2
    return(canvas)

def darkbottom(pic):
    halfway = getHeight(pic)/2
    for px in getPixels(pic):
        y = getY(px)
        if y > int(halfway*1.65):
            color = getColor(px)
            setColor(px, makeDarker(makeDarker(color)))

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