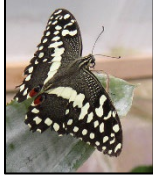


Adrian Perry

Completed



Original



```
#adrian perry
#project 2 (CS120 art show)
#10.20.23
```

```
def collage():
    #making the pictures
    pic = makePicture(getMediaPath("butterfly1.jpg"))
    pic1 = makePicture(getMediaPath("butterfly1.jpg"))
    pic2 = makePicture(getMediaPath("butterfly1.jpg"))
    pic3 = makePicture(getMediaPath("butterfly1.jpg"))
    pic4 = makePicture(getMediaPath("butterfly1.jpg"))
    pic5 = makePicture(getMediaPath("butterfly1.jpg"))
    #modifying each picture
    tint(pic1)
    posterize(pic2)
    edgeDetect(pic3)
    greyscale(pic4)
    swap(pic5)
    #scaling the pictures to desired sizes
    new2 = makeEmptyPicture(int(getWidth(pic1)/2),int(getHeight(pic1)/2))
    new3 = makeEmptyPicture(int(getWidth(pic1)/3),int(getHeight(pic1)/3))
    new4 = makeEmptyPicture(int(getWidth(pic1)/4),int(getHeight(pic1)/4))
    new5 = makeEmptyPicture(int(getWidth(pic1)/5),int(getHeight(pic1)/5))
    scale(2,pic2,new2)
    scale(3,pic3,new3)
    scale(4,pic4,new4)
    scale(5,pic5,new5)
    #making the canvas and putting the pictures in it
    w = getWidth(pic1)
    h = getHeight(pic1)
    w2 = getWidth(new2)
    h2 = getHeight(new2)
    w3 = getWidth(new3)
    h3 = getHeight(new3)
    w4 = getWidth(new4)
    h4 = getHeight(new4)
    w5 = getWidth(new5)
    h5 = getHeight(new5)
    canvas = makeEmptyPicture(w,h)
    copy(pic,canvas,0,0)
    copy(pic1,canvas,0,0)
    copy(new2,canvas,(w-w2)/2,(h-h2)/2)
    copy(new3,canvas,(w-w3)/2,(h-h3)/2)
    copy(new4,canvas,(w-w4)/2,(h-h4)/2)
    copy(new5,canvas,(w-w5)/2,(h-h5)/2)
    #signing the collage
    signature = makePicture(getMediaPath("signature.jpg"))
    sign(signature,canvas)
```

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#showing the completed collage
show(canvas)

#tint function (made by me)
def tint(pic):
    for p in getPixels(pic):
        r = getRed(p)
        g = getGreen(p)
        b = getBlue(p)
        r = int(r*0.9)
        g = int(g*0.7)
        b = int(b*1.2)
        color = makeColor(r,g,b)
        setColor(p,color)

#posterize funciton
def posterize(pic):
    for p in getPixels(pic):
        r = getRed(p)
        g = getGreen(p)
        b = getBlue(p)
        luminance = (r+g+b)/3
        if luminance < 50:
            setColor(p,black)
        elif luminance <= 165:
            setColor(p,gray)
        else:
            setColor(p,white)

#cyanotype funciton
def swap(pic):
    for p in getPixels(pic):
        r = getRed(p)
        g = getGreen(p)
        b = getBlue(p)
        r = g
        g = b
        b = r
        color = makeColor(r,g,b)
        setColor(p,color)

#edge detection function
def edgeDetect(pic):
    for p in getPixels(pic):
        x = getX(p)
        y = getY(p)
        if y < getHeight(pic) - 1 and x < getWidth(pic) - 1:
            botrt = getPixel(pic, x+1, y+1)
            thisLum = luminance(p)
            brLum = luminance(botrt)
            if abs(brLum - thisLum) > 15:
                setColor(p, white)
            if abs(brLum - thisLum) <= 15:
                setColor(p, black)

def luminance(p):
    r = getRed(p)
    g = getGreen(p)
    b = getBlue(p)
    return ((r+g+b)/3)

```

```

#greyscale function
def greyscale(pic):
    for p in getPixels(pic):
        intensity = (getRed(p) + getGreen(p) + getBlue(p) / 3)
        setColor(p, makeColor(intensity/2, intensity/2, intensity/2))

#scale function
def scale(factor, picIn, picOut):
    w = getWidth(picOut)
    h = getHeight(picOut)
    sX = 0
    for tX in range(0, w):
        sY = 0
        for tY in range(0, h):
            color = getColor(getPixel(picIn, int(sX), int(sY)))
            setColor(getPixel(picOut, tX, tY), color)
            sY = sY + factor
        sX = sX + factor

#copy function
def copy(picIn, picOut, a, z):
    sX = 0
    for tX in range(a, a+getWidth(picIn)):
        sY = 0
        for tY in range(z, z+getHeight(picIn)):
            color = getColor(getPixel(picIn, sX, sY))
            setColor(getPixel(picOut, tX, tY), color)
            sY = sY + 1
        sX = sX + 1

#signaturefunction
def sign(picIn, picOut):
    for p in getPixels(picIn):
        x = getX(p)+5
        y = getY(p)+5
        if 5 > getRed(p) >= 0 and 5 > getGreen(p) >= 0 and 5 > getBlue(p) >= 0:
            bgP = getPixel(picOut, x, y)
            color = makeColor(98, 43, 171)
            setColor(bgP, color)

```