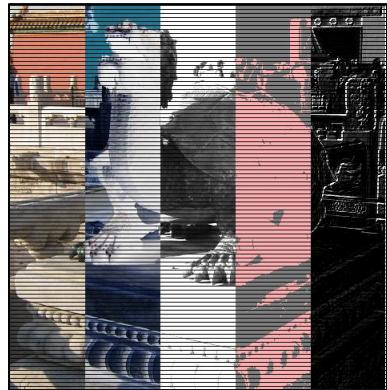


Cobie Fritsch

Completed



Original



#Cobie Fritsch
#02/21/2020

```
def collage():
    pic = makePicture(getMediaPath('turtle-dragon.jpg'))
    width = getWidth(pic)
    height = getHeight(pic)
    canvas = makeEmptyPicture(width,height)
    original(pic, canvas, 0, width/5, 0, height, 0)
    negative(pic, canvas, width/5, 2*(width/5), 0, height, width/5)
    grayscale(pic, canvas, 2*(width/5), 3*(width/5), 0, height,2*(width/5))
    posterize(pic, canvas, 3*(width/5), 4*(width/5),0,height,3*(width/5))
    edge_detect(pic, canvas, 4*(width/5), (width-1), 0, (height-1), 4*(width/5))
    stripes(pic, canvas, 0, width, 0, height,0)
    repaint(canvas)

def original(pic, canvas, startx, endx, starty, endy, z):
    for x in range(startx, endx):
        for y in range(starty, endy):
            color = getColor(getPixel(pic,x,y))
            setColor(getPixel(canvas, z, y),color)
    z= z+1
```

```

def negative(pic, canvas, startx, endx, starty, endy, z):
    for x in range(startx, endx):
        for y in range(starty, endy):
            new_red = getRed(getPixel(pic, x,y))
            new_blue = getBlue(getPixel(pic, x, y))
            new_green = getGreen(getPixel(pic,x,y))
            neg_color = makeColor(255-new_red, 255-new_green, 255-new_blue)
            setColor(getPixel(canvas,z,y), neg_color)
    z= z+1

def grayscale(pic, canvas, startx, endx, starty, endy, z):
    for x in range(startx, endx):
        for y in range(starty, endy):
            intensity = (getRed(getPixel(pic,x,y))+getGreen(getPixel(pic,x,y))+getBlue(getPixel(pic,x,y)))/3
            setColor(getPixel(canvas,z,y), makeColor(intensity,intensity,intensity))
    z= z+1

def posterize(pic, canvas, startx, endx, starty, endy, z):
    for x in range(startx, endx):
        for y in range(starty, endy):
            new_red = getRed(getPixel(pic, x,y))
            new_blue = getBlue(getPixel(pic, x, y))
            new_green = getGreen(getPixel(pic,x,y))
            luminance = (new_red + new_blue + new_green)/3
            if luminance < 60:
                setColor(getPixel(canvas,z,y), pink)
            if luminance >= 60:
                setColor(getPixel(canvas, z,y), gray)
    z= z+1

def edge_detect(pic, canvas, startx, endx, starty, endy, z):
    for x in range(startx, endx):
        for y in range(starty, endy):
            new_red = getRed(getPixel(pic, x,y))
            new_blue = getBlue(getPixel(pic, x, y))
            new_green = getGreen(getPixel(pic,x,y))
            sum = new_red + new_blue + new_green
            botrt = getPixel(pic,x+1, y+1)
            sum2 = getRed(botrt) + getGreen(botrt) + getRed(botrt)
            diff = (sum2 - sum)
            color = makeColor(diff,diff,diff)
            setColor(getPixel(canvas,z,y), color)

```

```
z=z+1
```

```
def stripes(pic, canvas, startx, endx, starty, endy, z):
    for x in range(startx,endx):
        for y in range(starty, endy,5):
            setColor(getPixel(canvas, z, y), black)
z=z+1
```