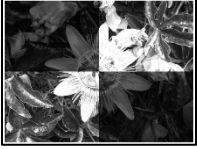


Aaron Pharris

Completed



Original



```
setMediaPath()
def collage():
#Creating pictures
    picture = makePicture(getMediaPath("passionFlower.jpg"))
    newPic = makeEmptyPicture(640, 480, black)
#Getting half the height and width for parameters below
    height = getHeight(picture) #480
    width = getWidth(picture) #640
    halfHeight = height/2
    halfWidth = width/2
#Makes first quad darker
    copy(picture, newPic, 0, 0, 0, 0)
    makeDarkerFunc(newPic, 0, 0, halfWidth, halfHeight)
#makes second quad lighter
    copy(picture, newPic, halfWidth, 0, halfWidth, 0)
    makeLighterFunc(newPic, halfWidth, 0, halfWidth *2, halfHeight)
#makes third quad darker
    copy(picture, newPic, 0, halfHeight, 0, halfHeight)
    makeLighterFunc(newPic, 0, halfHeight, halfWidth, halfHeight *2)
#makes fourth quad lighter
    copy(picture, newPic, halfWidth, halfHeight, halfWidth, halfHeight)
    makeDarkerFunc(newPic, halfWidth, halfHeight, halfWidth *2, halfHeight *2)
#grayscale AFTER making quadrants light and dark
    grayScale(newPic)
#cute white border
    makeBorder(newPic, width, height)
#Display final product
    show(newPic)

#copy function to copy and replace the quads
def copy(picture, newPic, oldX, oldY, newX, newY):
    toX = newX
    for x in range(oldX, oldX + getWidth(picture)/2):
        toY = newY
        for y in range(oldY, oldY + getHeight(picture)/2):
            px = getPixel(picture, x, y)
            newPx = getPixel(newPic, toX, toY)
            setColor(newPx, getColor(px))
            toY = toY + 1
        toX = toX + 1

#makes a range of selected pixels darker
def makeDarkerFunc(newPic, start_x, start_y, end_x, end_y):
    for x in range(start_x, end_x):
        for y in range(start_y, end_y):
            px = getPixel(newPic, x, y)
            setColor(px, makeDarker(makeDarker(getColor(px))))
```

```
#makes a range of selected pixels darker
def makeLighterFunc(newPic, start_x, start_y, end_x, end_y):
    #can choose what coords you want to stop and start at
    for x in range(start_x, end_x):
        for y in range(start_y, end_y):
            px = getPixel(newPic, x, y)
            setColor(px, makeLighter(makeLighter(getColor(px))))

#grayscale whole picture
def grayScale(newPic):
    for px in getPixels(newPic):
        avg = (getRed(px) + getGreen(px) + getBlue(px))/3
        setColor(px, makeColor(avg, avg, avg))

#makes a white border around the image
def makeBorder(newPic, width, height):
    for px in getPixels(newPic):
        x = getX(px)
        y = getY(px)
        if(x < 5 or x > width - 6 or y < 5 or y > height - 6):
            setColor(px, white)
```